



FCC TEST REPORT

REPORT NO.: RF901019R02
MODEL NO.: SL-2011CD-GP, SL-2011CD-FP,
SL-2011CD-DP
RECEIVED: October 19, 2001
TESTED: Oct. 25~ Oct. 31, 2001

APPLICANT: SENAO INTERNATIONAL CO., LTD.
ADDRESS: 2F, No.531, Chung Cheng Rd., Hsin-Tien,
Taipei, 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 72 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	4
2	SUMMARY OF TEST RESULTS	5
3	GENERAL INFORMATION.....	6
3.1	GENERAL DESCRIPTION OF EUT	6
3.2	DESCRIPTION OF TEST MODES	7
3.3	GENERAL DESCRIPTION OF APPLIED STANDARDS	7
3.4	DESCRIPTION OF SUPPORT UNITS	8
4	TEST TYPES AND RESULTS.....	9
4.1	CONDUCTED EMISSION MEASUREMENT	9
4.1.1	LIMITS OF CONDUCTED EMISSION MEASUREMENT	9
4.1.2	TEST INSTRUMENTS.....	9
4.1.3	TEST PROCEDURES	10
4.1.4	TEST SETUP	10
4.1.5	EUT OPERATING CONDITIONS	11
4.1.6	TEST RESULTS (A)	12
4.1.7	TEST RESULTS (B)	18
4.1.8	TEST RESULTS (C)	24
4.2	RADIATED EMISSION MEASUREMENT	30
4.2.1	LIMITS OF RADIATED EMISSION MEASUREMENT	30
4.2.2	TEST INSTRUMENTS.....	31
4.2.3	TEST PROCEDURES	32
4.2.4	TEST SETUP	33
4.2.5	EUT OPERATING CONDITIONS	33
4.2.6	TEST RESULTS (A)	34
4.2.7	TEST RESULTS (B)	38
4.2.8	TEST RESULTS (C)	42
4.3	6DB BANDWIDTH MEASUREMENT	46
4.3.1	LIMITS OF 6dB BANDWIDTH MEASUREMENT	46
4.3.2	TEST INSTRUMENTS.....	46
4.3.3	TEST PROCEDURE.....	47
4.3.4	TEST SETUP	47
4.3.5	EUT OPERATING CONDITIONS	47
4.3.6	TEST RESULTS	48
4.4	MAXIMUM PEAK OUTPUT POWER	52
4.4.1	LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT	52



4.4.2 TEST INSTRUMENTS..... 52

4.4.3 TEST PROCEDURES 53

4.4.4 TEST SETUP 53

4.4.5 EUT OPERATING CONDITIONS 53

4.4.6 TEST RESULTS 54

4.5 POWER SPECTRAL DENSITY MEASUREMENT 55

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT 55

4.5.2 TEST INSTRUMENTS..... 55

4.5.3 TEST PROCEDURE..... 56

4.5.4 TEST SETUP 56

4.5.5 EUT OPERATING CONDITIONS 56

4.5.6 TEST RESULTS 57

4.6 BAND EDGES MEASUREMENT 61

4.6.1 LIMITS OF BAND EDGES MEASUREMENT 61

4.6.2 TEST INSTRUMENTS..... 61

4.6.3 TEST PROCEDURE..... 61

4.6.4 EUT OPERATING CONDITION 62

4.6.5 TEST RESULTS 62

4.7 ANTENNA REQUIREMENT 65

4.7.1 STANDARD APPLICABLE 65

4.7.2 ANTENNA CONNECTED CONSTRUCTION 65

5 PHOTOGRAPHS OF THE TEST CONFIGURATION 66

6 INFORMATION ON THE TESTING LABORATORIES 72



1 CERTIFICATION

PRODUCT : Wireless LAN Card
BRAND NAME : SENAO
MODEL NO. : SL-2011CD-GP, SL-2011CD-FP,
SL-2011CD-DP
APPLICANT : SENAO INTERNATIONAL CO., LTD.
STANDARDS : 47 CFR Part 15, Subpart C (Section 15.247),
ANSI C63.4-1992, Canada RSS 210,
New Zealand RFS 29

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Oct. 25, 2001 to Oct. 31, 2001, 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.

TESTED BY : James Lee · DATE: Nov. 13, 2001
James Lee

CHECKED BY : Emily Lu · DATE: Nov. 13, 2001
Emily Lu

APPROVED BY : Alan Lam · DATE: Nov. 13, 2001
Dr. Alan Lam, 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
15.107	AC Power Conducted Emission Limit: 48dBuV	PASS	Meet the requirement of limit Minimum passing margin is -4.89dBuV at 9.160MHz
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)	Transmitter Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is -2.0dBuV at 9647.9MHz
15.247(d)	Power Spectral Density Limit: max. 8dBm	PASS	Meet the requirement of limit
15.247(c)	Band Edge Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit



3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Wireless LAN Card
MODEL NO.	SL-2011CD-GP, SL-2011CD-FP, SL-2011CD-DP
POWER SUPPLY	3.3VDC from notebook
MODULATION TYPE	CCK, BPSK, QPSK
RADIO TECHNOLOGY	DSSS
TRANSFER RATE	1/2/5.5/11Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	11.9dBm
ANTENNA TYPE	GP antenna, Patch antenna, Dipole antenna
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. There are three different types of antenna equipped with this EUT listed as following:

Model no	Antenna Type	Antenna Model no.	Antenna Gain
SL-2011CD-GP	GP	SAG-2406Fr	3 dBi
SL-2011CD-FP	FP(Patch antenna)	SAP-2410FU	7 dBi
SL-2011CD-DP	DP(Dipole antenna)	SAR-2400MCX	0 dBi

2. Model SL-2011CD-GP, SL-2011CD-FP and SL-2011CD-DP are identical except for model no and antenna type.
3. For a 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 in 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. Test result (A) is for GP antenna, Test result (B) is for Patch antenna and test result (C) is for Dipole antenna.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Wireless LAN 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, Canada RSS 210, New Zealand RFS 29

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	IBM	ThinkPad 380XD	97-84L54	FCC DoC Approved
2	PRINTER	HP	2225C+	3123S97230	DSI6XU2225
3	MODEM	ACEEX	1414	980020510	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 B (dBuV)	
	Quasi-peak	Average
0.45 – 30	48	-

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. All emanations from a class 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

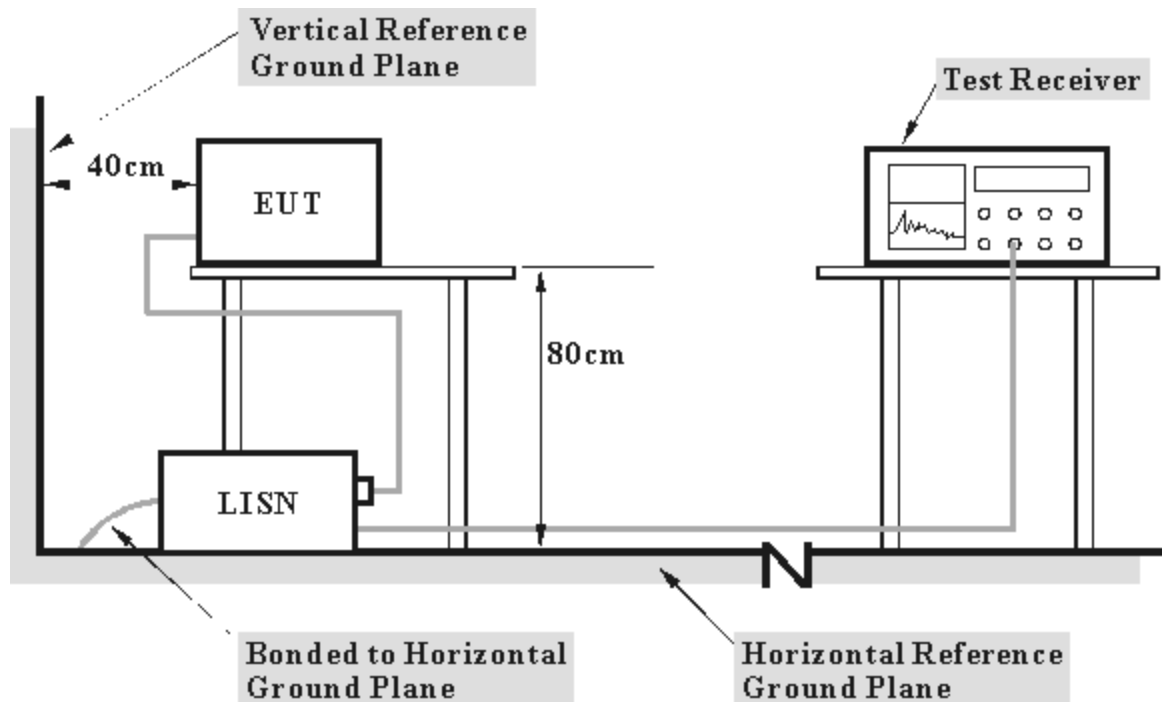
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS30	834115/016	Feb. 21, 2002
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ESH2-Z5	892107/003	July 10, 2002
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Dec. 12, 2001
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/018	Dec. 3, 2001
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	July 10, 2002
Software	Cond-V2J	NA	NA
RF cable (JYBAO)	RG-58A/U	Cable-C03.01	July 11, 2002
Terminator (For EMCO LISN)	NA	E1-01-300	Feb. 20, 2002
Terminator (For EMCO LISN)	NA	E1-01-301	Feb. 20, 2002
Shielded Room	Site 3	ADT-C03	NA
VCCI Site Registration No.	Site 3	C-274	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).

4.1.3 TEST PROCEDURES

- 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.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 450 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

4.1.4 TEST SETUP



- Note:**
- Support units were connected to second LISN.
 - 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.



4.1.5 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.



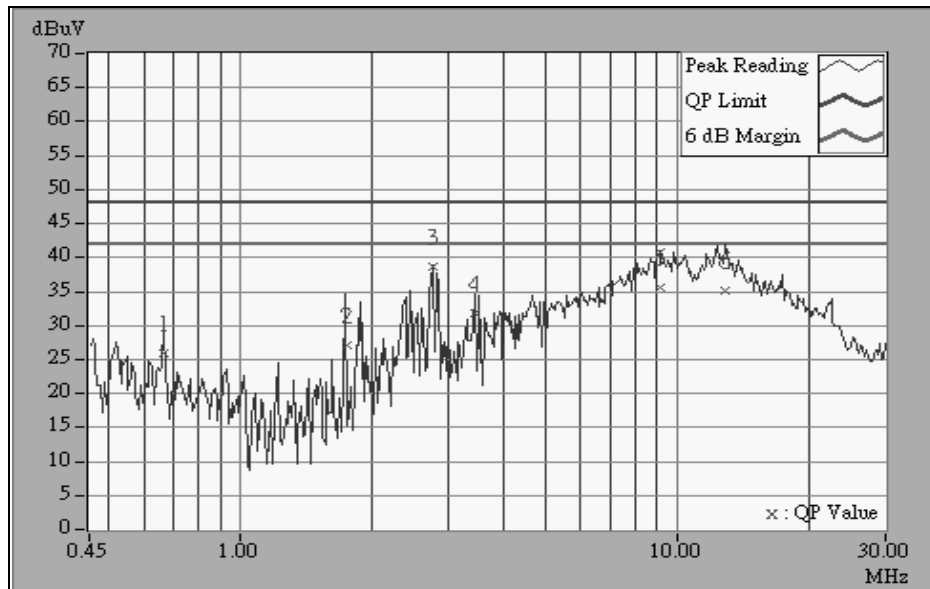
4.1.6 TEST RESULTS (A)

EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
MODE	Channel 1	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.666	0.14	25.86	-	26.00	-	48.00	-	-22.00	-
2	1.745	0.20	27.09	-	27.29	-	48.00	-	-20.71	-
3	2.750	0.24	38.68	-	38.92	-	48.00	-	-9.08	-
4	3.428	0.27	31.85	-	32.12	-	48.00	-	-15.88	-
5	9.168	0.39	35.54	-	35.93	-	48.00	-	-12.07	-
6	12.885	0.46	35.07	-	35.53	-	48.00	-	-12.47	-

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.



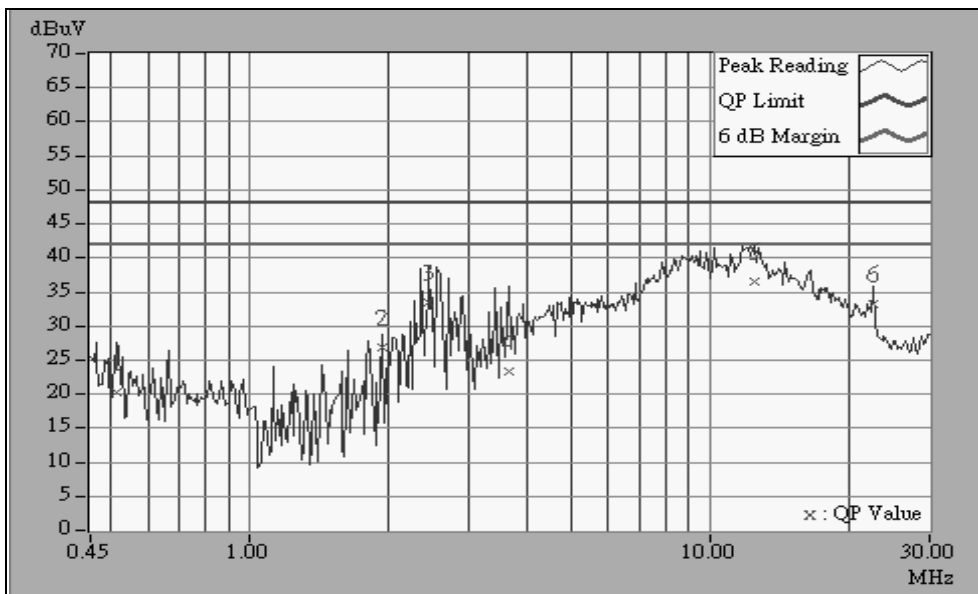


EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
MODE	Channel 1	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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	0.514	0.12	20.26	-	20.38	-	48.00	-	-27.62	-
2	1.935	0.20	26.87	-	27.07	-	48.00	-	-20.93	-
3	2.443	0.22	33.37	-	33.59	-	48.00	-	-14.41	-
4	3.663	0.28	23.23	-	23.51	-	48.00	-	-24.49	-
5	12.469	0.50	36.42	-	36.92	-	48.00	-	-11.08	-
6	22.570	0.95	33.33	-	34.28	-	48.00	-	-13.72	-

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.



