

# FCC DoC TEST REPORT

**REPORT NO.:** D921203R03

**MODEL NO.:** WL-611GS

**RECEIVED:** December 03, 2003

**TESTED:** December 03, 2003

**APPLICANT:** GEMTEK TECHNOLOGY CO.,LTD.

**ADDRESS:** No.1 Jen Ai Road, Hsinchu industrial Park  
Hukou, Hsinchu, Taiwan, R.O.C.

**ISSUED BY:** Advance Data Technology Corporation

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

This test report consists of 29 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

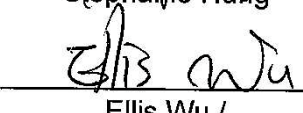
1	CERTIFICATION .....	3
2	SUMMARY OF TEST RESULTS .....	4
3	GENERAL INFORMATION .....	5
3.1	GENERAL DESCRIPTION OF EUT .....	5
3.2	DESCRIPTION OF TEST MODES .....	6
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS .....	6
3.4	DESCRIPTION OF SUPPORT UNITS .....	7
4	TEST TYPES AND RESULTS .....	8
4.1	CONDUCTED EMISSION MEASUREMENT .....	8
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT .....	8
4.1.2	TEST INSTRUMENTS .....	8
4.1.3	TEST PROCEDURES .....	9
4.1.4	DEVIATION FROM TEST STANDARD .....	9
4.1.5	TEST SETUP .....	10
4.1.6	EUT OPERATING CONDITIONS .....	11
4.1.7	TEST RESULTS .....	12
4.2	RADIATED EMISSION MEASUREMENT .....	18
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT .....	18
4.2.2	TEST INSTRUMENTS .....	19
4.2.3	TEST PROCEDURES .....	20
4.2.4	DEVIATION FROM TEST STANDARD .....	20
4.2.5	TEST SETUP .....	21
4.2.6	EUT OPERATING CONDITIONS .....	21
4.2.7	TEST RESULTS .....	22
5	PHOTOGRAPHS OF THE TEST CONFIGURATION .....	27
6	INFORMATION ON THE TESTING LABORATORIES .....	29

## 1 CERTIFICATION

**PRODUCT :** 802.11g Wireless LAN PC Card (Receiver Part)  
**BRAND NAME :** Gemtek  
**MODEL NO. :** WL-611GS  
**TEST ITEM:** Engineering Sample  
**APPLICANT :** GEMTEK TECHNOLOGY CO., LTD.  
**STANDARDS :** FCC Part 15, Subpart B, class B,  
ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility on December 03, 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.

**PREPARED BY:**  , **DATE:** Dec. 25, 2003  
Stephanie Hung

**APPROVED BY:**  , **DATE:** Dec. 25, 2003  
Ellis Wu /  
Technical Manager

## 2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

Standard Section	Test Type	Result	Remarks
FCC Part 15, Subpart B, Class B	Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is -10.21dB at 0.166MHz
	Radiated Emissions	PASS	Meet the requirement of limit Minimum passing margin is -5.48dB at 36.80MHz

**Note:** The information of measurement uncertainty is available upon the customer's request.

### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

<b>PRODUCT</b>	802.11g Wireless LAN PC Card (Receiver Part)
<b>MODEL NO.</b>	WL-611GS
<b>BRAND NAME</b>	Gemtek
<b>POWER SUPPLY</b>	3.3Vdc from host equipment
<b>MODULATION TYPE</b>	BPSK, QPSK, CCK, 16QAM, 64QAM
<b>RADIO TECHNOLOGY</b>	DSSS, OFDM
<b>TRANSFER RATE</b>	54/48/36/24/18/12/11/9/6/5.5/2/1/Mbps
<b>FREQUENCY RANGE</b>	2412MHz ~ 2462MHz
<b>NUMBER OF CHANNEL</b>	11
<b>MAXIMUM OUTPUT POWER</b>	16.10dBm
<b>ANTENNA TYPE</b>	Printed dipole antenna with 0dBi antenna gain
<b>DATA CABLE</b>	NA
<b>I/O PORTS</b>	PCMCIA
<b>ASSOCIATED DEVICES</b>	NA

**NOTE:**

1. Fully compatible with the 802.11g standard to provide a wireless data rate of up to 54Mbps.
2. The EUT complies with IEEE 802.11g draft standards, and backward compatible with IEEE 802.11b products.
3. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

### 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 1GHz, the channel 1, 6, and 11 were pre-tested in chamber. The channel 11, the worst case, was chosen for final test.
2. Above 1GHz, the channel 1, 6, and 11 were tested individually.
3. Transfer rate 6Mbps with OFDM technique, the worst cases, was chosen for final test.

