FCC TEST REPORT

REPORT NO.: RF910416R01
MODEL NO.: GL242204-0T
RECEIVED: April 16, 2002
TESTED: April 16 ~ April 25 , 2002

APPLICANT: GLOBAL SUN TECHNOLOGY, INC.

ADDRESS: NO.13 Tung Yuan Rd., Jung Li Industrial Park Jung Li City, Tao Yuan Hsien, Taiwan

ISSUED BY: Advance Data Technology Corporation

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

0528
ILAC MRA

Lab Code: 200102-0

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1 CERTIFICATION

PRODUCT :	Wireless 22Mbps RF Module
MODEL NO. :	GL242204-0T
APPLICANT :	GLOBAL SUN TECHNOLOGY, INC.
BRAND NAME :	GLOBAL SUN
STANDARDS :	47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Apr. 16 to Apr. 25, 2002, The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

TESTED BY: Gary Chang , **DATE:** April 30, 2002
Gary Chang

CHECKED BY: Rennie Wang , **DATE:** April. 30, 2002
Rennie Wang

APPROVED BY: Alan Lane , **DATE:** April 30, 2002
Dr. Alan Lane
Manager

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission Limit: 48dBuV	PASS	Meet the requirement of limit Minimum passing margin is –14.92dBuV at 0.450MHz
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 –2.10dBuV at 176.00MHz
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 22Mbps RF Module
MODEL NO.	GL242204-0T
POWER SUPPLY	5.0VDC from host equipment
MODULATION TYPE	BPSK, QPSK, CCK
RADIO TECHNOLOGY	DSSS
TRANSFER RATE	1/2/5.5/11/22Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	14.82dBm
ANTENNA TYPE	Dipole Antenna
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. There are three antenna types were provided in this EUT. They are Dipole antennas with different connector, please see as follows for difference:

Antenna	Gain(dBi)	Internal connector	External connector
Dipole	2.5	MCX	Reversed TNC
		MCX	NA
Dipole	1	MCX	NA
Dipole	0	MCX	Reversed SMA
		Detachable	Reversed SMA

2. 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. The EUT had two different circuit and arranged for each minimum antenna gain and maximum antenna gain to do the final test. The difference was adding U20 and U4 component to GL242204-0T model on circuit 2. Component U4 is used to stabilize the VCO, U20 is a regulator for providing stable voltage to crystal and VCO. That will cause two test results for A & B presented in this EUT.

Circuit	Antenna gain	Test result
1	2.5dBi	A
	0dBi	
2	2.5dBi	B
	0dBi	

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a Wireless 22Mbps RF Module. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

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

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Notebook	Dell	PP01L	TW-09C748-12800-19O-B220	FCC DoC
2	PRINTER	EPSON	LQ-300+	DCGY017096	FCC DoC Approved
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	Mar. 3, 2003
ROHDE & SCHWARZ Artificial Mains Network (For EUT)	ESH3-Z5	847265/023	Jan. 10, 2003
* ROHDE & SCHWARZ 4-wire ISN	ENY41	838119/028	Dec. 10, 2002
* ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/018	Dec. 10, 2002
EMCO L.I.S.N. (For peripherals)	3825/2	9504-2359	July 10, 2002
Software	Cond-V2L	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C03.01	July 11, 2002
Terminator (For EMCO LISN)	NA	E1-01-300	Feb. 20, 2003
Terminator (For EMCO LISN)	NA	E1-01-301	Feb. 20, 2003
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).

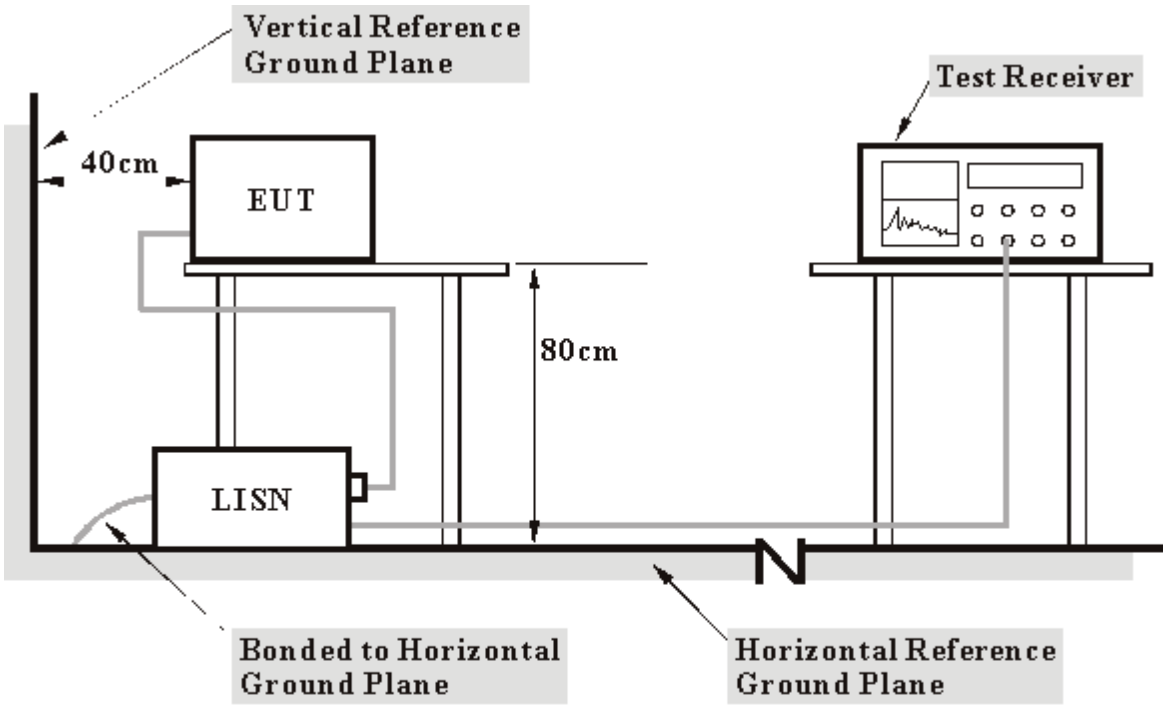
4.1.3 TEST PROCEDURES

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 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: 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.

4.1.5 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.