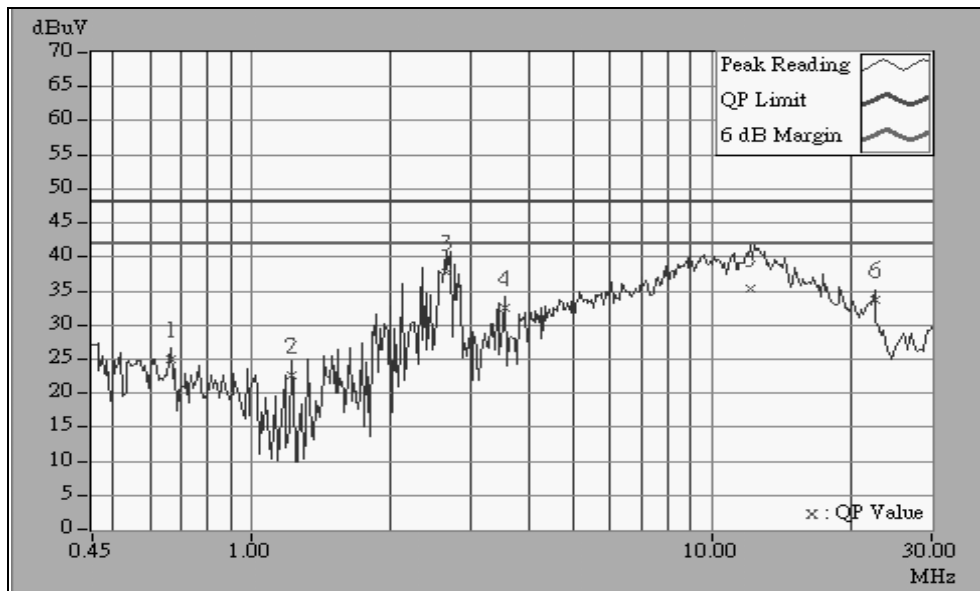


EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
MODE	Channel 6	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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	0.666	0.14	24.96	-	25.10	-	48.00	-	-22.90	-
2	1.220	0.20	22.64	-	22.84	-	48.00	-	-25.16	-
3	2.650	0.23	37.79	-	38.02	-	48.00	-	-9.98	-
4	3.533	0.28	32.48	-	32.76	-	48.00	-	-15.24	-
5	12.074	0.44	35.41	-	35.85	-	48.00	-	-12.15	-
6	22.570	0.55	33.71	-	34.26	-	48.00	-	-13.74	-

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.



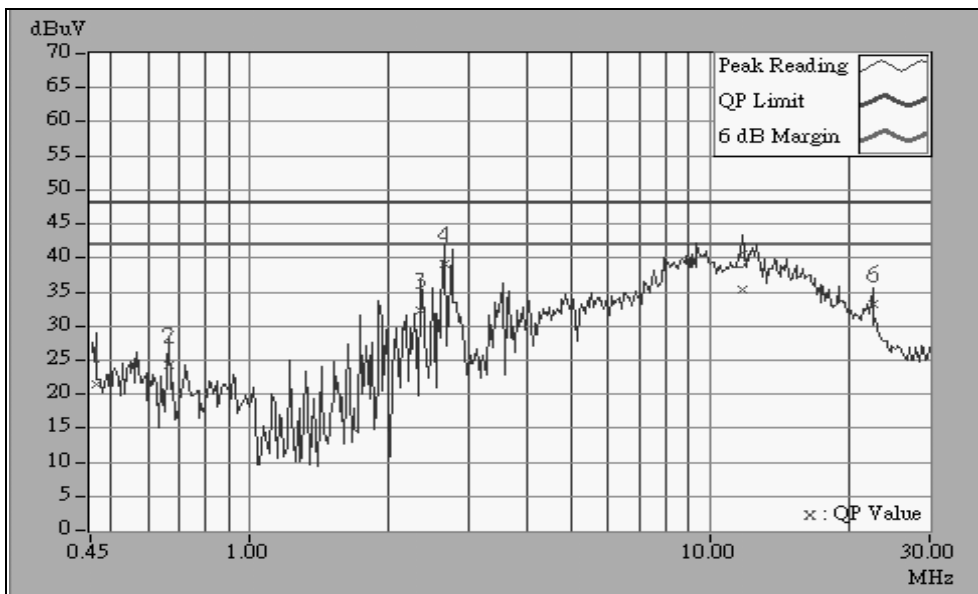


EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
MODE	Channel 6	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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	0.462	0.11	21.38	-	21.49	-	48.00	-	-26.51	-
2	0.666	0.14	24.21	-	24.35	-	48.00	-	-23.65	-
3	2.345	0.22	32.34	-	32.56	-	48.00	-	-15.44	-
4	2.646	0.23	39.06	-	39.29	-	48.00	-	-8.71	-
5	11.779	0.47	35.42	-	35.89	-	48.00	-	-12.11	-
6	22.569	0.95	33.24	-	34.19	-	48.00	-	-13.81	-

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.



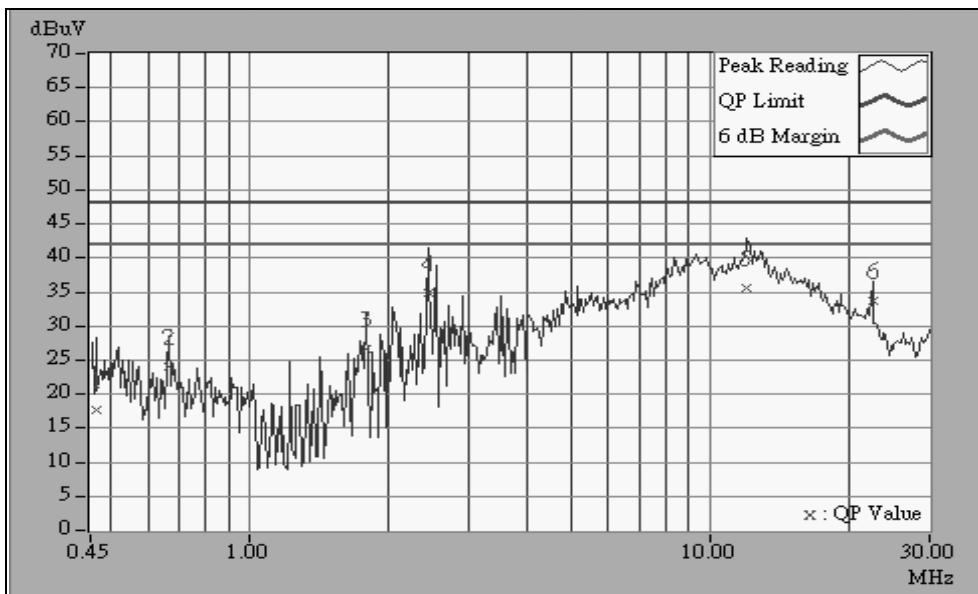


EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
MODE	Channel 11	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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.
1	0.463	0.11	17.66	-	17.77	-	48.00	-	-30.23	-
2	0.665	0.14	24.03	-	24.17	-	48.00	-	-23.83	-
3	1.796	0.20	26.60	-	26.80	-	48.00	-	-21.20	-
4	2.438	0.22	34.85	-	35.07	-	48.00	-	-12.93	-
5	12.056	0.44	35.49	-	35.93	-	48.00	-	-12.07	-
6	22.570	0.55	33.73	-	34.28	-	48.00	-	-13.72	-

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.



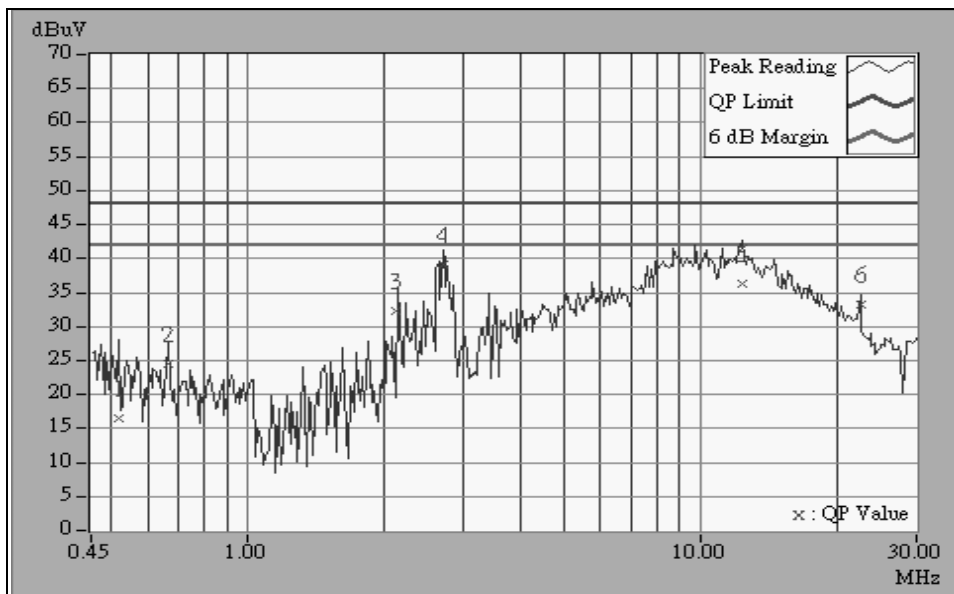


EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
MODE	Channel 11	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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.
1	0.516	0.12	16.56	-	16.68	-	48.00	-	-31.32	-
2	0.666	0.14	24.58	-	24.72	-	48.00	-	-23.28	-
3	2.132	0.21	32.26	-	32.47	-	48.00	-	-15.53	-
4	2.697	0.23	39.12	-	39.35	-	48.00	-	-8.65	-
5	12.328	0.49	36.38	-	36.87	-	48.00	-	-11.13	-
6	22.569	0.95	33.27	-	34.22	-	48.00	-	-13.78	-

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.





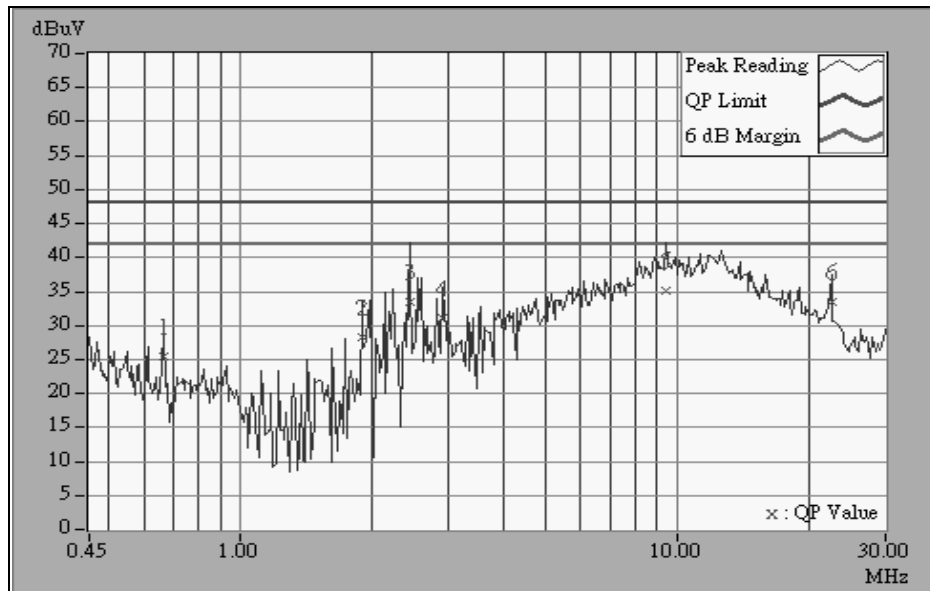
4.1.7 TEST RESULTS (B)

EUT	Wireless LAN Card	MODEL	SL-2011CD-FP
MODE	Channel 1	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.666	0.14	25.55	-	25.69	-	48.00	-	-22.31	-
2	1.894	0.20	28.28	-	28.48	-	48.00	-	-19.52	-
3	2.435	0.22	33.36	-	33.58	-	48.00	-	-14.42	-
4	2.895	0.24	31.09	-	31.33	-	48.00	-	-16.67	-
5	9.451	0.39	35.08	-	35.47	-	48.00	-	-12.53	-
6	22.569	0.55	33.57	-	34.12	-	48.00	-	-13.88	-

NOTE:

- 6. QP. and AV. are abbreviations of quasi-peak and average individually.
- 7. "-": NA
- 8. The emission levels of other frequencies were very low against the limit.
- 9. Margin value = Emission level - Limit value
- 10. Emission Level = Reading Value + Correction Factor.



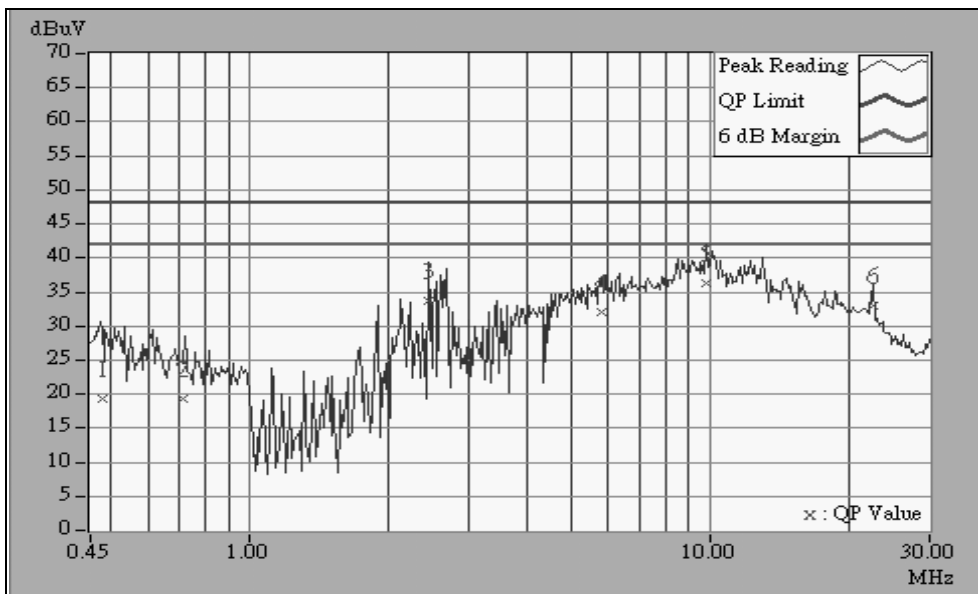


EUT	Wireless LAN Card	MODEL	SL-2011CD-FP
MODE	Channel 1	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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	0.478	0.11	19.21	-	19.32	-	48.00	-	-28.68	-
2	0.718	0.15	19.30	-	19.45	-	48.00	-	-28.55	-
3	2.439	0.22	33.82	-	34.04	-	48.00	-	-13.96	-
4	5.827	0.33	32.11	-	32.44	-	48.00	-	-15.56	-
5	9.766	0.40	36.37	-	36.77	-	48.00	-	-11.23	-
6	22.570	0.95	32.90	-	33.85	-	48.00	-	-14.15	-

NOTE:

6. QP. and AV. are abbreviations of quasi-peak and average individually.
7. "-": NA
8. The emission levels of other frequencies were very low against the limit.
9. Margin value = Emission level - Limit value
10. Emission Level = Reading Value + Correction Factor.



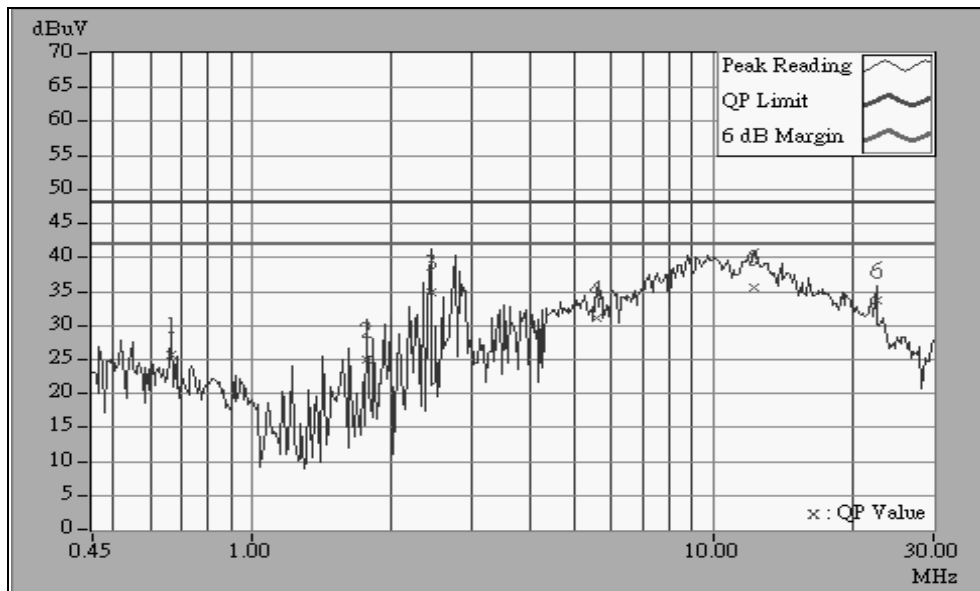


EUT	Wireless LAN Card	MODEL	SL-2011CD-FP
MODE	Channel 6	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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	0.666	0.14	25.70	-	25.84	-	48.00	-	-22.16	-
2	1.776	0.20	24.87	-	25.07	-	48.00	-	-22.93	-
3	2.439	0.22	34.97	-	35.19	-	48.00	-	-12.81	-
4	5.574	0.33	31.19	-	31.52	-	48.00	-	-16.48	-
5	12.237	0.44	35.69	-	36.13	-	48.00	-	-11.87	-
6	22.570	0.55	33.71	-	34.26	-	48.00	-	-13.74	-

NOTE:

6. QP. and AV. are abbreviations of quasi-peak and average individually.
7. "-": NA
8. The emission levels of other frequencies were very low against the limit.
9. Margin value = Emission level - Limit value
10. Emission Level = Reading Value + Correction Factor.