### 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an 802.11g Wireless LAN PC Card (Receiver Part). According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

**FCC Part 15, Subpart B, class B.**

**ANSI C63.4 : 1992**

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

### 3.4 DESCRIPTION OF SUPPORT UNITS

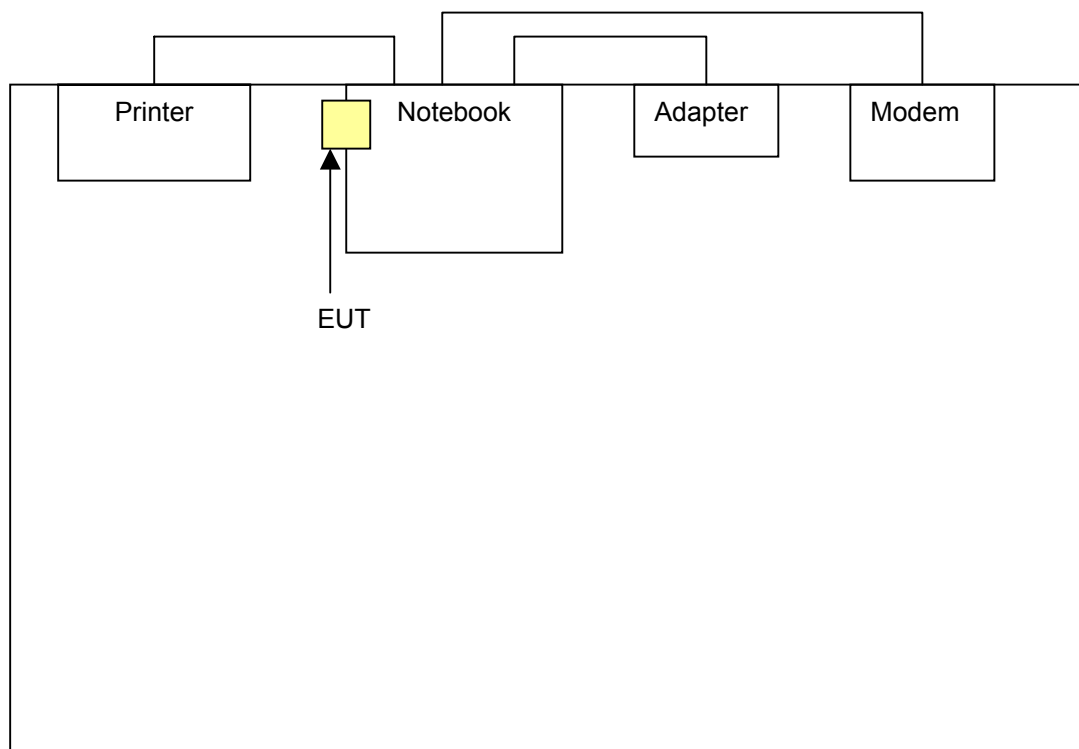
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	NOTEBOOK	Dell	C600	6DRV601	FCC DoC Approved
2	PRINTER	EPSON	LQ-300+	DCGY017054	FCC DoC Approved
3	MODEM	ACEEX	1414	980020519	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).

### 3.5 CONFIGURATION OF SYSTEM UNDER TEST



## 4 TEST TYPES AND RESULTS

### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB $\mu$ 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.

#### 4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Jan. 20, 2004
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Dec. 09, 2004
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Dec. 09, 2004
*ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 19, 2004
*ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 19, 2004
Software	Cond-V2M3	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	May 01, 2004
SUHNTER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010770	Mar. 24, 2004
SUHNTER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Apr. 06, 2004

- 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 conducted telecom port test only (if tested).
  3. The test was performed in ADT Shielded Room No. 10.
  4. The VCCI Site Registration No. is C-1312.