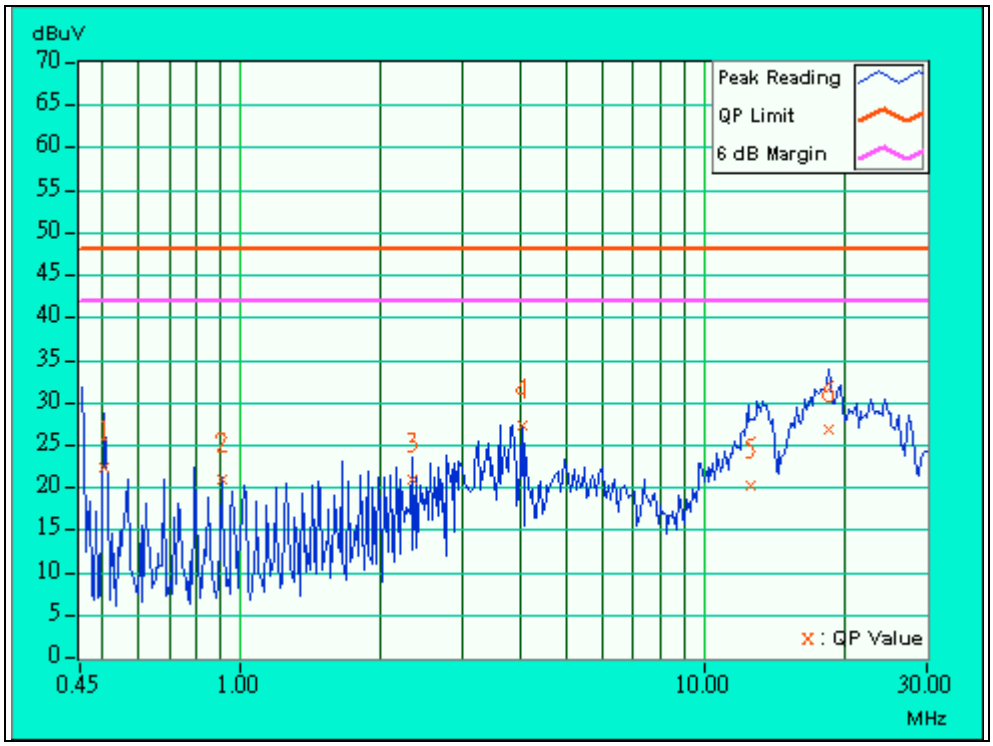
4.1.6 TEST RESULTS (A)

EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.505	0.12	21.41	-	21.53	-	48.00	-	-26.47	-
2	0.907	0.18	20.03	-	20.21	-	48.00	-	-27.79	-
3	2.328	0.23	20.08	-	20.31	-	48.00	-	-27.69	-
4	4.027	0.40	26.46	-	26.86	-	48.00	-	-21.14	-
5	12.555	0.65	19.34	-	19.99	-	48.00	-	-28.01	-
6	18.391	0.90	26.04	-	26.94	-	48.00	-	-21.06	-

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.

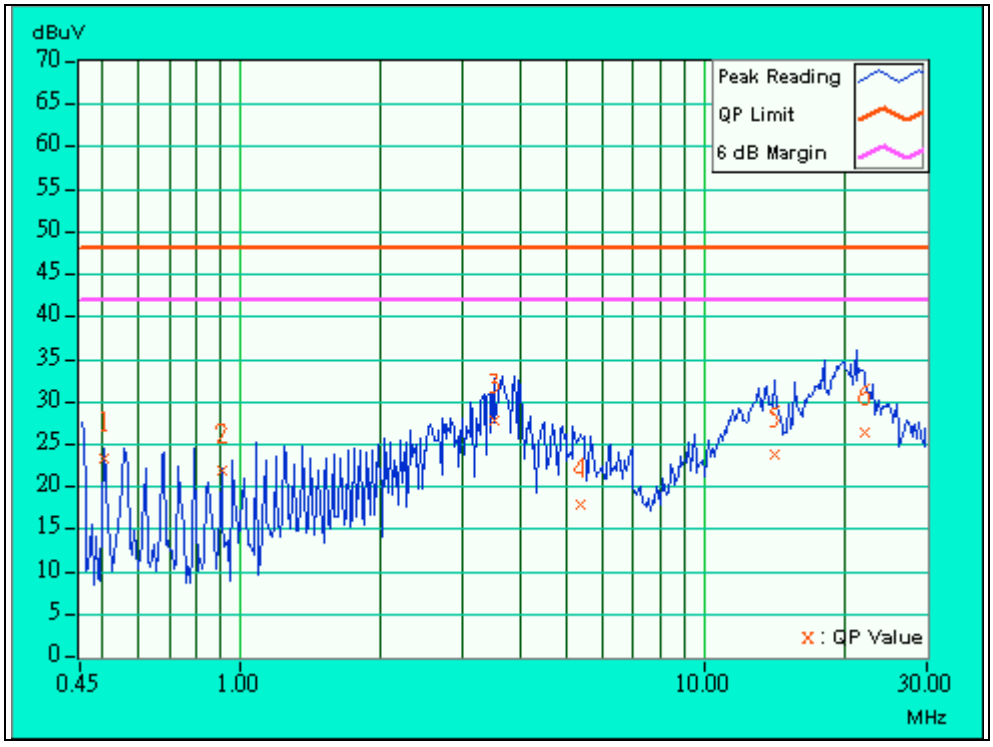


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.505	0.12	22.68	-	22.80	-	48.00	-	-25.20	-
2	0.907	0.18	21.18	-	21.36	-	48.00	-	-26.64	-
3	3.504	0.28	26.98	-	27.26	-	48.00	-	-20.74	-
4	5.367	0.32	17.24	-	17.56	-	48.00	-	-30.44	-
5	14.141	0.48	22.93	-	23.41	-	48.00	-	-24.59	-
6	21.996	0.76	25.69	-	26.45	-	48.00	-	-21.55	-

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.