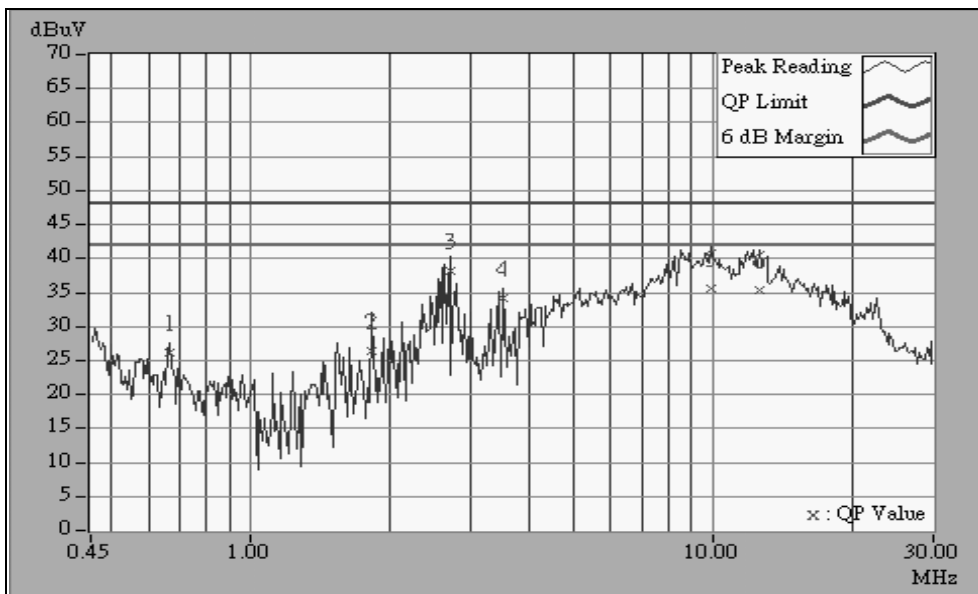


EUT	Wireless LAN Card	MODEL	SL-2011CD-FP
MODE	Channel 6	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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.
1	0.666	0.14	26.10	-	26.24	-	48.00	-	-21.76	-
2	1.827	0.20	26.48	-	26.68	-	48.00	-	-21.32	-
3	2.694	0.23	38.15	-	38.38	-	48.00	-	-9.62	-
4	3.521	0.28	34.11	-	34.39	-	48.00	-	-13.61	-
5	9.934	0.40	35.51	-	35.91	-	48.00	-	-12.09	-
6	12.656	0.51	35.28	-	35.79	-	48.00	-	-12.21	-

NOTE:

6. QP. and AV. are abbreviations of quasi-peak and average individually.
7. "-": NA
8. The emission levels of other frequencies were very low against the limit.
9. Margin value = Emission level - Limit value
10. Emission Level = Reading Value + Correction Factor.



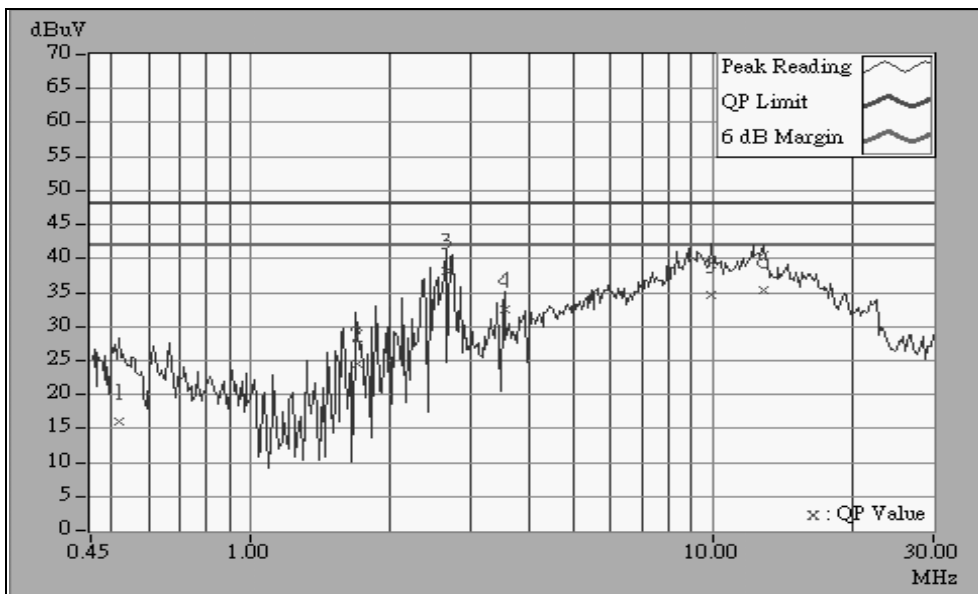


EUT	Wireless LAN Card	MODEL	SL-2011CD-FP
MODE	Channel 11	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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	0.518	0.12	16.06	-	16.18	-	48.00	-	-31.82	-
2	1.693	0.20	24.51	-	24.71	-	48.00	-	-23.29	-
3	2.645	0.23	38.19	-	38.42	-	48.00	-	-9.58	-
4	3.531	0.28	32.42	-	32.70	-	48.00	-	-15.30	-
5	9.866	0.40	34.76	-	35.16	-	48.00	-	-12.84	-
6	12.844	0.46	35.35	-	35.81	-	48.00	-	-12.19	-

NOTE:

6. QP. and AV. are abbreviations of quasi-peak and average individually.
7. "-": NA
8. The emission levels of other frequencies were very low against the limit.
9. Margin value = Emission level - Limit value
10. Emission Level = Reading Value + Correction Factor.



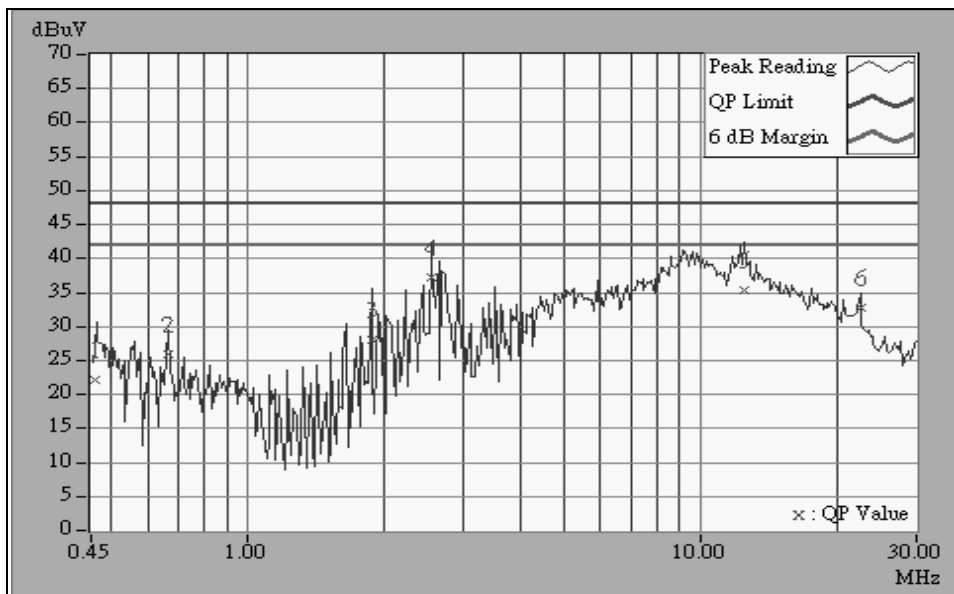


EUT	Wireless LAN Card	MODEL	SL-2011CD-FP
MODE	Channel 11	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: James Lee	

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	0.460	0.11	22.21	-	22.32	-	48.00	-	-25.68	-
2	0.664	0.14	25.92	-	26.06	-	48.00	-	-21.94	-
3	1.876	0.20	27.98	-	28.18	-	48.00	-	-19.82	-
4	2.536	0.23	37.25	-	37.48	-	48.00	-	-10.52	-
5	12.469	0.50	35.47	-	35.97	-	48.00	-	-12.03	-
6	22.569	0.95	32.78	-	33.73	-	48.00	-	-14.27	-

NOTE:

6. QP. and AV. are abbreviations of quasi-peak and average individually.
7. "-": NA
8. The emission levels of other frequencies were very low against the limit.
9. Margin value = Emission level - Limit value
10. Emission Level = Reading Value + Correction Factor.





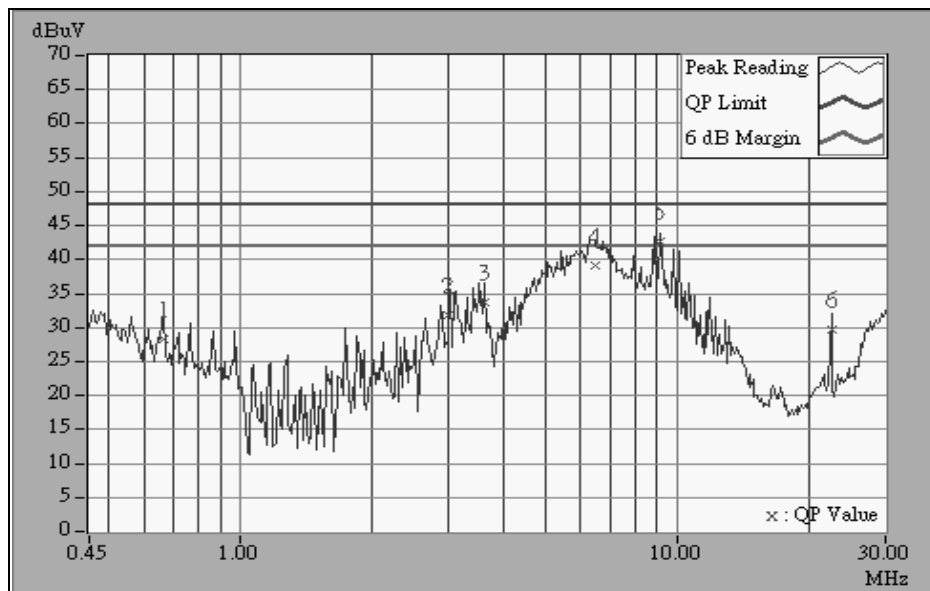
4.1.8 TEST RESULTS (C)

EUT	Wireless LAN Card	MODEL	SL-2011CD-DP
MODE	Channel 1	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: Steven Lu	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.665	0.14	28.32	-	28.46	-	48.00	-	-19.54	-
2	2.984	0.25	31.75	-	32.00	-	48.00	-	-16.00	-
3	3.621	0.28	33.68	-	33.96	-	48.00	-	-14.04	-
4	6.469	0.34	39.24	-	39.58	-	48.00	-	-8.42	-
5	9.160	0.39	42.72	-	43.11	-	48.00	-	-4.89	-
6	22.570	0.55	29.80	-	30.35	-	48.00	-	-17.65	-

NOTE:

- 11. QP. and AV. are abbreviations of quasi-peak and average individually.
- 12. "-": NA
- 13. The emission levels of other frequencies were very low against the limit.
- 14. Margin value = Emission level - Limit value
- 15. Emission Level = Reading Value + Correction Factor.



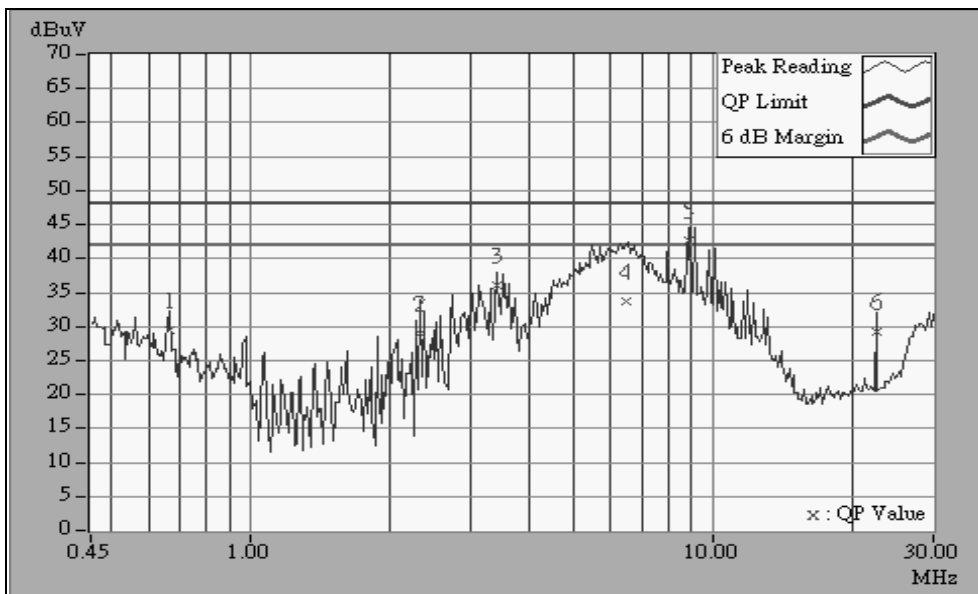


EUT	Wireless LAN Card	MODEL	SL-2011CD-DP
MODE	Channel 1	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: Steven Lu	

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.
1	0.665	0.14	29.39	-	29.53	-	48.00	-	-18.47	-
2	2.332	0.22	28.99	-	29.21	-	48.00	-	-18.79	-
3	3.398	0.27	35.98	-	36.25	-	48.00	-	-11.75	-
4	6.512	0.34	33.72	-	34.06	-	48.00	-	-13.94	-
5	8.855	0.38	42.65	-	43.03	-	48.00	-	-4.97	-
6	22.570	0.95	29.33	-	30.28	-	48.00	-	-17.72	-

NOTE:

11. QP. and AV. are abbreviations of quasi-peak and average individually.
12. "-": NA
13. The emission levels of other frequencies were very low against the limit.
14. Margin value = Emission level - Limit value
15. Emission Level = Reading Value + Correction Factor.