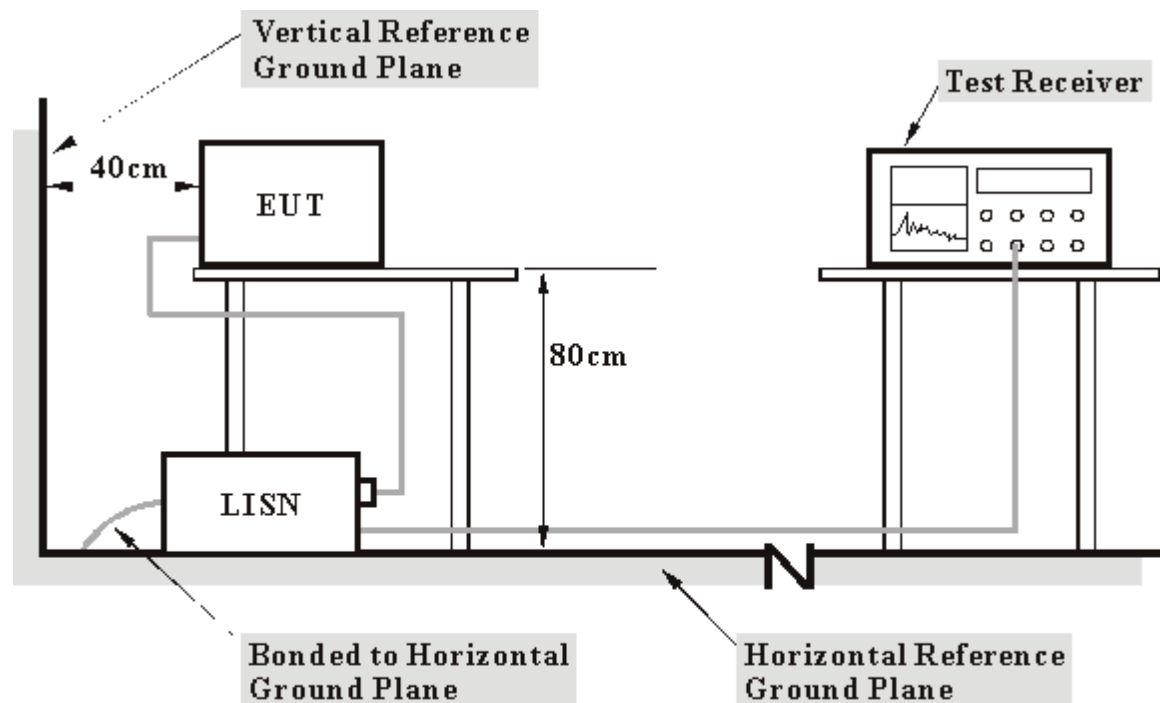
#### 4.1.3 TEST PROCEDURES

- 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

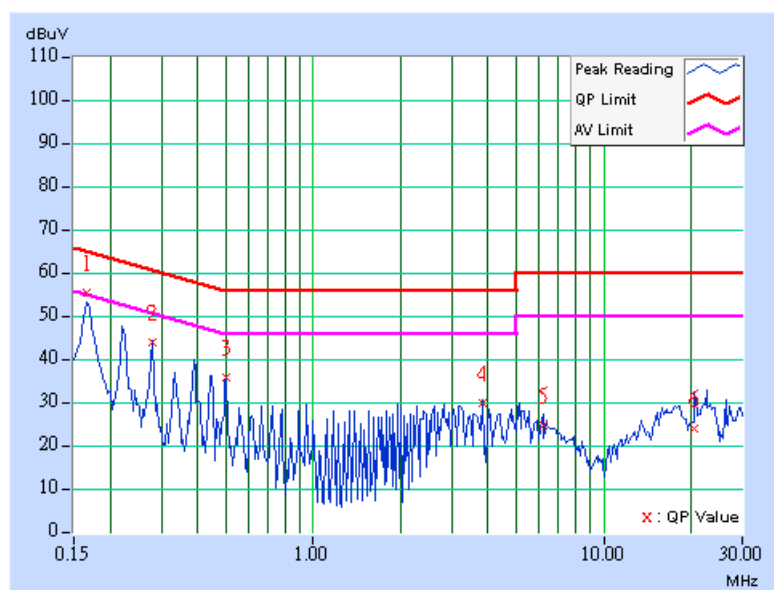
- a. Connected the EUT to a computer system placed on a testing table.
- b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The computer system sent "H" messages to its screen.
- d. The computer system sent "H"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