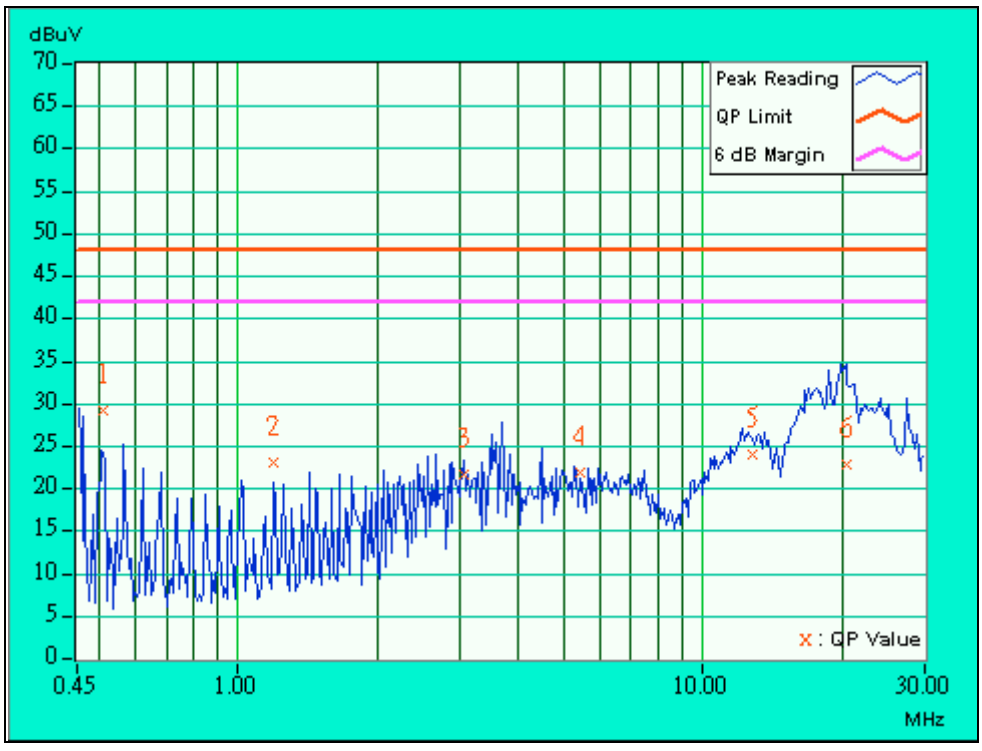


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.513	0.12	28.33	-	28.45	-	48.00	-	-19.55	-
2	1.191	0.20	22.06	-	22.26	-	48.00	-	-25.74	-
3	3.066	0.31	20.63	-	20.94	-	48.00	-	-27.06	-
4	5.449	0.45	20.86	-	21.31	-	48.00	-	-26.69	-
5	12.770	0.66	23.12	-	23.78	-	48.00	-	-24.22	-
6	20.324	1.01	21.88	-	22.89	-	48.00	-	-25.11	-

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.

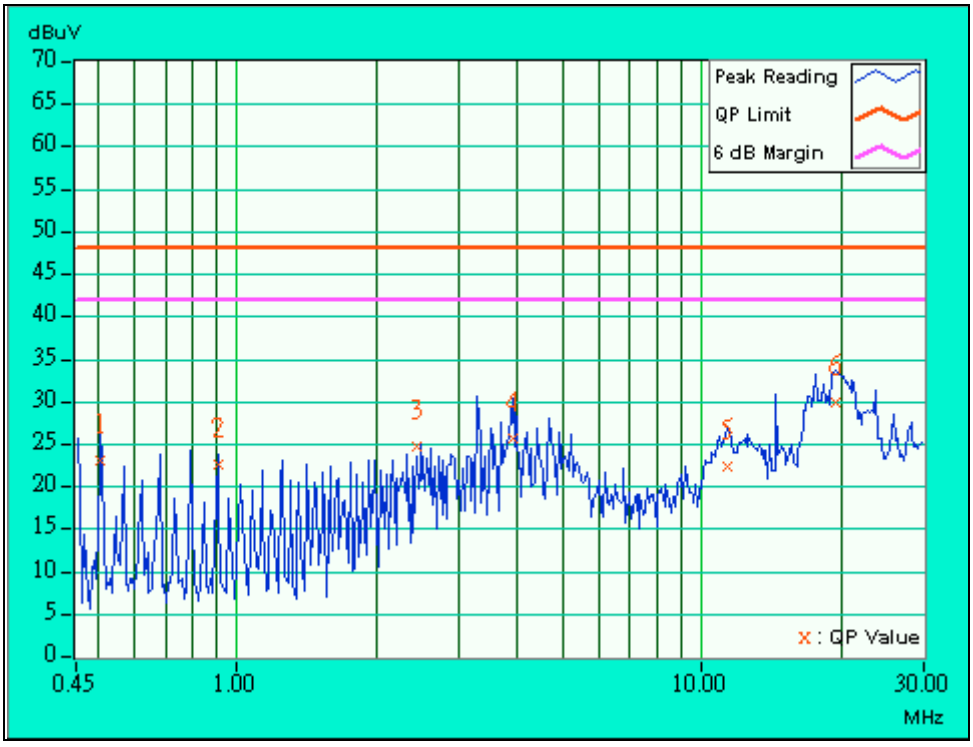


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (Uv)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.505	0.12	22.34	-	22.46	-	48.00	-	-25.54	-
2	0.907	0.18	21.88	-	22.06	-	48.00	-	-25.94	-
3	2.434	0.22	23.90	-	24.12	-	48.00	-	-23.88	-
4	3.902	0.30	24.82	-	25.12	-	48.00	-	-22.88	-
5	11.324	0.43	21.60	-	22.03	-	48.00	-	-25.97	-
6	19.363	0.76	29.06	-	29.82	-	48.00	-	-18.18	-

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.