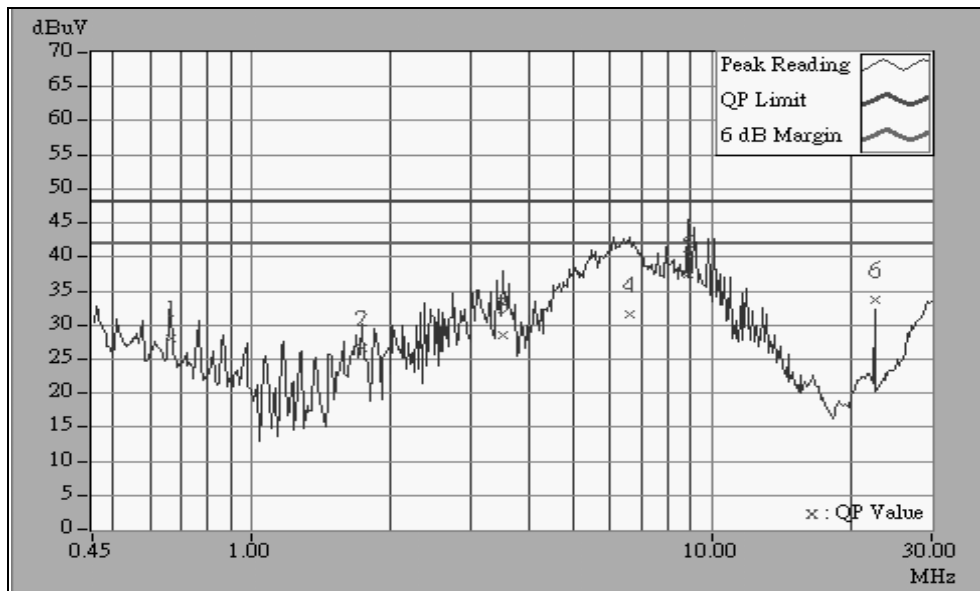


EUT	Wireless LAN Card	MODEL	SL-2011CD-DP
MODE	Channel 6	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: Steven Lu	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]		Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.665	0.14	27.99	-	28.13	-	48.00	-	-19.87	-
2	1.741	0.20	26.64	-	26.84	-	48.00	-	-21.16	-
3	3.511	0.28	28.54	-	28.82	-	48.00	-	-19.18	-
4	6.593	0.34	31.61	-	31.95	-	48.00	-	-16.05	-
5	8.852	0.38	37.59	-	37.97	-	48.00	-	-10.03	-
6	22.570	0.55	33.77	-	34.32	-	48.00	-	-13.68	-

NOTE:

11. QP. and AV. are abbreviations of quasi-peak and average individually.
12. "-": NA
13. The emission levels of other frequencies were very low against the limit.
14. Margin value = Emission level - Limit value
15. Emission Level = Reading Value + Correction Factor.



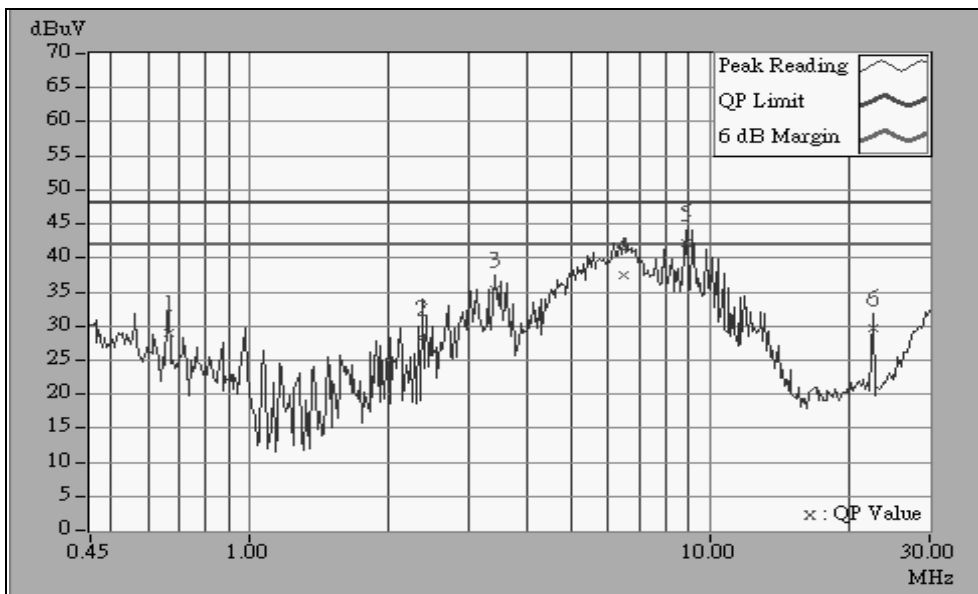


EUT	Wireless LAN Card	MODEL	SL-2011CD-DP
MODE	Channel 6	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: Steven Lu	

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.
1	0.665	0.14	28.93	-	29.07	-	48.00	-	-18.93	-
2	2.383	0.22	28.35	-	28.57	-	48.00	-	-19.43	-
3	3.395	0.27	35.37	-	35.64	-	48.00	-	-12.36	-
4	6.480	0.34	37.51	-	37.85	-	48.00	-	-10.15	-
5	8.855	0.38	42.27	-	42.65	-	48.00	-	-5.35	-
6	22.570	0.95	29.58	-	30.53	-	48.00	-	-17.47	-

NOTE:

11. QP. and AV. are abbreviations of quasi-peak and average individually.
12. "-": NA
13. The emission levels of other frequencies were very low against the limit.
14. Margin value = Emission level - Limit value
15. Emission Level = Reading Value + Correction Factor.



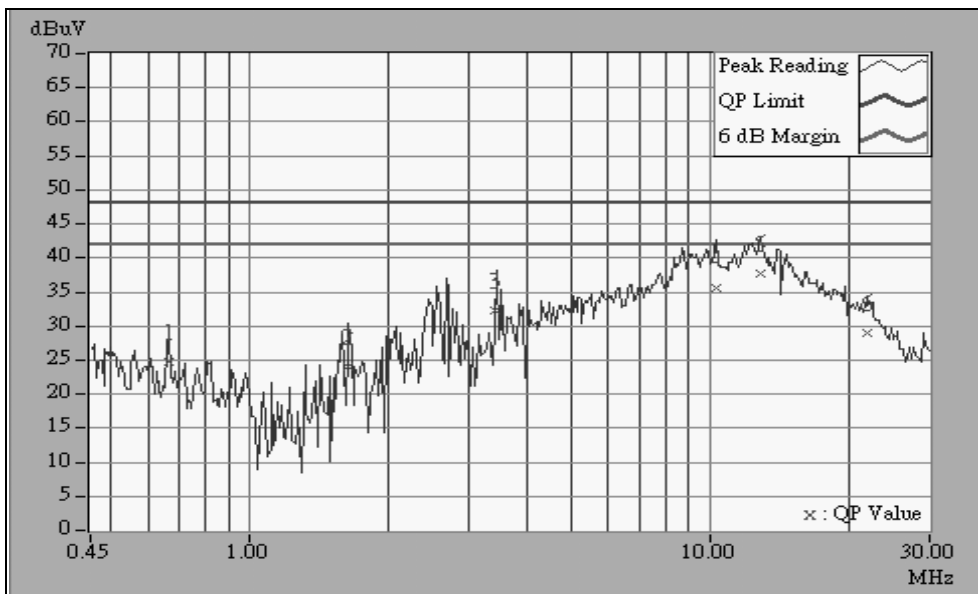


EUT	Wireless LAN Card	MODEL	SL-2011CD-DP
MODE	Channel 11	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: Steven Lu	

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.
1	0.665	0.14	24.72	-	24.86	-	48.00	-	-23.14	-
2	1.630	0.20	24.02	-	24.22	-	48.00	-	-23.78	-
3	3.423	0.27	32.18	-	32.45	-	48.00	-	-15.55	-
4	10.288	0.41	35.64	-	36.05	-	48.00	-	-11.95	-
5	12.819	0.46	37.76	-	38.22	-	48.00	-	-9.78	-
6	21.865	0.56	28.94	-	29.50	-	48.00	-	-18.50	-

NOTE:

11. QP. and AV. are abbreviations of quasi-peak and average individually.
12. "-": NA
13. The emission levels of other frequencies were very low against the limit.
14. Margin value = Emission level - Limit value
15. Emission Level = Reading Value + Correction Factor.



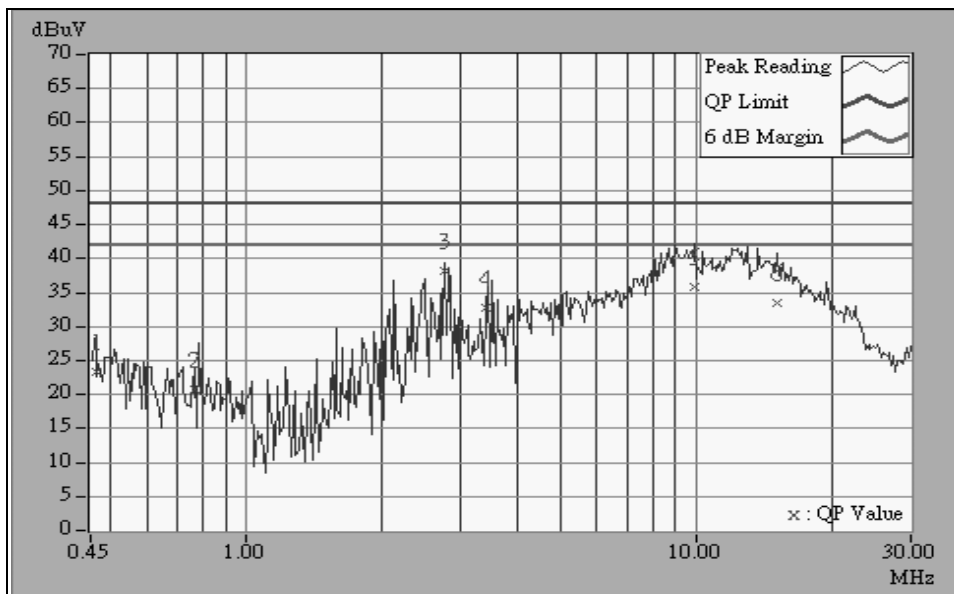


EUT	Wireless LAN Card	MODEL	SL-2011CD-DP
MODE	Channel 11	6dB BANDWIDTH	10 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	PHASE	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%RH, 1005 hPa	TESTED BY: Steven Lu	

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	0.461	0.11	23.25	-	23.36	-	48.00	-	-24.64	-
2	0.766	0.16	20.75	-	20.91	-	48.00	-	-27.09	-
3	2.754	0.24	38.27	-	38.51	-	48.00	-	-9.49	-
4	3.423	0.27	32.70	-	32.97	-	48.00	-	-15.03	-
5	9.878	0.40	35.89	-	36.29	-	48.00	-	-11.71	-
6	15.150	0.61	33.38	-	33.99	-	48.00	-	-14.01	-

NOTE:

11. QP. and AV. are abbreviations of quasi-peak and average individually.
12. "-": NA
13. The emission levels of other frequencies were very low against the limit.
14. Margin value = Emission level - Limit value
15. 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 7, 2002
* HP Preamplifier	8447D	2944A08119	July 11, 2002
* HP Preamplifier	8449B	3008A01201	Dec. 13, 2001
* HP Preamplifier	8449B	3008A01292	Aug. 21, 2002
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 25, 2002
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2001
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 2, 2002
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 6, 2002
* EMCO Horn Antenna	3115	9312-4192	April 15, 2002
* EMCO Turn Table	1060	1115	NA
* SHOSHIN Tower	AP-4701	A6Y005	NA
* Software	AS61D4	NA	NA
* ANRITSU RF Switches	MP59B	M35046	Aug. 2, 2002
* TIMES RF cable	LMR-600	CABLE-ST5-01	Aug. 2, 2002
Open Field Test Site	Site 5	ADT-R05	July 28, 2002
VCCI Site Registration No.	Site 5	R-1039	NA

- NOTE:** 1. The measurement uncertainty is less than +/- 3.0dB, 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.



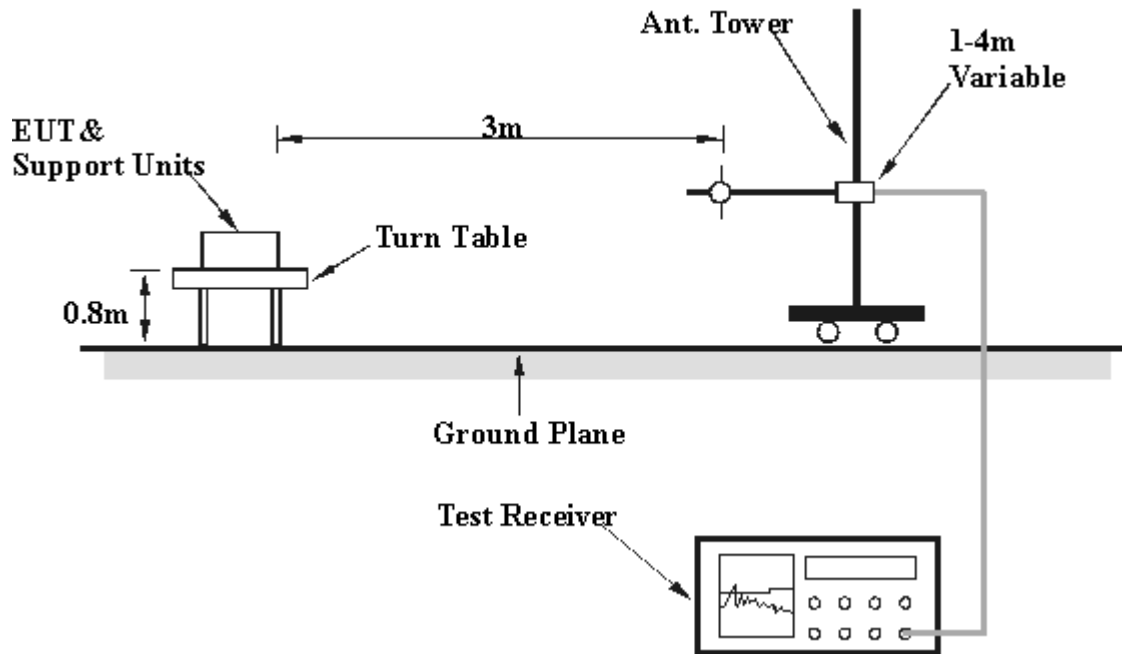
4.2.3 TEST PROCEDURES

- 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 TEST SETUP



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

4.2.5 EUT OPERATING CONDITIONS

Same as 4.1.5.