#### 4.1.7 TEST RESULTS

<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 1	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60%RH, 991 hPa	<b>TESTED BY:</b> Martine Lee	

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	0.166	0.06	54.91	-	54.97	-	65.18	55.18	-10.21	-
2	0.279	0.06	43.39	-	43.45	-	60.85	50.85	-17.40	-
3	0.502	0.08	35.14	-	35.22	-	56.00	46.00	-20.78	-
4	3.840	0.22	29.24	-	29.46	-	56.00	46.00	-26.54	-
5	6.177	0.29	24.25	-	24.54	-	60.00	50.00	-35.46	-
6	20.586	0.67	23.26	-	23.93	-	60.00	50.00	-36.07	-

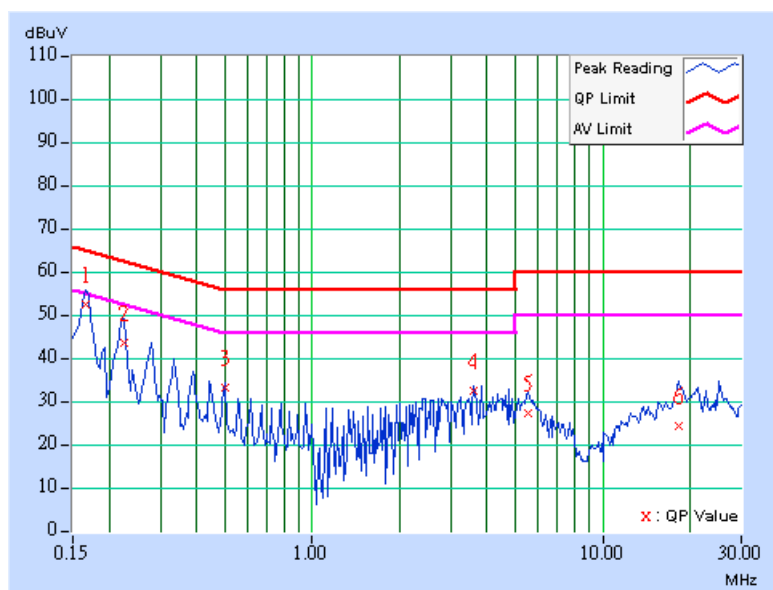
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 1	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60%RH, 991 hPa	<b>TESTED BY:</b> Martine Lee	

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	0.166	0.05	51.95	-	52.00	-	65.18	55.18	-13.18	-
2	0.224	0.05	43.06	-	43.11	-	62.66	52.66	-19.55	-
3	0.502	0.07	32.92	-	32.99	-	56.00	46.00	-23.01	-
4	3.613	0.20	32.10	-	32.30	-	56.00	46.00	-23.70	-
5	5.506	0.25	26.73	-	26.98	-	60.00	50.00	-33.02	-
6	18.367	0.50	23.86	-	24.36	-	60.00	50.00	-35.64	-

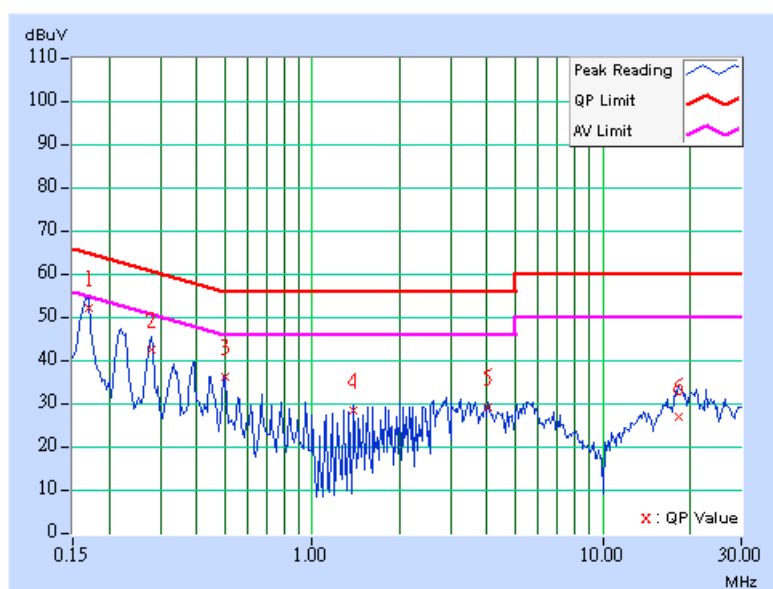
- REMARKS:** 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.  
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.  
3. The emission levels of other frequencies were very low against the limit.  
4. Margin value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