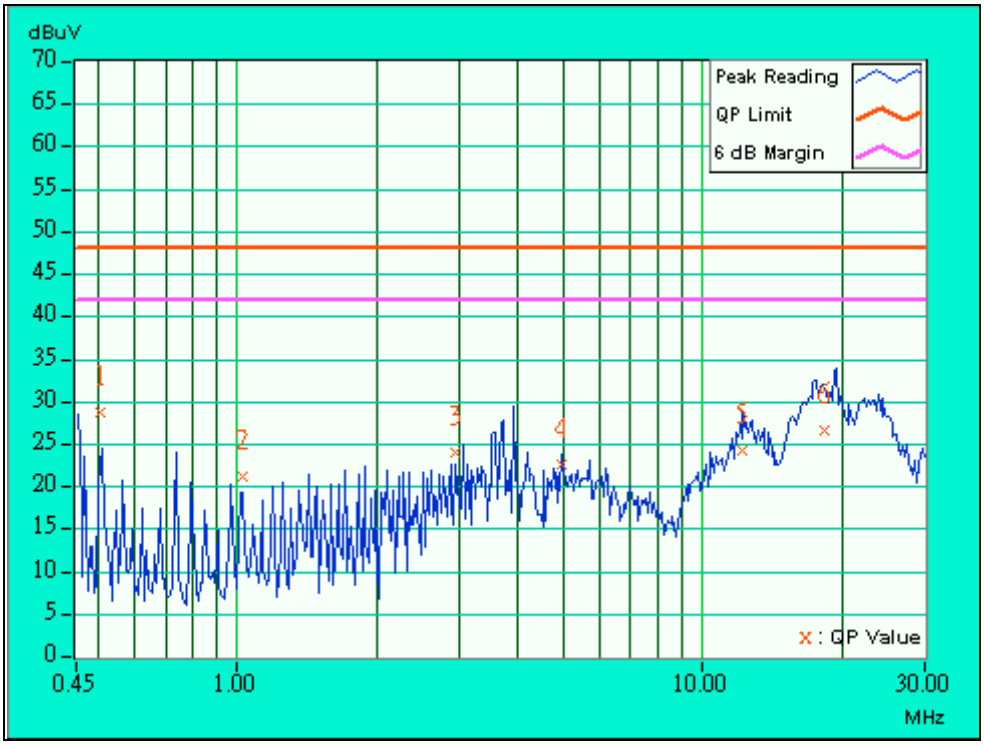


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.509	0.12	27.81	-	27.93	-	48.00	-	-20.07	-
2	1.023	0.20	20.27	-	20.47	-	48.00	-	-27.53	-
3	2.953	0.30	23.26	-	23.56	-	48.00	-	-24.44	-
4	4.996	0.43	21.75	-	22.18	-	48.00	-	-25.82	-
5	12.152	0.64	23.35	-	23.99	-	48.00	-	-24.01	-
6	18.223	0.89	25.84	-	26.73	-	48.00	-	-21.27	-

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.

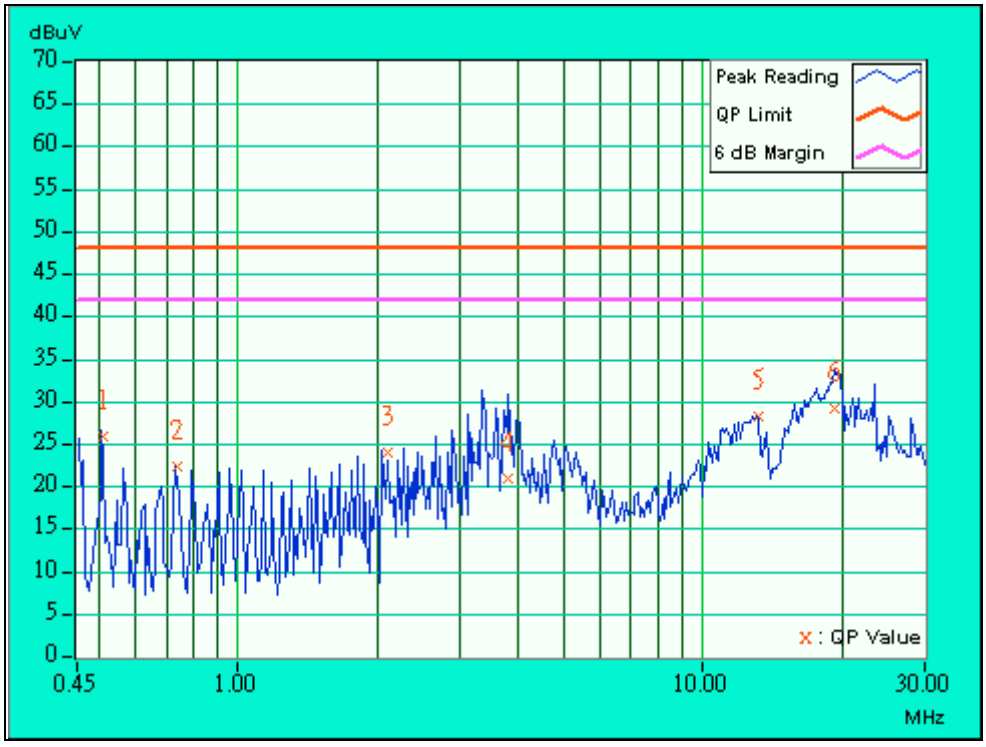


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.513	0.12	25.17	-	25.29	-	48.00	-	-22.71	-
2	0.739	0.16	21.67	-	21.83	-	48.00	-	-26.17	-
3	2.098	0.20	23.24	-	23.44	-	48.00	-	-24.56	-
4	3.789	0.29	20.22	-	20.51	-	48.00	-	-27.49	-
5	13.098	0.46	27.46	-	27.92	-	48.00	-	-20.08	-
6	19.223	0.75	28.43	-	29.18	-	48.00	-	-18.82	-

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.



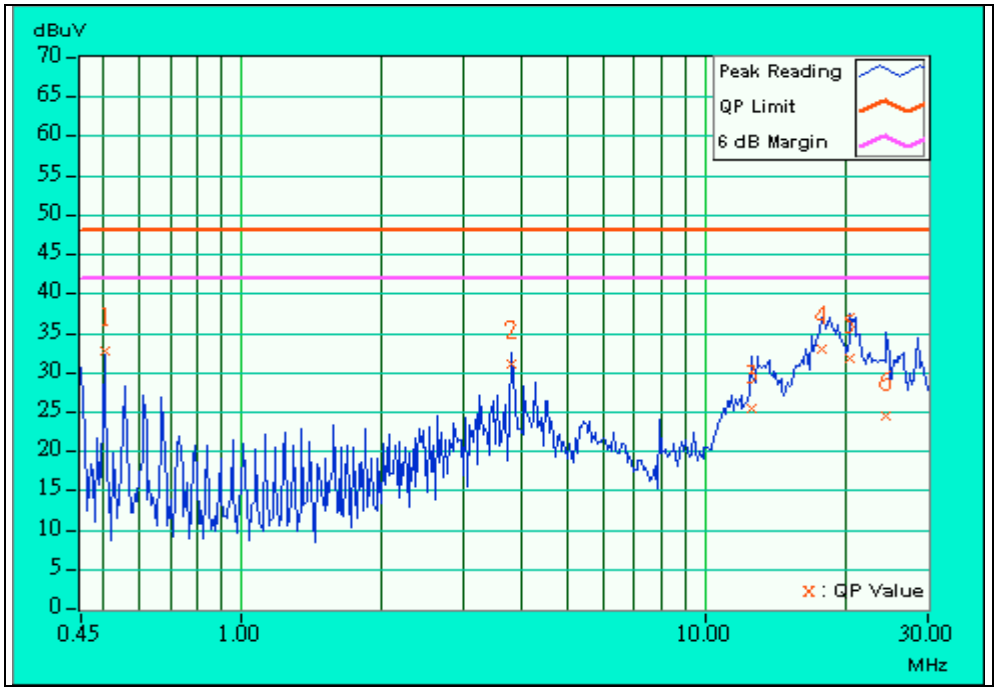
4.1.7 TEST RESULTS (B)

EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.505	0.12	31.50	-	31.62	-	48.00	-	-16.38	-
2	3.816	0.38	29.90	-	30.28	-	48.00	-	-17.72	-
3	12.516	0.65	24.25	-	24.90	-	48.00	-	-23.10	-
4	17.672	0.86	31.83	-	32.69	-	48.00	-	-15.31	-
5	20.430	1.02	30.71	-	31.73	-	48.00	-	-16.27	-
6	24.449	1.18	23.38	-	24.56	-	48.00	-	-23.44	-

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.

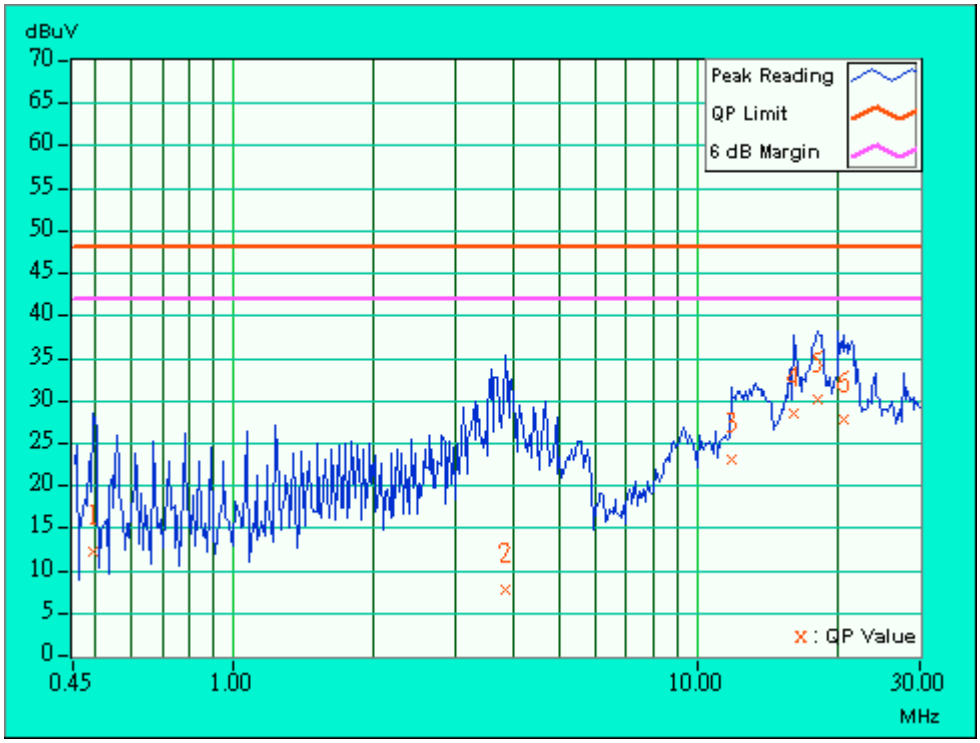


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.497	0.12	11.42	-	11.54	-	48.00	-	-36.46	-
2	3.859	0.29	6.93	-	7.22	-	48.00	-	-40.78	-
3	11.754	0.44	22.30	-	22.74	-	48.00	-	-25.26	-
4	16.070	0.56	27.68	-	28.24	-	48.00	-	-19.76	-
5	18.074	0.68	29.41	-	30.09	-	48.00	-	-17.91	-
6	20.488	0.79	27.08	-	27.87	-	48.00	-	-20.13	-

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.