4.2.6 TEST RESULTS (A)

EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%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	176.00	30.4 QP	43.50	-13.10	2.08H	149	20.00	9.08	1.33	0.00	-10.41
2	220.00	29.6 QP	46.00	-16.40	1.82H	186	18.00	10.12	1.51	0.00	-11.63
3	264.00	32.8 QP	46.00	-13.20	1.46H	342	18.20	12.89	1.70	0.00	-14.58
4	308.00	31.3 QP	46.00	-14.70	1.13H	69	16.00	13.38	1.91	0.00	-15.30
5	396.00	33.9 QP	46.00	-12.10	1.05H	69	15.70	15.96	2.22	0.00	-18.19
6	484.00	34.4 QP	46.00	-11.60	1.05H	357	15.00	16.96	2.47	0.00	-19.43
7	528.00	35.6 QP	46.00	-10.40	1.82H	30	15.40	17.62	2.60	0.00	-20.22
8	748.50	38.4 QP	46.00	-7.60	1.67H	341	15.00	20.14	3.26	0.00	-23.40
9	792.00	34.5 QP	46.00	-11.50	1.85H	84	10.60	20.60	3.31	0.00	-23.91

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	176.00	28.4 QP	43.50	-15.10	1.78V	122	18.00	9.08	1.33	0.00	-10.41
2	220.00	29.1 QP	46.00	-16.90	2.47V	137	17.50	10.12	1.51	0.00	-11.63
3	264.00	33.6 QP	46.00	-12.40	2.28V	357	19.00	12.89	1.70	0.00	-14.58
4	308.00	31.3 QP	46.00	-14.70	1.87V	194	16.00	13.38	1.91	0.00	-15.29
5	572.00	36.0 QP	46.00	-10.00	1.09V	65	15.00	18.25	2.75	0.00	-21.01
6	748.50	39.4 QP	46.00	-6.60	1.02V	348	16.00	20.14	3.26	0.00	-23.41
7	792.00	34.9 QP	46.00	-11.10	1.39V	294	11.00	20.60	3.31	0.00	-23.91

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	Wireless LAN Card	MODEL	SL-2011CD-GP
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, 70%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	2037.80	47.2 PK	74.00	-26.80	1.22H	340	52.08	25.20	4.86	34.90	4.84
2	*2413.00	91.2 PK	-	-	1.20H	59	59.00	27.11	5.10	0.00	-32.22
3	*2413.00	85.2 AV	-	-	1.20H	59	53.00	27.11	5.10	0.00	-32.22
4	4076.00	51.8 PK	74.00	-22.20	1.17H	8	49.40	30.13	6.78	34.52	-2.39
5	4824.00	51.0 PK	74.00	-23.00	1.36H	316	47.00	31.43	7.23	34.63	-4.02
6	6113.00	52.1 PK	74.00	-21.90	1.44H	350	45.70	32.80	8.23	34.60	-6.43
7	9648.00	49.3 AV	54.00	-4.70	1.60H	318	35.00	38.08	11.33	35.07	-14.33

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	47.7 PK	74.00	-26.30	1.06V	4	52.52	25.20	4.86	34.90	4.84
2	*2413.00	97.7 PK	-	-	1.69V	360	65.44	27.11	5.10	0.00	-32.21
3	*2413.00	92.2 AV	-	-	1.69V	360	60.00	27.11	5.10	0.00	-32.21
4	4076.00	50.6 PK	74.00	-23.40	1.84V	356	48.25	30.13	6.78	34.52	-2.39
5	4824.00	54.0 PK	74.00	-20.00	1.51V	61	50.00	31.43	7.23	34.63	-4.02
6	4824.00	42.0 AV	54.00	-12.00	1.51V	61	38.00	31.43	7.23	34.63	-4.02
7	9647.90	52.0 AV	54.00	-2.00	1.62V	132	37.71	38.08	11.33	35.07	-14.33

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	Wireless LAN Card	MODEL	SL-2011CD-GP
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, 70%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	46.9 PK	74.00	-27.10	2.24H	5	51.40	25.41	4.96	34.90	4.53
2	*2437.00	91.4 PK	-	-	1.17H	301	59.00	27.33	5.08	0.00	-32.40
3	*2437.00	85.4 AV	-	-	1.17H	301	53.00	27.33	5.08	0.00	-32.40
4	4125.00	49.5 PK	74.00	-24.50	1.88H	15	47.00	30.32	6.70	34.56	-2.46
5	4874.00	50.9 PK	74.00	-23.10	1.50H	353	46.87	31.47	7.21	34.63	-4.05
6	6188.00	51.5 PK	74.00	-22.50	1.17H	346	45.00	33.14	8.01	34.60	-6.55

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	47.8 PK	74.00	-26.20	1.07V	352	52.29	25.41	4.96	34.90	4.53
2	*2437.00	99.4 PK	-	-	1.76V	10	67.00	27.33	5.08	0.00	-32.41
3	*2437.00	93.4 AV	-	-	1.76V	10	61.00	27.33	5.08	0.00	-32.41
4	4126.00	50.5 PK	74.00	-23.50	1.78V	46	48.00	30.32	6.70	34.56	-2.46
5	4875.00	57.3 PK	74.00	-16.70	1.27V	81	53.21	31.47	7.21	34.63	-4.05
6	4875.00	41.5 AV	54.00	-12.50	1.27V	81	37.40	31.47	7.21	34.63	-4.05
7	6188.00	51.5 PK	74.00	-22.50	1.55V	352	45.00	33.14	8.01	34.60	-6.55
8	9747.00	63.0 PK	74.00	-11.00	1.21V	50	48.00	38.15	11.85	35.05	-14.96
9	9747.00	51.0 AV	54.00	-3.00	1.21V	50	36.00	38.15	11.85	35.05	-14.96

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	Wireless LAN Card	MODEL	SL-2011CD-GP
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, 70%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	47.9 PK	74.00	-26.10	1.11H	333	52.11	25.62	5.02	34.90	4.26
2	2438.50	47.5 PK	74.00	-26.50	1.92H	7	50.00	27.33	5.08	34.90	2.50
3	*2463.00	94.4 PK	74.00	-	-	352	62.00	27.33	5.08	0.00	-32.41
4	*2463.00	89.4 AV	54.00	-	-	352	57.00	27.33	5.08	0.00	-32.41
5	4175.60	52.8 PK	74.00	-21.20	1.03H	5	50.30	30.41	6.68	34.58	-2.52
6	4924.00	50.1 PK	74.00	-23.90	1.38H	156	46.00	31.51	7.21	34.62	-4.10
7	6263.00	53.0 PK	74.00	-21.00	1.46H	339	46.00	33.48	8.13	34.60	-7.01

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	48.7 PK	74.00	-25.30	1.39V	278	52.97	25.62	5.02	34.90	4.26
2	*2412.00	99.2 PK	-	-	1.53H	351	67.00	27.11	5.10	0.00	-32.22
3	*2412.00	93.2 AV	-	-	1.53H	351	61.00	27.11	5.10	0.00	-32.22
4	2483.50	50.4 PK	74.00	-23.60	1.25V	234	52.75	27.54	5.06	34.90	2.31
5	4175.00	52.5 PK	74.00	-21.50	1.17V	190	50.00	30.41	6.68	34.58	-2.51
6	4924.00	51.9 PK	74.00	-22.10	1.12V	142	47.80	31.51	7.21	34.62	-4.10

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.



4.2.7 TEST RESULTS (B)

EUT	Wireless LAN Card	MODEL	SL-2011CD-FP
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%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	176.00	28.4 QP	43.50	-15.10	1.43H	82	18.00	9.08	1.33	0.00	-10.41
2	264.00	33.6 QP	46.00	-12.40	1.54H	309	19.00	12.89	1.70	0.00	-14.58
3	308.00	31.3 QP	46.00	-14.70	1.36H	152	16.00	13.38	1.91	0.00	-15.29
4	352.00	33.4 QP	46.00	-12.60	1.17H	314	17.00	14.31	2.05	0.00	-16.36
5	484.00	32.4 QP	46.00	-13.60	2.02H	50	13.00	16.96	2.47	0.00	-19.44
6	528.00	36.2 QP	46.00	-9.80	1.69H	28	16.00	17.62	2.60	0.00	-20.22
7	748.50	41.9 QP	46.00	-4.10	1.42H	257	18.50	20.14	3.26	0.00	-23.41
8	792.00	34.9 QP	46.00	-11.10	1.23H	4	11.00	20.60	3.31	0.00	-23.91

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	31.3 QP	43.50	-12.20	1.19V	92	19.00	11.16	1.13	0.00	-12.29
2	264.00	32.6 QP	46.00	-13.40	1.93V	284	18.00	12.89	1.70	0.00	-14.58
3	308.00	30.3 QP	46.00	-15.70	2.12V	5	15.00	13.38	1.91	0.00	-15.30
4	440.00	34.7 QP	46.00	-11.30	1.49V	9	16.00	16.32	2.38	0.00	-18.70
5	528.00	36.2 QP	46.00	-9.80	1.02V	271	16.00	17.62	2.60	0.00	-20.23
6	572.00	36.0 QP	46.00	-10.00	1.09V	12	15.00	18.25	2.75	0.00	-21.01
7	748.50	39.4 QP	46.00	-6.60	1.21V	348	16.00	20.14	3.26	0.00	-23.41
8	880.00	34.2 QP	46.00	-11.80	1.47V	310	10.00	20.68	3.55	0.00	-24.23

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	Wireless LAN Card	MODEL	SL-2011CD-FP
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, 70%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	48.2 PK	74.00	-25.80	1.22H	340	53.00	25.20	4.86	34.90	4.84
2	*2414.00	104.0 PK	-	-	1.73H	72	71.76	27.11	5.10	0.00	-32.22
3	*2414.00	97.2 AV	-	-	1.73H	72	65.00	27.11	5.10	0.00	-32.22
4	4075.00	51.9 PK	74.00	-22.10	1.68H	356	49.50	30.13	6.78	34.52	-2.39
5	4824.00	51.1 PK	74.00	-22.90	1.51H	281	47.10	31.43	7.23	34.63	-4.02

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	47.2 PK	74.00	-26.80	1.71V	62	52.00	25.20	4.86	34.90	4.84
2	*2414.00	97.6 PK	-	-	1.31V	341	65.40	27.11	5.10	0.00	-32.21
3	*2414.00	92.2 AV	-	-	1.31V	341	60.00	27.11	5.10	0.00	-32.21
4	4075.80	51.8 PK	74.00	-22.20	1.87V	316	49.40	30.13	6.78	34.52	-2.39
5	4824.00	51.3 PK	74.00	-22.70	1.34V	35	47.30	31.43	7.23	34.63	-4.03
6	6113.00	51.4 PK	74.00	-22.60	1.60V	6	45.00	32.80	8.23	34.60	-6.43
7	9647.00	51.7 AV	54.00	-2.30	1.53V	120	37.40	38.08	11.33	35.07	-14.33

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	Wireless LAN Card	MODEL	SL-2011CD-FP
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, 70%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	46.7 PK	74.00	-27.30	1.88H	35	51.20	25.41	4.96	34.90	4.53
2	*2439.10	104.4 PK	-	-	2.21H	219	72.00	27.33	5.08	0.00	-32.40
3	*2439.10	96.4 AV	-	-	2.21H	219	64.00	27.33	5.08	0.00	-32.40
4	4125.50	51.4 PK	74.00	-22.60	2.04H	324	48.93	30.32	6.70	34.56	-2.46
5	4874.00	51.2 PK	74.00	-22.80	1.74H	314	47.10	31.47	7.21	34.63	-4.05
6	6188.00	51.7 PK	74.00	-22.30	1.59H	47	45.20	33.14	8.01	34.60	-6.55

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	47.2 PK	74.00	-26.80	1.18V	351	51.75	25.41	4.96	34.90	4.53
2	*2438.00	99.4 PK	-	-	1.98V	69	67.00	27.33	5.08	0.00	-32.41
3	*2438.00	92.4 AV	-	-	1.98V	69	60.00	27.33	5.08	0.00	-32.41
4	4125.80	52.0 PK	74.00	-22.00	1.09V	357	49.57	30.32	6.70	34.56	-2.46
5	4874.00	51.1 PK	74.00	-22.90	1.17V	16	47.00	31.47	7.21	34.63	-4.06
6	6188.20	52.5 PK	74.00	-21.50	1.48V	45	46.00	33.14	8.01	34.60	-6.56
7	9747.00	49.0 AV	54.00	-5.00	1.36V	20	34.00	38.15	11.85	35.05	-14.96

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	Wireless LAN Card	MODEL	SL-2011CD-FP
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, 70%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	49.0 PK	74.00	-25.00	1.00H	7	53.28	25.62	5.02	34.90	4.26
2	*2463.00	102.4 PK	-	-	2.01H	49	70.00	27.33	5.08	0.00	-32.40
3	*2463.00	95.4 AV	-	-	2.01H	49	63.00	27.33	5.08	0.00	-32.40
4	2483.50	49.7 PK	74.00	-24.30	1.57H	300	52.00	27.54	5.06	34.90	2.31
5	4175.00	51.4 PK	74.00	-22.60	1.96H	8	48.86	30.41	6.68	34.58	-2.51
6	4924.00	50.1 PK	74.00	-23.90	1.38H	357	46.00	31.51	7.21	34.62	-4.10
7	6263.20	53.0 PK	54.00	-1.00	1.46H	335	46.00	33.48	8.13	34.60	-7.01

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	2087.80	48.3 PK	74.00	-25.70	1.25V	24	52.59	25.62	5.02	34.90	4.26
2	*2463.00	98.4 PK	-	-	1.02V	348	66.00	27.33	5.08	0.00	-32.40
3	*2463.00	91.4 AV	-	-	1.02V	348	59.00	27.33	5.08	0.00	-32.40
4	2483.50	50.7 PK	74.00	-23.30	1.36V	216	53.00	27.54	5.06	34.90	2.31
5	4175.90	52.5 PK	74.00	-21.50	1.17V	330	50.00	30.41	6.68	34.58	-2.51
6	4924.00	51.8 PK	74.00	-22.20	1.68V	36	47.70	31.51	7.21	34.62	-4.10
7	6263.00	52.0 PK	74.00	-22.00	1.26V	18	45.00	33.48	8.13	34.60	-7.01

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.



4.2.8 TEST RESULTS (C)

EUT	Wireless LAN Card	MODEL	SL-2011CD-DP
MODE	Channel 11	FREQUENCY RANGE	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25 deg. C, 70%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	176.00	28.2 QP	43.50	-15.30	1.60H	305	17.80	9.08	1.33	0.00	-10.41
2	220.00	29.6 QP	46.00	-16.40	1.82H	335	18.00	10.12	1.51	0.00	-11.63
3	264.00	32.0 QP	46.00	-14.00	1.50H	329	17.40	12.89	1.70	0.00	-14.58
4	308.00	31.3 QP	46.00	-14.70	1.17H	9	16.00	13.38	1.91	0.00	-15.30
5	528.00	35.2 QP	46.00	-10.80	1.72H	316	15.00	17.62	2.60	0.00	-20.22
6	748.50	39.4 QP	46.00	-6.60	1.45H	357	16.00	20.14	3.26	0.00	-23.40
7	792.00	33.9 QP	46.00	-12.10	2.07H	6	10.00	20.60	3.31	0.00	-23.91

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	32.3 QP	43.50	-11.20	2.01V	102	20.00	11.16	1.13	0.00	-12.29
2	264.00	31.6 QP	46.00	-14.40	1.91V	284	17.00	12.89	1.70	0.00	-14.58
3	308.00	31.3 QP	46.00	-14.70	1.61V	6	16.00	13.38	1.91	0.00	-15.30
4	396.00	35.2 QP	46.00	-10.80	1.55V	138	17.00	15.96	2.22	0.00	-18.18
5	528.00	35.6 QP	46.00	-10.40	1.49V	304	15.40	17.62	2.60	0.00	-20.22
6	572.00	34.0 QP	46.00	-12.00	1.64V	272	13.00	18.25	2.75	0.00	-21.00
7	748.50	35.4 QP	46.00	-10.60	2.54V	35	12.00	20.14	3.26	0.00	-23.40
8	792.00	34.3 QP	46.00	-11.70	1.23V	50	10.40	20.60	3.31	0.00	-23.91

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	Wireless LAN Card	MODEL	SL-2011CD-DP
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, 70%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	48.2 PK	74.00	-25.80	1.20H	80	53.00	25.20	4.86	34.90	4.84
2	*2412.00	97.2 PK	-	-	1.01H	321	65.00	27.11	5.10	0.00	-32.21
3	*2412.00	89.2 AV	-	-	1.01H	321	57.00	27.11	5.10	0.00	-32.21
4	4075.00	52.1 PK	74.00	-21.90	1.66H	353	49.73	30.13	6.78	34.52	-2.39
5	4824.00	51.0 PK	74.00	-23.00	1.51H	78	47.00	31.43	7.23	34.63	-4.03
6	6113.00	52.4 PK	74.00	-21.60	2.13H	36	46.00	32.80	8.23	34.60	-6.44

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	2037.80	47.9 PK	74.00	-26.10	1.01V	35	52.76	25.20	4.86	34.90	4.84
2	*2412.00	104.8 PK	-	-	1.00V	86	72.60	27.11	5.10	0.00	-32.21
3	*2412.00	97.9 AV	-	-	1.00V	86	65.70	27.11	5.10	0.00	-32.21
4	4075.50	54.0 PK	74.00	-20.00	1.38V	243	51.63	30.13	6.78	34.52	-2.39
5	4075.50	48.4 AV	54.00	-5.60	1.38V	245	46.00	30.13	6.78	34.52	-2.39
6	4824.00	52.4 PK	74.00	-21.60	1.45V	41	48.40	31.43	7.23	34.63	-4.03
7	6113.00	51.5 PK	74.00	-22.50	1.51V	26	45.10	32.80	8.23	34.60	-6.44
8	9647.00	51.2 AV	54.00	-2.80	1.37V	33	36.85	38.08	11.33	35.07	-14.33