<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 6	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60%RH, 991 hPa	<b>TESTED BY:</b> Martine Lee	

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	0.170	0.06	51.65	-	51.71	-	64.98	54.98	-13.28	-
2	0.279	0.06	42.16	-	42.22	-	60.85	50.85	-18.63	-
3	0.502	0.08	35.62	-	35.70	-	56.00	46.00	-20.30	-
4	1.391	0.17	27.84	-	28.01	-	56.00	46.00	-27.99	-
5	4.008	0.22	28.77	-	28.99	-	56.00	46.00	-27.01	-
6	18.277	0.61	26.37	-	26.98	-	60.00	50.00	-33.02	-

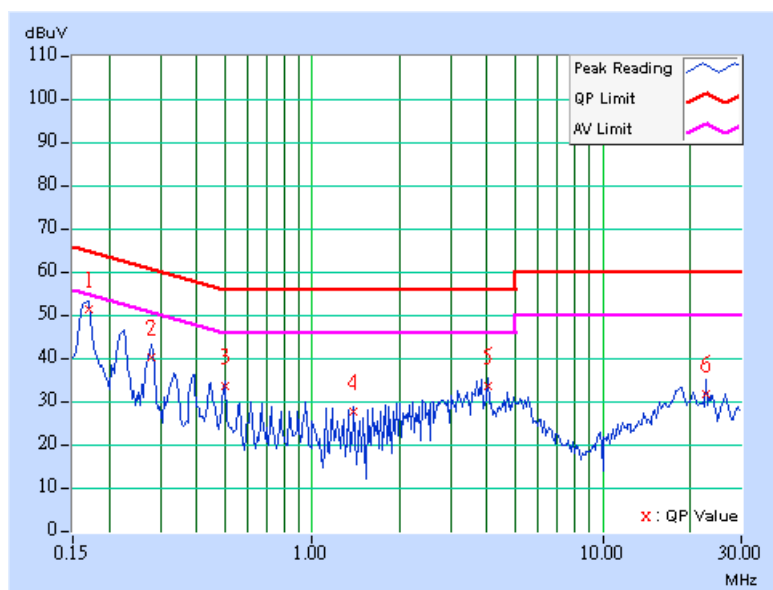
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 6	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Neutral (N)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60%RH, 991 hPa	<b>TESTED BY:</b> Martine Lee	

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	0.170	0.05	50.85	-	50.90	-	64.98	54.98	-14.08	-
2	0.279	0.05	39.87	-	39.92	-	60.85	50.85	-20.93	-
3	0.502	0.07	33.17	-	33.24	-	56.00	46.00	-22.76	-
4	1.391	0.17	27.21	-	27.38	-	56.00	46.00	-28.62	-
5	4.008	0.21	33.14	-	33.35	-	56.00	46.00	-22.65	-
6	22.570	0.62	31.41	-	32.03	-	60.00	50.00	-27.97	-

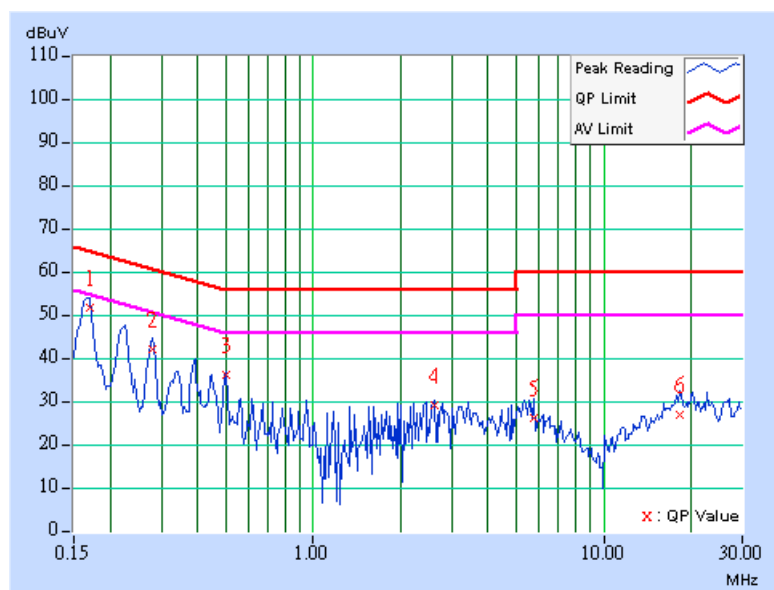
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  3. The emission levels of other frequencies were very low against the limit.
  4. Margin value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