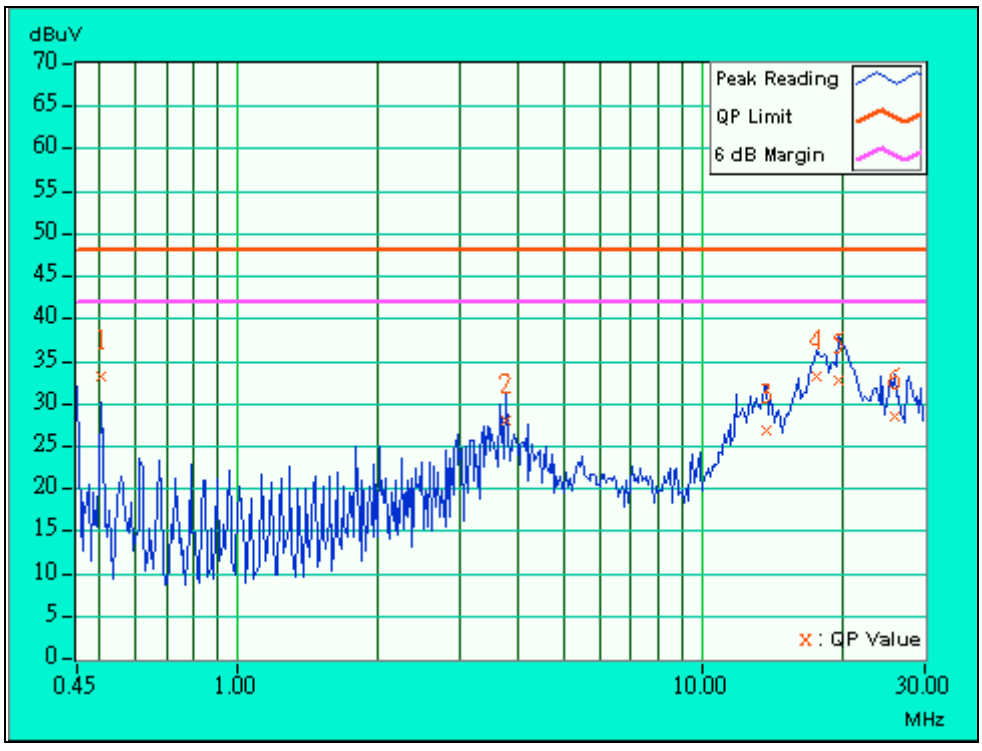


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.505	0.12	32.12	-	32.24	-	48.00	-	-15.76	-
2	3.762	0.38	26.88	-	27.26	-	48.00	-	-20.74	-
3	13.652	0.67	25.76	-	26.43	-	48.00	-	-21.57	-
4	17.570	0.85	32.00	-	32.85	-	48.00	-	-15.15	-
5	19.625	0.98	31.53	-	32.51	-	48.00	-	-15.49	-
6	25.789	1.22	27.30	-	28.52	-	48.00	-	-19.48	-

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.

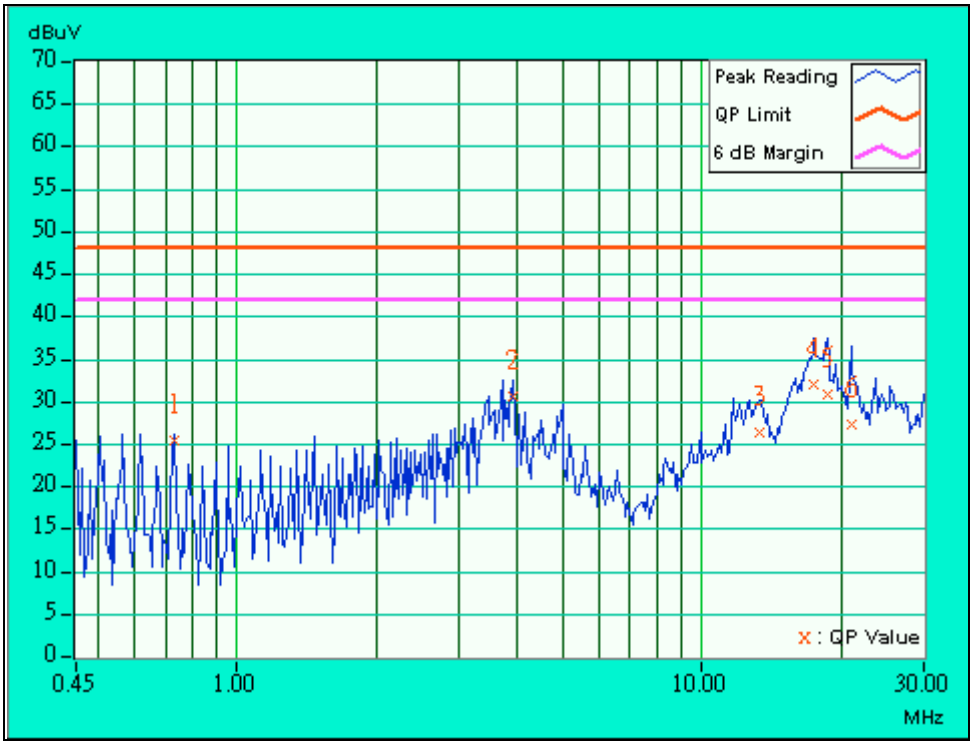


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (Uv)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.731	0.16	24.71	-	24.87	-	48.00	-	-23.13	-
2	3.938	0.30	29.93	-	30.23	-	48.00	-	-17.77	-
3	13.273	0.47	25.54	-	26.01	-	48.00	-	-21.99	-
4	17.426	0.65	31.32	-	31.97	-	48.00	-	-16.03	-
5	18.613	0.72	30.18	-	30.90	-	48.00	-	-17.10	-
6	20.926	0.78	26.54	-	27.32	-	48.00	-	-20.68	-

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.

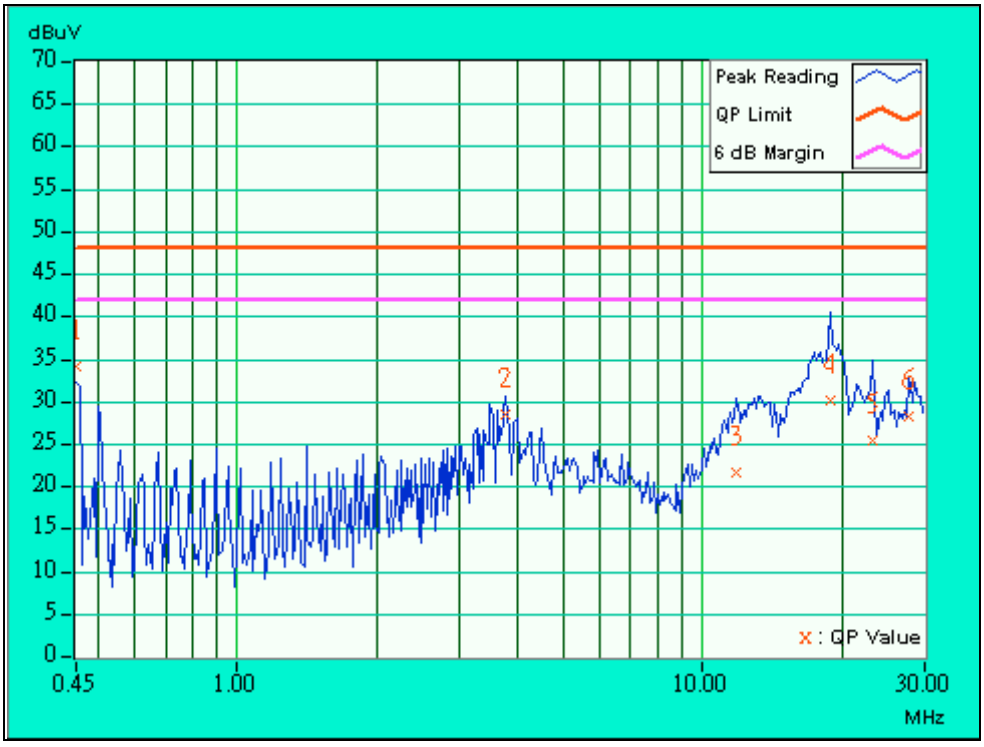


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.450	0.11	32.97	-	33.08	-	48.00	-	-14.92	-
2	3.773	0.38	27.35	-	27.73	-	48.00	-	-20.27	-
3	11.828	0.64	20.35	-	20.99	-	48.00	-	-27.01	-
4	18.875	0.93	28.98	-	29.91	-	48.00	-	-18.09	-
5	23.172	1.13	24.26	-	25.39	-	48.00	-	-22.61	-
6	27.605	1.25	27.08	-	28.33	-	48.00	-	-19.67	-

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.