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	Wireless LAN Card	MODEL	SL-2011CD-DP
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, 70%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	48.6 PK	74.00	-25.40	1.13H	44	53.15	25.41	4.96	34.90	4.53
2	*2437.00	98.4 PK	-	-	1.16H	296	66.00	27.33	5.08	0.00	-32.40
3	*2437.00	91.4 AV	-	-	1.16H	296	59.00	27.33	5.08	0.00	-32.40
4	4125.00	52.5 PK	74.00	-21.50	1.62H	90	50.03	30.32	6.70	34.56	-2.46
5	4874.00	51.1 PK	74.00	-22.90	1.35H	314	47.00	31.47	7.21	34.63	-4.05
6	6188.00	51.5 PK	74.00	-22.50	1.51H	329	45.00	33.14	8.01	34.60	-6.55

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	47.9 PK	74.00	-26.10	1.00V	356	52.44	25.41	4.96	34.90	4.53
2	*2437.00	100.4 PK	-	-	2.20V	29	68.00	27.33	5.08	0.00	-32.41
3	*2437.00	94.4 AV	-	-	2.20V	29	62.00	27.33	5.08	0.00	-32.41
4	4125.80	53.6 PK	74.00	-20.40	1.42V	284	51.10	30.32	6.70	34.56	-2.46
5	4125.80	49.5 AV	54.00	-4.50	1.42V	284	47.00	30.32	6.70	34.56	-2.46
6	4874.00	52.1 PK	74.00	-21.90	1.58V	66	48.00	31.47	7.21	34.63	-4.06
7	9747.00	48.8 AV	54.00	-5.20	1.51V	64	33.88	38.15	11.85	35.05	-14.96

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	Wireless LAN Card	MODEL	SL-2011CD-DP
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, 70%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	47.3 PK	74.00	-26.70	1.97H	325	51.60	25.62	5.02	34.90	4.26
2	*2464.00	96.4 PK	-	-	1.91H	32	64.00	27.33	5.08	0.00	-32.40
3	*2464.00	89.4 AV	-	-	1.91H	32	57.00	27.33	5.08	0.00	-32.40
4	2483.50	49.7 PK	74.00	-24.30	1.00H	7	52.00	27.54	5.06	34.90	2.31
5	4175.10	53.8 PK	74.00	-20.20	1.10H	355	51.30	30.41	6.68	34.58	-2.51
6	4175.10	47.3 AV	54.00	-6.70	1.10H	355	44.80	30.41	6.68	34.58	-2.51
7	4924.00	51.2 PK	74.00	-22.80	1.29H	32	47.10	31.51	7.21	34.62	-4.10
8	6263.00	54.0 PK	74.00	-20.00	1.49H	6	47.00	33.48	8.13	34.60	-7.01
9	6263.00	44.0 AV	54.00	-10.00	1.49H	6	37.00	33.48	8.13	34.60	-7.01

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	49.5 PK	74.00	-24.50	1.08V	353	53.80	25.62	5.02	34.90	4.26
2	*2463.00	104.4 PK	-	-	1.00V	320	72.00	27.33	5.08	0.00	-32.41
3	*2463.00	99.4 AV	-	-	1.00V	320	67.00	27.33	5.08	0.00	-32.41
4	2483.50	52.7 PK	74.00	-21.30	1.00V	9	55.00	27.54	5.06	34.90	2.31
5	4175.80	53.8 PK	74.00	-20.20	1.68V	11	51.30	30.41	6.68	34.58	-2.51
6	4175.80	47.5 AV	54.00	-6.50	1.68V	11	45.00	30.41	6.68	34.58	-2.51
7	4924.00	51.1 PK	74.00	-22.90	1.42V	49	47.00	31.51	7.21	34.62	-4.10
8	6263.00	53.0 PK	74.00	-21.00	1.33V	359	46.00	33.48	8.13	34.60	-7.01
9	9847.90	50.2 AV	54.00	-3.80	1.42V	248	35.00	38.20	12.04	35.03	-15.21

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.



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	FSEK30	100049	July 17, 2002

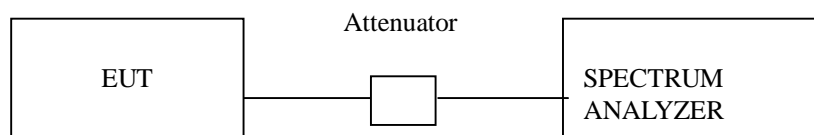
NOTE:

- 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.

4.3.3 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 100 kHz RBW and 100 kHz VBW. The 6 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6 dB.

4.3.4 TEST SETUP



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

4.3.5 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



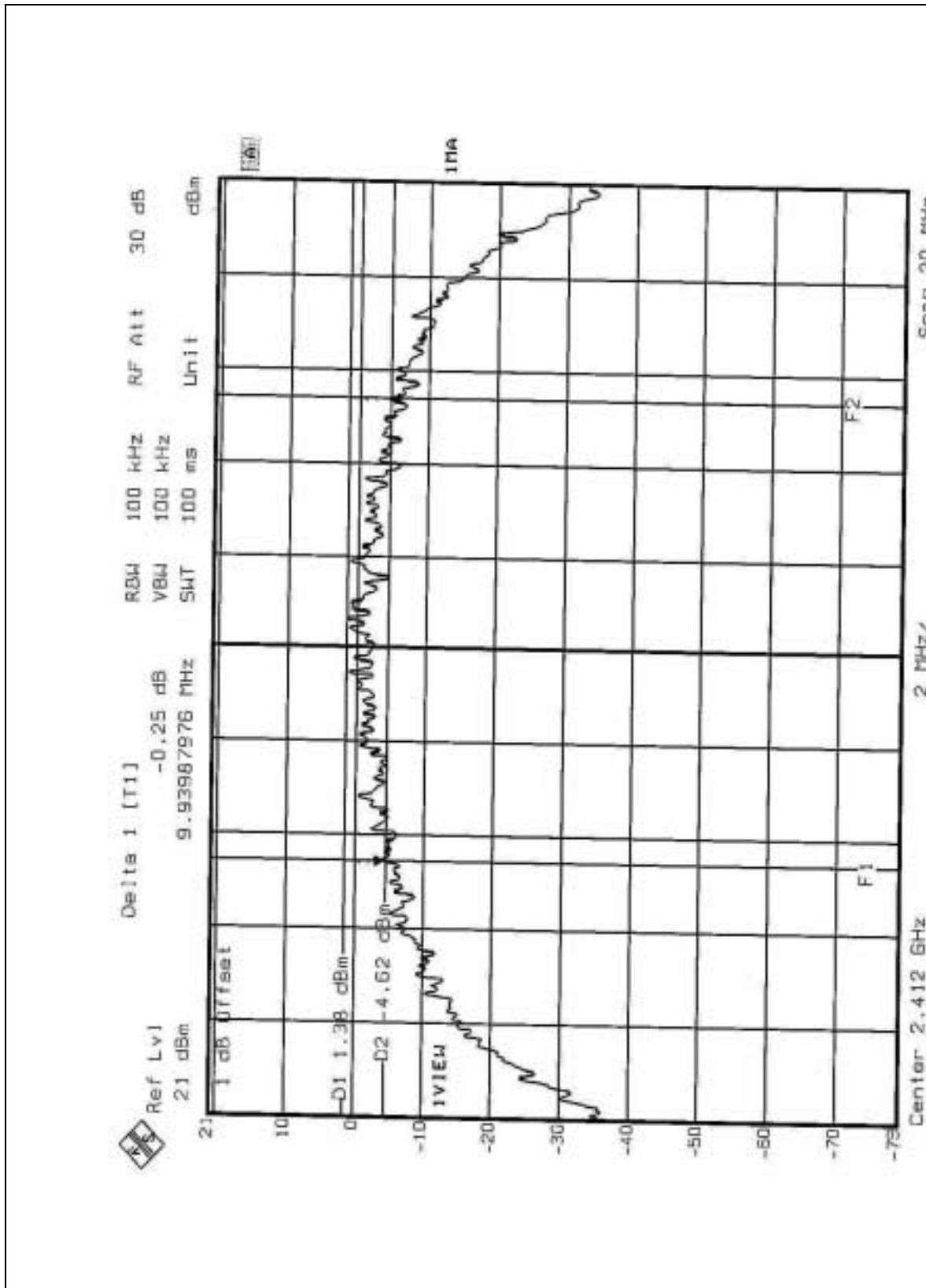
4.3.6 TEST RESULTS

EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	26 deg. C, 75%RH, 1005 hPa
TESTED BY: Bruce Shiau			

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	9.94	0.5	PASS
6	2437	9.90	0.5	PASS
11	2462	9.98	0.5	PASS

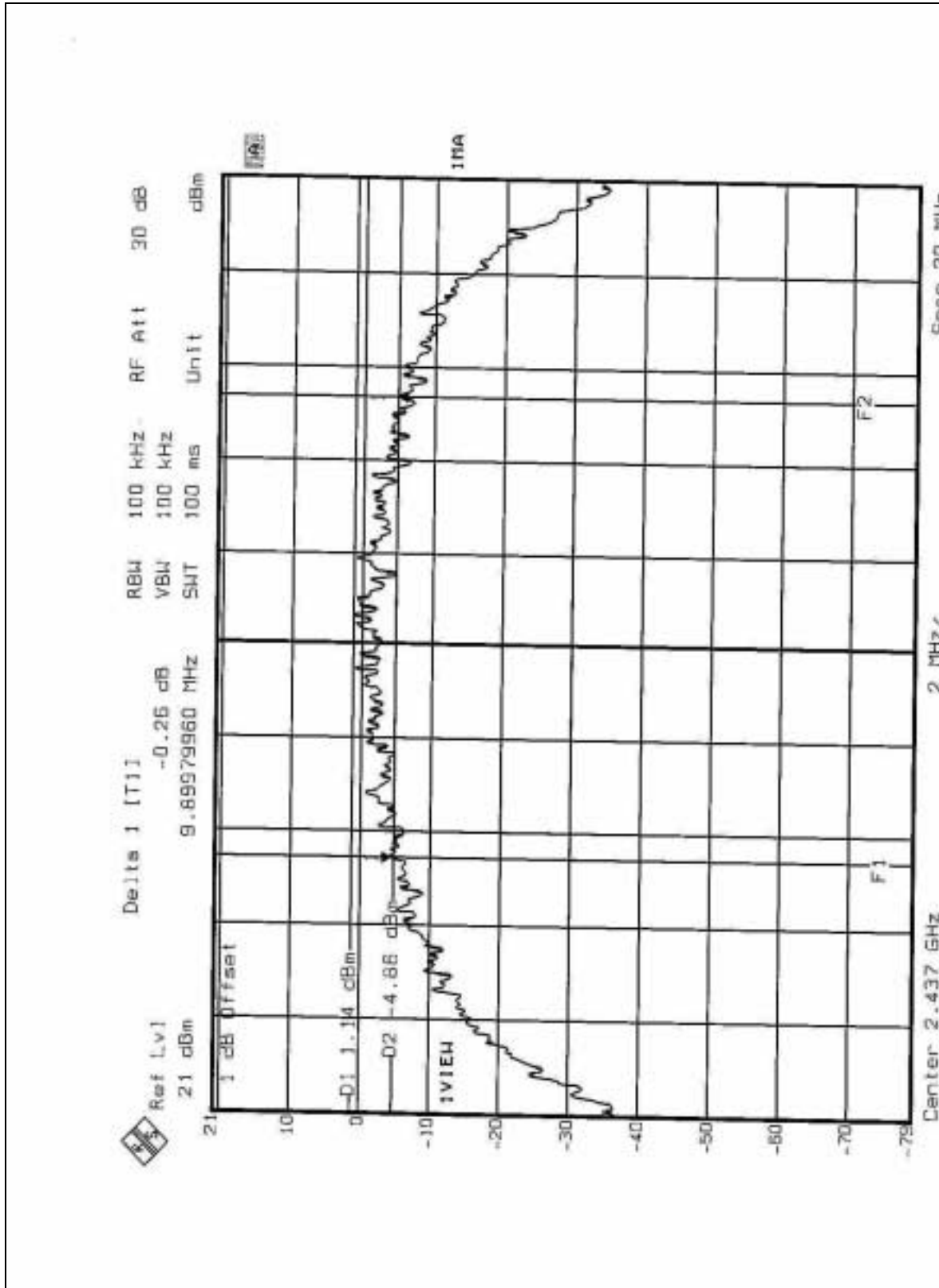


CH1



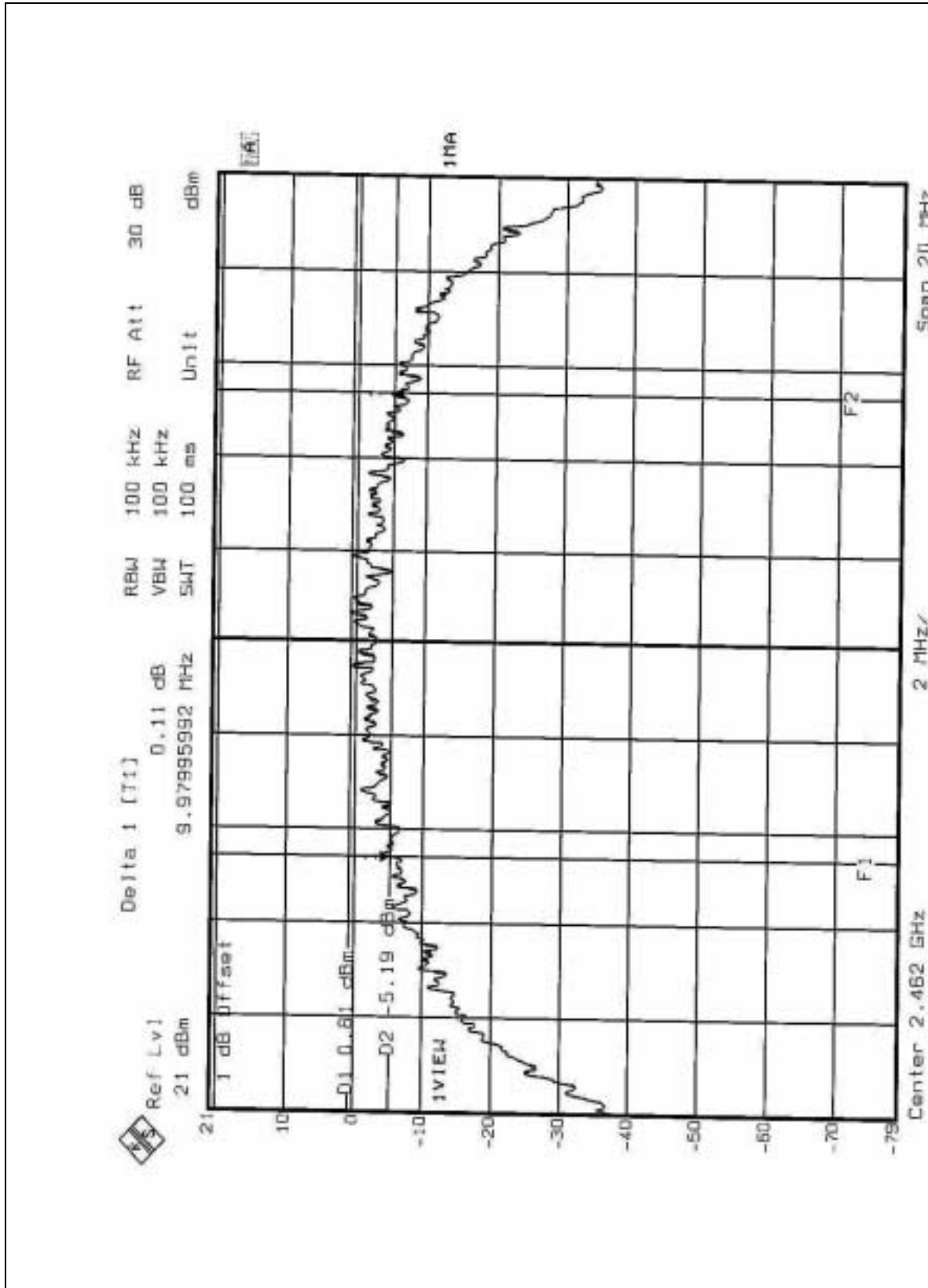


CH6





CH11





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 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SINGLE CHANNEL POWER METER	NRVS	100026	Feb. 21, 2002
PEAK POWER SENSOR	NRV-Z32	100013	May 23, 2002

NOTE:

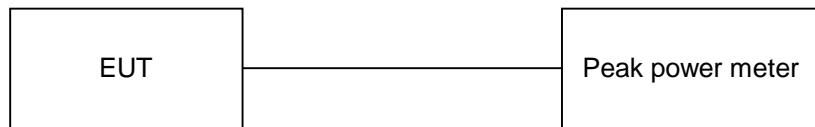
1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.