<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 11	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Line (L)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60%RH, 991 hPa	<b>TESTED BY:</b> Martine Lee	

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	0.170	0.06	51.23	-	51.29	-	64.98	54.98	-13.70	-
2	0.279	0.06	41.65	-	41.71	-	60.85	50.85	-19.14	-
3	0.502	0.08	35.71	-	35.79	-	56.00	46.00	-20.21	-
4	2.617	0.19	28.71	-	28.90	-	56.00	46.00	-27.10	-
5	5.735	0.28	25.70	-	25.98	-	60.00	50.00	-34.02	-
6	18.176	0.61	26.57	-	27.18	-	60.00	50.00	-32.82	-

- 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.

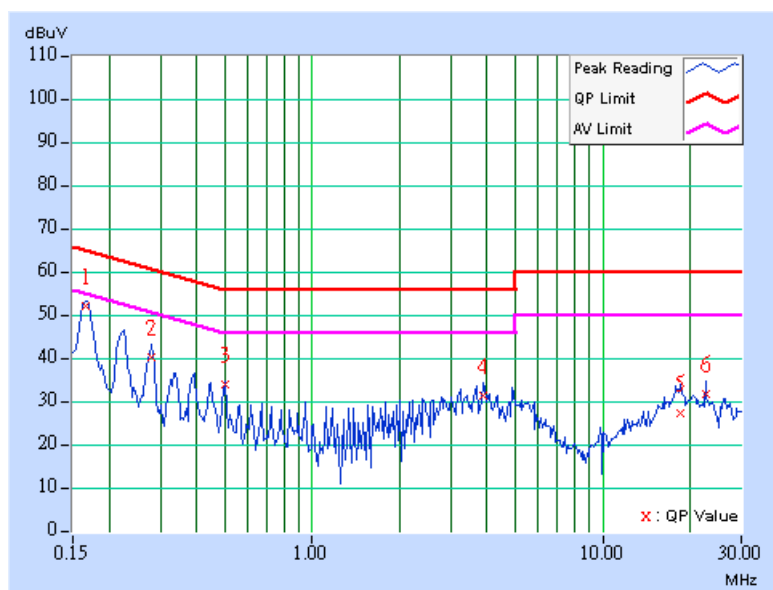




<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 11	<b>6dB BANDWIDTH</b>	9 kHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>PHASE</b>	Netural (N)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60%RH, 991 hPa	<b>TESTED BY:</b> Martine Lee	

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	0.166	0.05	51.50	-	51.55	-	65.18	55.18	-13.63	-
2	0.279	0.05	39.91	-	39.96	-	60.85	50.85	-20.89	-
3	0.502	0.07	33.27	-	33.34	-	56.00	46.00	-22.66	-
4	3.898	0.21	30.95	-	31.16	-	56.00	46.00	-24.84	-
5	18.492	0.50	26.63	-	27.13	-	60.00	50.00	-32.87	-
6	22.570	0.62	31.20	-	31.82	-	60.00	50.00	-28.18	-

- 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 15.109 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
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	8594E	3911A07465	Jul. 07, 2004
*HP Preamplifier	8447D	2944A10386	Aug. 12, 2004
* HP Preamplifier	8449B	3008A01292	Aug. 11, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Jun. 26, 2004
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
*SCHAFFNER TEST RECEIVER	SCR 3501	409	Jan. 26, 2004
* SCHAFFNER BILOG Antenna	CBL6111C	2727	Jul. 15, 2004
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jun 30, 2004
* ADT. Turn Table	TT100	0201	NA
* ADT. Tower	AT100	0201	NA
* Software	ADT_Radiated_V 5.14	NA	NA
* ANRITSU RF Switches	MP59B	6100237246	Oct. 17, 2004
* TIMES RF cable	LMR-600	CABLE-ST10-01	Oct. 17, 2004

- 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. 10.
  5. The VCCI Site Registration No. is R-1625.