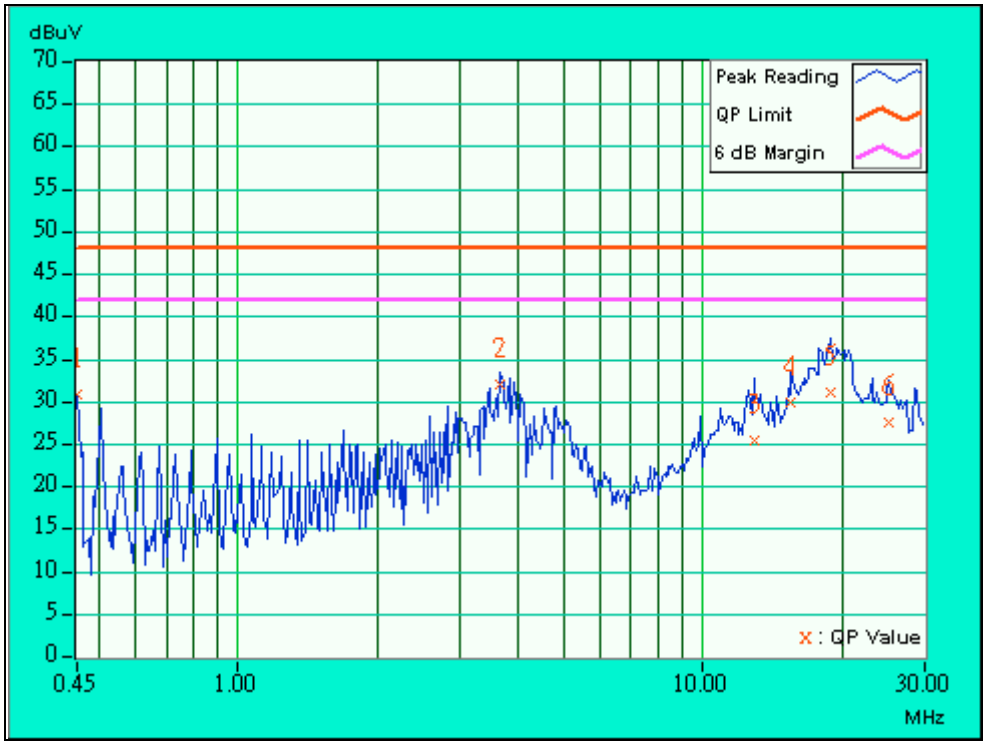


EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	110Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	20 deg. C, 70%RH, 1005 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.450	0.11	30.26	-	30.37	-	48.00	-	-17.63	-
2	3.656	0.28	31.34	-	31.62	-	48.00	-	-16.38	-
3	12.949	0.46	24.67	-	25.13	-	48.00	-	-22.87	-
4	15.500	0.53	29.15	-	29.68	-	48.00	-	-18.32	-
5	18.848	0.73	30.45	-	31.18	-	48.00	-	-16.82	-
6	25.031	0.70	26.84	-	27.54	-	48.00	-	-20.46	-

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.



4.2 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	2944A08485	May 7, 2002
* HP Preamplifier	8449B	3008A01201	Dec. 06, 2002
* HP Preamplifier	8449B	3008A01292	Aug. 21, 2002
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Jan. 27, 2003
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 23, 2002
* CHASE BILOG Antenna	CBL6112A	2221	Aug. 2, 2002
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	July 6, 2002
* EMCO Horn Antenna	3115	9312-4192	April 9, 2003
* 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
Site Registration No.	FCC: 90422 Canada IC: IC 3789 VCCI : R-1039		

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 if tested.

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.

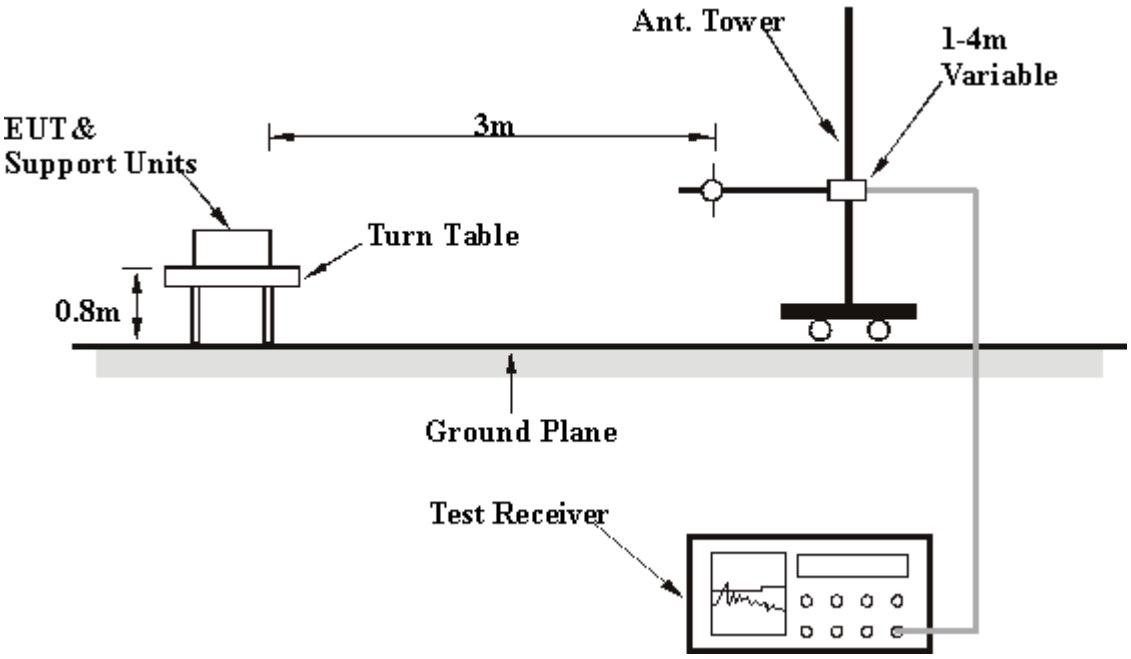
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