4.4.3 TEST PROCEDURES

The transmitter output was connected to peak power meter.

4.4.4 TEST SETUP



4.4.5 EUT OPERATING CONDITIONS

Same as Item 4.3.5



4.4.6 TEST RESULTS

EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	26 deg. C, 75%RH, 1005 hPa
TESTED BY: Bruce Shiau			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	11.92	29	PASS
6	2437	11.63	29	PASS
11	2462	11.39	29	PASS

Note: According to 15.247(b)(3), the maximum antenna gain 7dBi is higher than 6dBi, so the limit of peak power shall be reduced by 1dBi.



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	FSEK30	100049	July 17, 2002

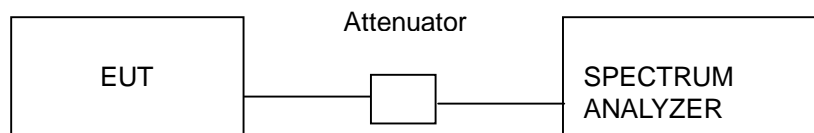
NOTE:

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.

4.5.3 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 3 kHz RBW and 30 kHz 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 TEST SETUP



4.5.5 EUT OPERATING CONDITIONS

Same as 4.3.5



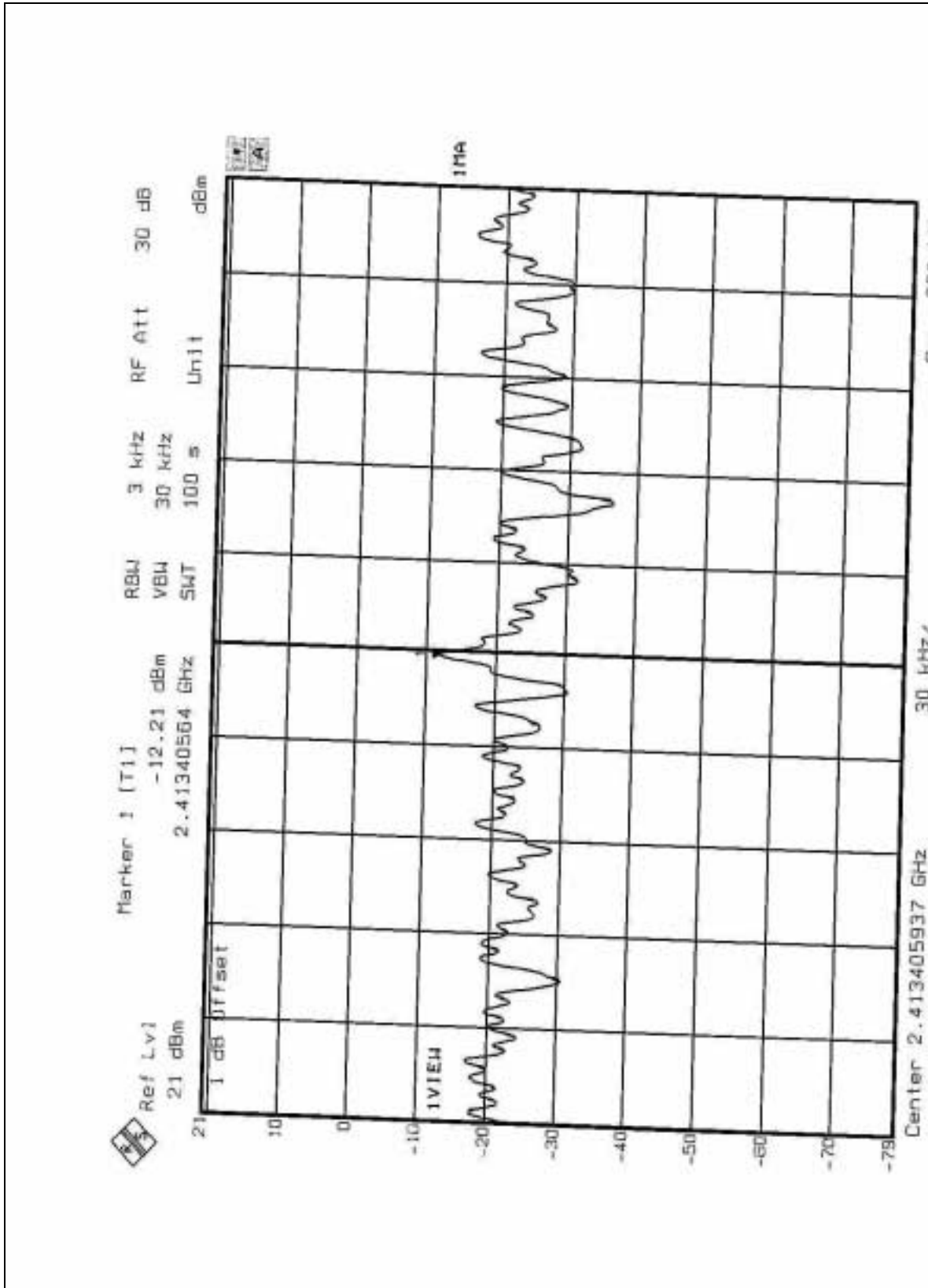
4.5.6 TEST RESULTS

EUT	Wireless LAN Card	MODEL	SL-2011CD-GP
INPUT POWER (SYSTEM)	120Vac, 60 Hz	ENVIRONMENTAL CONDITIONS	26 deg. C, 75%RH, 1005 hPa
TESTED BY: Bruce Shiau			

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-12.21	8	PASS
6	2437	-12.47	8	PASS
11	2462	-12.74	8	PASS

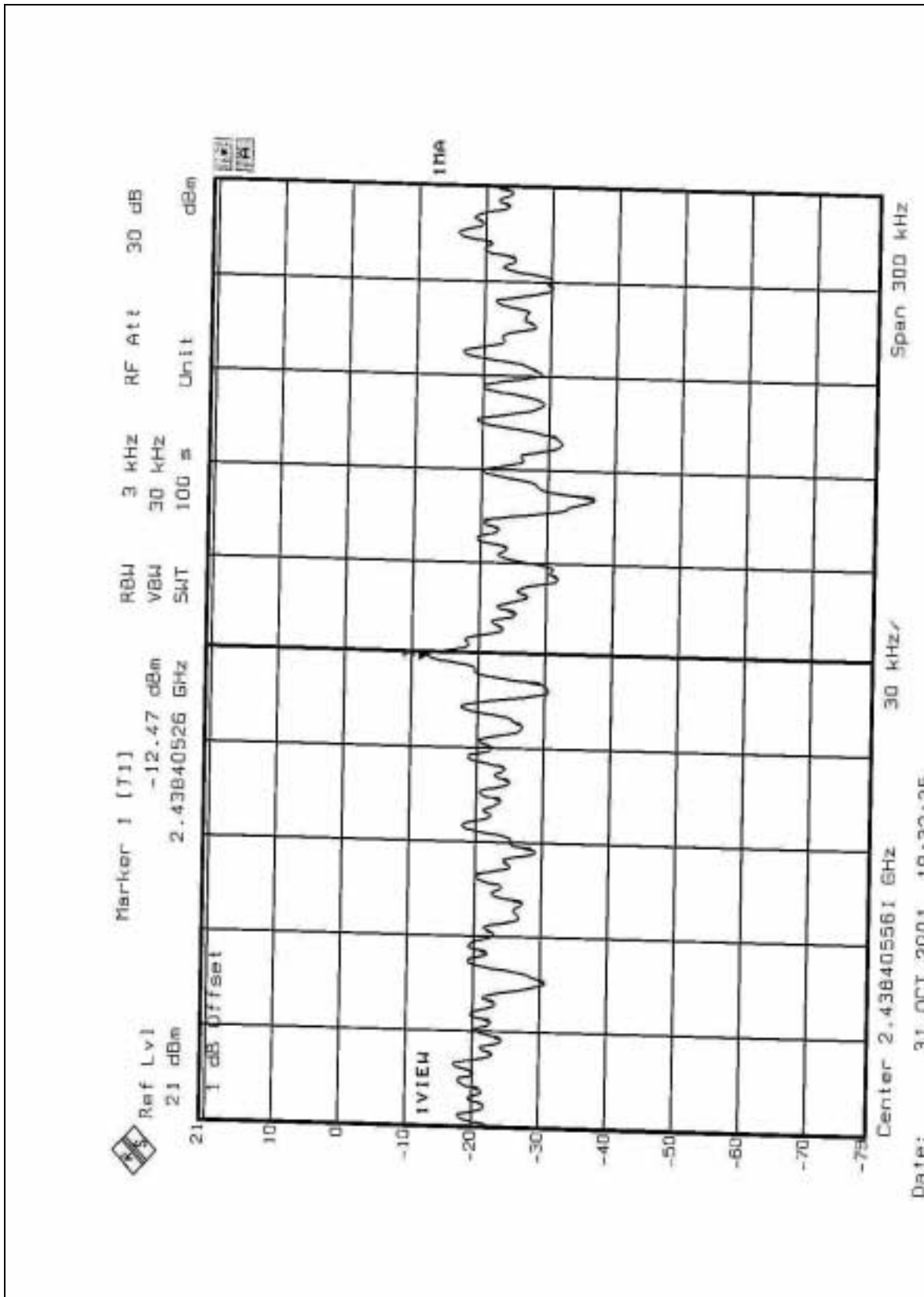


CH1



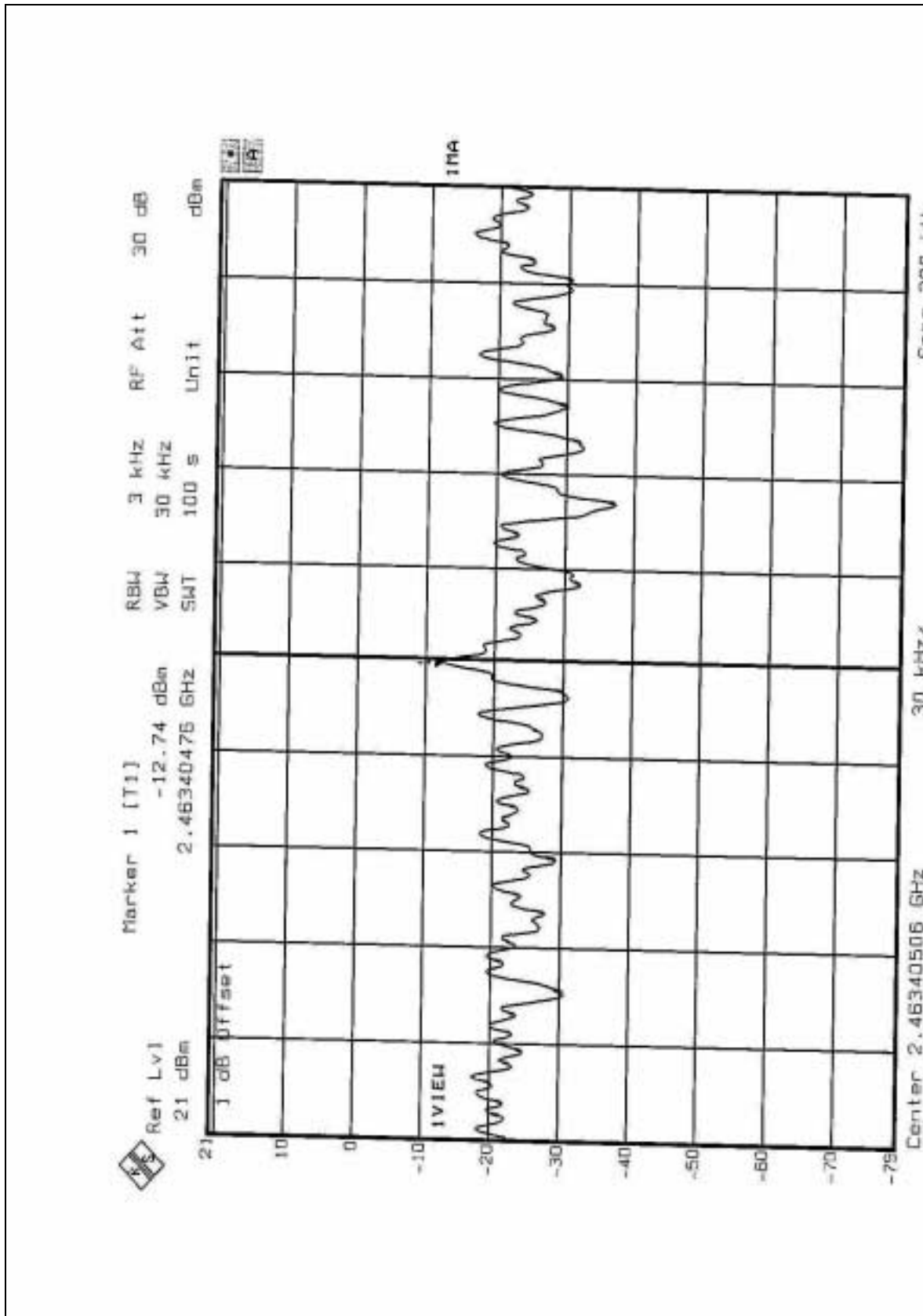


CH6





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
SPECTRUM ANALYZER	FSEK30	100049	July 17, 2002

NOTE:

1. The measurement uncertainty is less than $\pm 2.6\text{dB}$, 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.

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.