### 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.

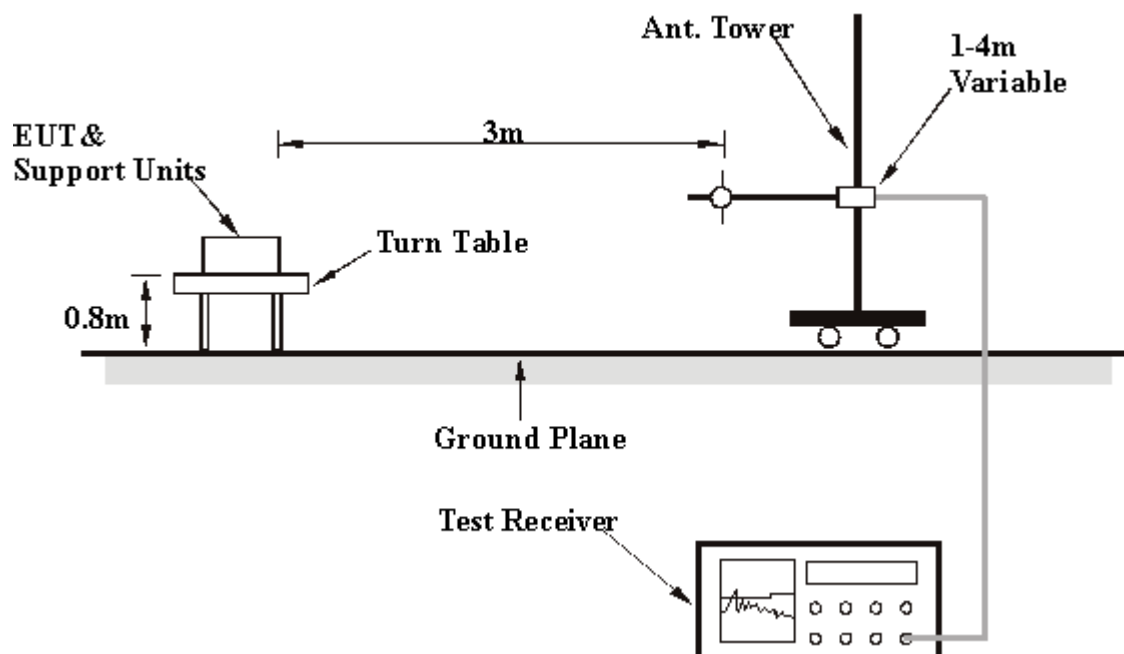
**NOTE:**

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 10 Hz for Average detection (AV) at frequency above 1GHz.

### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.2.5 TEST SETUP



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

#### 4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

#### 4.2.7 TEST RESULTS

<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 11	<b>FREQUENCY RANGE</b>	Below 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60 % RH, 991 hPa	<b>TESTED BY:</b> Martin Lee	

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	35.91	30.38 QP	40.00	-9.62	1.04 H	53	14.45	15.93
2	36.80	34.52 QP	40.00	-5.48	1.00 H	59	19.13	15.39
3	42.87	27.25 QP	40.00	-12.75	1.51 H	301	15.24	12.01
4	169.31	33.03 QP	43.50	-10.47	1.51 H	2	22.59	10.44
5	175.26	30.04 QP	43.50	-13.46	1.76 H	17	19.80	10.24
6	195.78	31.97 QP	43.50	-11.53	1.39 H	0	21.58	10.39
7	200.40	36.23 QP	43.50	-7.27	1.34 H	2	25.73	10.50
8	244.70	35.93 QP	46.00	-10.07	1.22 H	0	22.38	13.55
9	270.34	33.35 QP	46.00	-12.65	1.65 H	308	18.15	15.20
10	277.60	40.16 QP	46.00	-5.84	1.00 H	45	24.69	15.47
11	293.88	32.36 QP	46.00	-13.64	1.37 H	217	16.29	16.07
12	303.50	31.53 QP	46.00	-14.47	1.34 H	274	15.17	16.36
13	310.50	35.07 QP	46.00	-10.93	1.60 H	195	18.57	16.50
14	459.30	32.82 QP	46.00	-13.18	1.56 H	88	12.17	20.65
15	503.00	31.43 QP	46.00	-14.57	1.00 H	0	9.44	21.99
16	818.00	31.21 QP	46.00	-14.79	1.05 H	102	3.29	27.92
17	916.00	32.88 QP	46.00	-13.12	1.18 H	158	2.99	29.89

- 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.