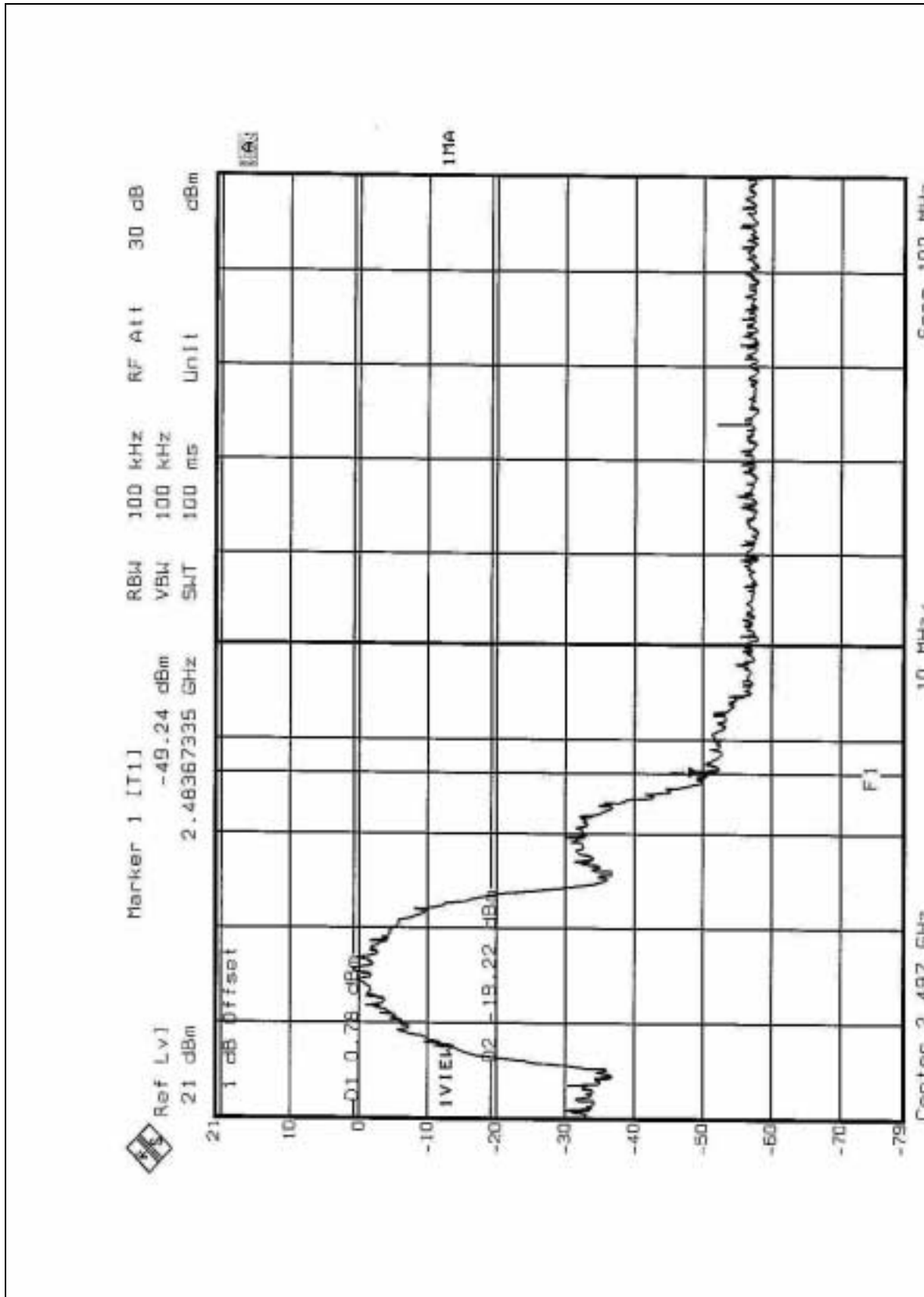
4.6.4 EUT OPERATING CONDITION

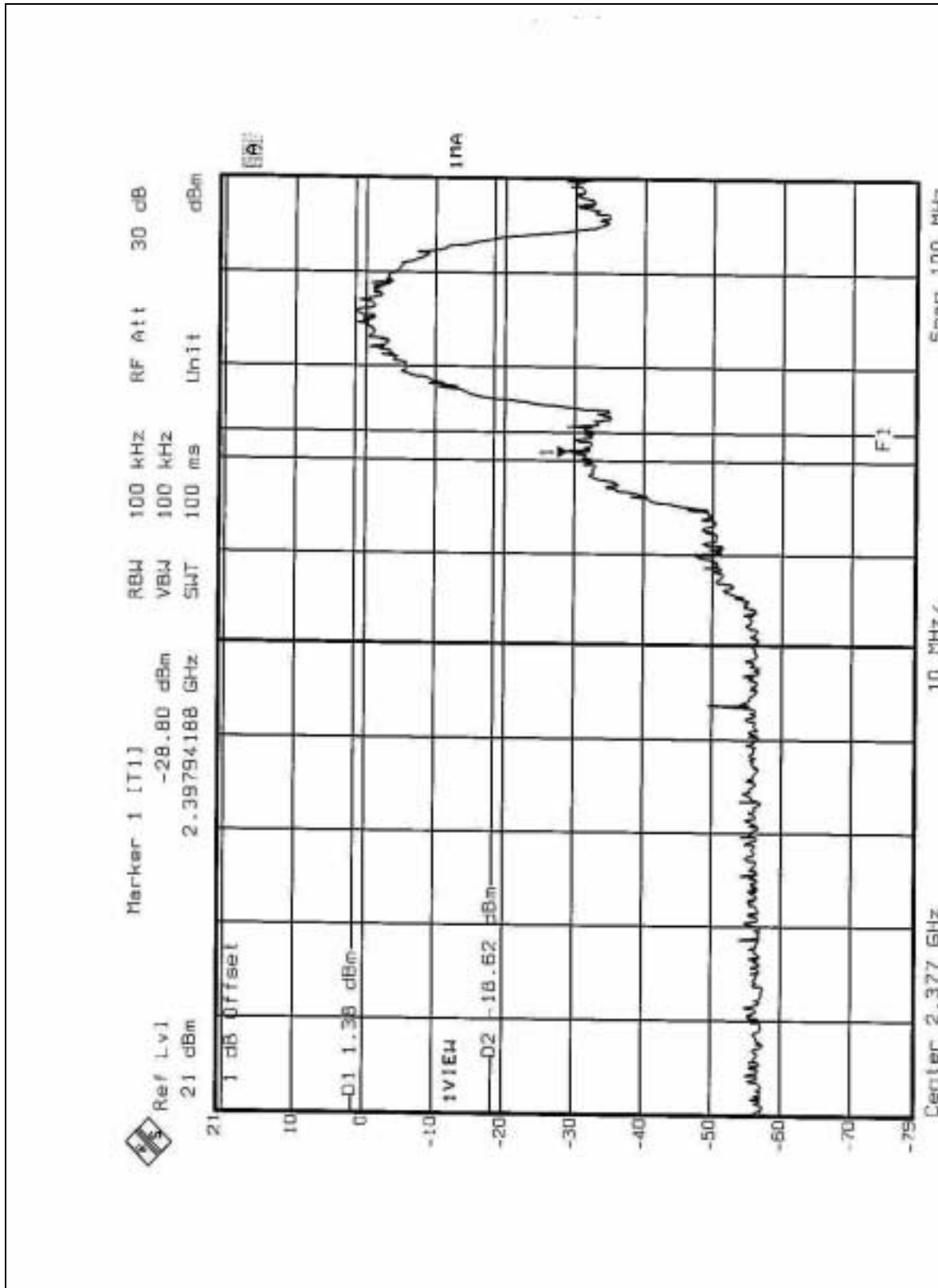
Same as Item 4.3.5

4.6.5 TEST RESULTS

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

NOTE: The band edge emission plot on the following 2 pages shows 50.02dB delta between carrier maximum power and local maximum emission in restrict band (22.4837GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.8 (Page 45) is 99.4dBuV/m, so the maximum field strength in restrict band is $99.4 - 50.02 = 49.38$ 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 are GP Antenna, Patch Antenna and Dipole Antenna. The antenna connector is MCX. And the maximum Gain of this antenna is 7dBi.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST (A)



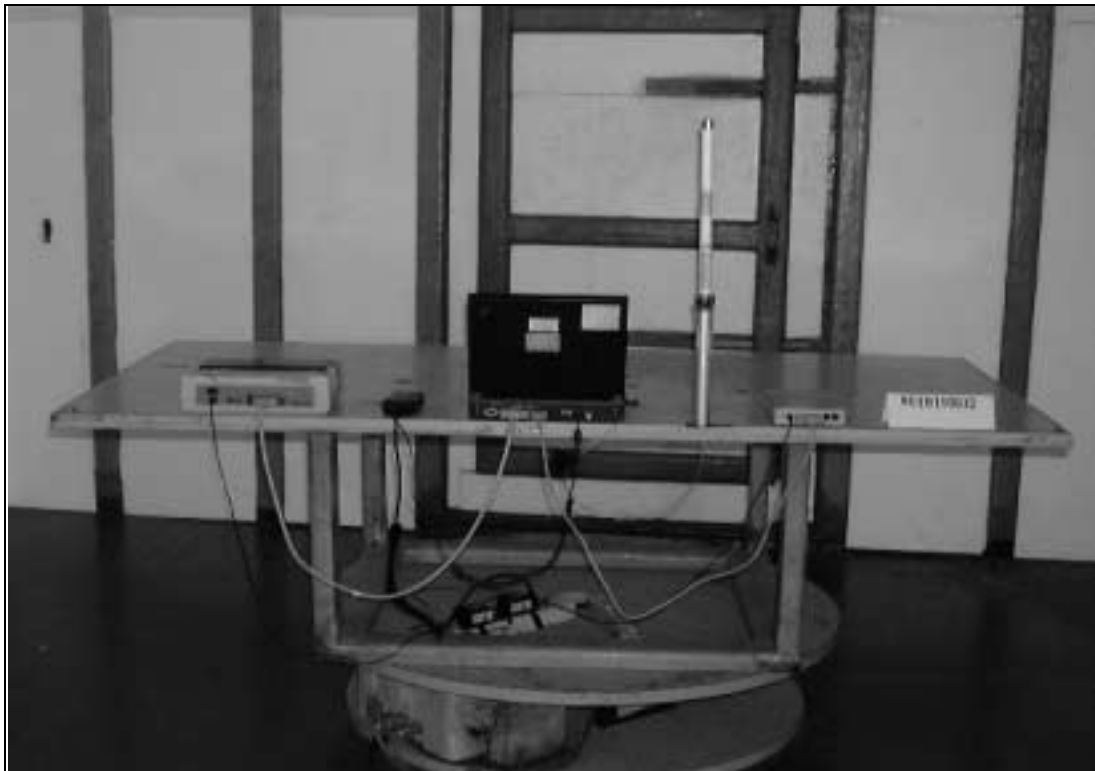
CONDUCTED EMISSION TEST (B)



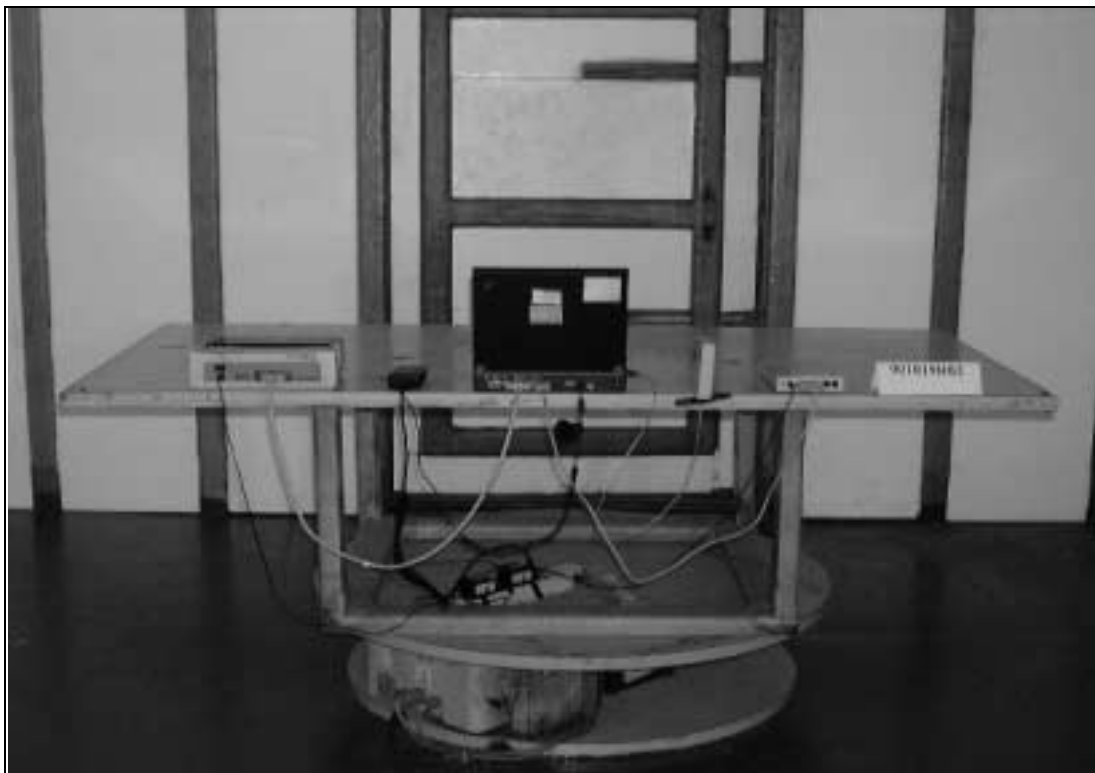
CONDUCTED EMISSION TEST (C)



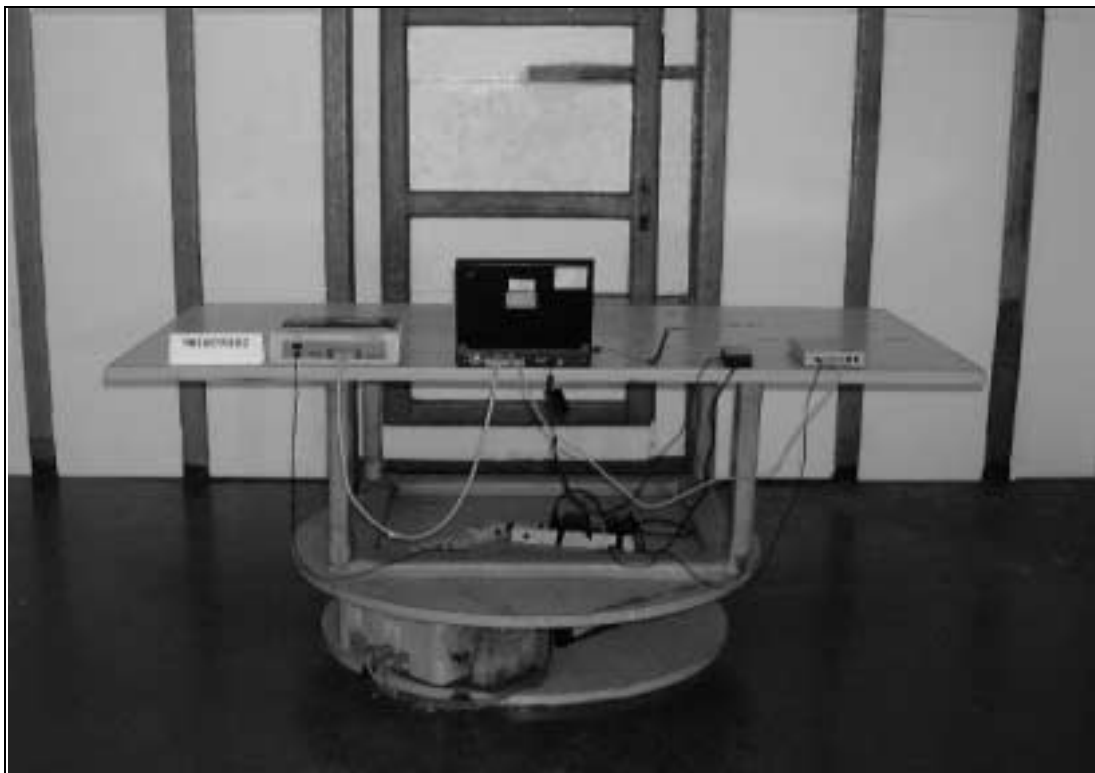
RADIATED EMISSION TEST (A)



RADIATED EMISSION TEST (B)



RADIATED EMISSION TEST (C)





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.

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

Web Site: www.adt.com.tw

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