<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 11	<b>FREQUENCY RANGE</b>	Below 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Quasi-Peak
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60 % RH, 991 hPa	<b>TESTED BY:</b> Martin Lee	

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
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	36.45	32.94 QP	40.00	-7.06	1.00 V	102	17.34	15.60
2	75.73	29.48 QP	40.00	-10.52	1.40 V	333	22.31	7.17
3	125.00	29.53 QP	43.50	-13.97	1.70 V	248	17.06	12.47
4	169.30	30.12 QP	43.50	-13.38	1.01 V	103	19.68	10.44
5	245.05	32.05 QP	46.00	-13.95	1.46 V	141	18.47	13.58
6	261.33	36.21 QP	46.00	-9.79	1.33 V	223	20.74	15.47
7	277.78	34.37 QP	46.00	-11.63	1.14 V	75	18.89	15.48
8	310.50	33.77 QP	46.00	-12.23	1.72 V	330	17.27	16.50
9	377.00	34.69 QP	46.00	-11.31	1.48 V	245	16.26	18.43
10	440.45	33.08 QP	46.00	-12.92	1.34 V	56	12.89	20.19
11	459.30	36.00 QP	46.00	-10.00	1.55 V	154	15.35	20.65

- 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.

<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 1	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60 % RH, 991 hPa	<b>TESTED BY:</b> Martin Lee	

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
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	1603.00	42.93 PK	74.00	-31.07	1.20 H	284	13.30	29.63

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
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	1603.00	47.29 PK	74.00	-26.71	1.00 V	14	17.66	29.63

**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. “ \* “ : Fundamental frequency



<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 6	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60 % RH, 991 hPa	<b>TESTED BY:</b> Martin Lee	

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
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	1508.00	47.37 PK	74.00	-26.63	1.20 H	319	17.86	29.51

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
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	1506.00	49.30 PK	74.00	-24.70	1.00 V	108	19.79	29.51
2	1605.00	48.11 PK	74.00	-25.89	1.00 V	288	18.46	29.64

**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. “ \* ” : Fundamental frequency

<b>EUT</b>	802.11g Wireless LAN PC Card (Receiver Part)	<b>MODEL</b>	WL-611GS
<b>MODE</b>	Channel 11	<b>FREQUENCY RANGE</b>	Above 1000 MHz
<b>INPUT POWER (SYSTEM)</b>	120Vac, 60 Hz	<b>DETECTOR FUNCTION</b>	Peak(PK) Average (AV)
<b>ENVIRONMENTAL CONDITIONS</b>	25 deg. C, 60 % RH, 991 hPa	<b>TESTED BY:</b> Martin Lee	

<b>ANTENNA POLARITY &amp; TEST DISTANCE: HORIZONTAL AT 3 M</b>								
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	1506.00	48.90 PK	74.00	-25.10	1.09 H	236	19.39	29.51

<b>ANTENNA POLARITY &amp; TEST DISTANCE: VERTICAL AT 3 M</b>								
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	1505.00	48.60 PK	74.00	-25.40	1.05 V	320	19.09	29.51
2	2106.00	44.78 PK	74.00	-29.22	1.17 V	0	13.61	31.16

**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. “ \* ” : Fundamental frequency

## 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:

<b>USA</b>	FCC, NVLAP
<b>Germany</b>	TUV Rheinland
<b>Japan</b>	VCCI
<b>New Zealand</b>	MoC
<b>Norway</b>	NEMKO
<b>R.O.C.</b>	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](http://www.adt.com.tw/index.5/phtml).

If you have any comments, please feel free to contact us at the following:

**Lin Kou EMC Lab:**

Tel: 886-2-26052180

Fax: 886-2-26052943

**Hsin Chu EMC Lab:**

Tel: 886-35-935343

Fax: 886-35-935342

**Lin Kou Safety Lab:**

Tel: 886-2-26093195

Fax: 886-2-26093184

**Lin Kou RF&Telecom Lab**

Tel: 886-3-3270910

Fax: 886-3-3270892

**Email:** [service@mail.adt.com.tw](mailto:service@mail.adt.com.tw)

**Web Site:** [www.adt.com.tw](http://www.adt.com.tw)

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