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) – for circuit 1 (2.5dBi antenna gain)

EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	32.0 QP	43.50	-11.50	1.72H	6	21.59	9.08	1.33	0.00	-10.41
2	264.00	31.0 QP	46.00	-15.00	1.15H	329	16.42	12.89	1.70	0.00	-14.58
3	308.00	34.0 QP	46.00	-12.00	1.09H	4	18.71	13.38	1.91	0.00	-15.30
4	352.00	33.2 QP	46.00	-12.80	1.10H	3	16.84	14.31	2.05	0.00	-16.36
5	396.00	28.0 QP	46.00	-18.00	1.00H	38	9.82	15.96	2.22	0.00	-18.18
6	440.00	27.8 QP	46.00	-18.20	1.42H	300	9.11	16.32	2.38	0.00	-18.70
7	484.00	28.5 QP	46.00	-17.50	1.00H	6	9.07	16.96	2.47	0.00	-19.44
8	748.00	35.0 QP	46.00	-11.00	1.16H	3	11.60	20.14	3.26	0.00	-23.40

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	31.5 QP	43.50	-12.00	1.59V	3	21.09	9.08	1.33	0.00	-10.41
2	264.00	28.4 QP	46.00	-17.60	1.53V	162	13.82	12.89	1.70	0.00	-14.58
3	352.00	31.0 QP	46.00	-15.00	1.23V	6	14.64	14.31	2.05	0.00	-16.36
4	484.00	29.5 QP	46.00	-16.50	1.02V	194	10.07	16.96	2.47	0.00	-19.43
5	528.00	31.0 QP	46.00	-15.00	1.62V	63	10.78	17.62	2.60	0.00	-20.22
6	572.00	30.4 QP	46.00	-15.60	1.29V	311	9.40	18.25	2.75	0.00	-21.00
7	748.00	34.0 QP	46.00	-12.00	1.20V	141	10.60	20.14	3.26	0.00	-23.40

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 1	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	52.0 PK	74.00	-22.00	1.21H	134	56.84	25.20	4.86	34.90	4.84
2	*2413.00	101.0 PK	-	-	1.18H	208	68.79	27.11	5.10	0.00	-32.21
3	*2413.00	95.0 AV	-	-	1.18H	208	62.79	27.11	5.10	0.00	-32.21
4	4076.00	43.0 PK	74.00	-31.00	1.18H	92	40.61	30.13	6.78	34.52	-2.39
5	4824.00	42.1 PK	74.00	-31.90	1.20H	43	38.08	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	49.2 PK	74.00	-24.80	1.00V	351	54.00	25.20	4.86	34.90	4.84
2	*2413.00	107.0 PK	-	-	1.09V	214	74.79	27.11	5.10	0.00	-32.21
3	*2413.00	101.0 AV	-	-	1.09V	214	68.79	27.11	5.10	0.00	-32.21
4	4076.00	44.4 PK	74.00	-29.60	1.03V	307	42.00	30.13	6.78	34.52	-2.39
5	4824.00	45.0 PK	74.00	-29.00	1.02V	271	41.00	31.43	7.23	34.63	-4.02

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 6	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	51.4 PK	74.00	-22.60	1.16H	31	55.93	25.41	4.96	34.90	4.53
2	*2437.00	100.2 PK	-	-	1.09H	179	67.80	27.33	5.08	0.00	-32.40
3	*2437.00	94.0 AV	-	-	1.09H	179	61.60	27.33	5.08	0.00	-32.40
4	4126.00	43.0 PK	74.00	-31.00	1.19H	77	40.54	30.32	6.70	34.56	-2.46
5	4874.00	43.2 PK	74.00	-30.80	1.14H	122	39.15	31.47	7.21	34.63	-4.05

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	49.0 PK	74.00	-25.00	1.31V	34	53.53	25.41	4.96	34.90	4.53
2	*2437.00	105.4 PK	-	-	1.50V	59	73.00	27.33	5.08	0.00	-32.40
3	*2437.00	99.0 AV	-	-	1.50V	59	66.60	27.33	5.08	0.00	-32.40
4	4126.00	42.0 PK	74.00	-32.00	1.26V	15	39.54	30.32	6.70	34.56	-2.46
5	4874.00	43.0 PK	74.00	-31.00	1.26V	5	38.95	31.47	7.21	34.63	-4.06

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	51.2 AV	54.00	-2.80	1.05H	153	55.46	25.62	5.02	34.90	4.26
2	2088.00	53.4 PK	74.00	-20.60	1.05H	153	57.66	25.62	5.02	34.90	4.26
3	*2463.00	100.0 PK	-	-	1.08H	167	67.60	27.33	5.08	0.00	-32.41
4	*2463.00	94.5 AV	-	-	1.08H	167	62.10	27.33	5.08	0.00	-32.41
5	2492.00	47.0 PK	74.00	-27.00	1.11H	139	49.31	27.54	5.06	34.90	2.31
6	4176.00	43.0 PK	74.00	-31.00	1.06H	113	40.49	30.41	6.68	34.58	-2.51
7	4924.00	44.2 PK	74.00	-29.80	1.10H	75	40.10	31.51	7.21	34.62	-4.11

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	53.5 PK	74.00	-20.50	1.39V	215	57.76	25.62	5.02	34.90	4.26
2	2088.00	51.0 AV	54.00	-3.00	1.39V	215	55.26	25.62	5.02	34.90	4.26
3	*2463.00	105.0 PK	-	-	1.56V	108	72.60	27.33	5.08	0.00	-32.41
4	*2463.00	98.5 AV	-	-	1.56V	108	66.10	27.33	5.08	0.00	-32.41
5	2491.00	48.0 PK	74.00	-26.00	1.31V	271	50.31	27.54	5.06	34.90	2.31
6	4176.00	41.8 PK	74.00	-32.20	1.25V	323	39.29	30.41	6.68	34.58	-2.51
7	4924.00	43.4 PK	74.00	-30.60	1.29V	343	39.30	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 (A) – for circuit 1 (0dBi antenna gain)

EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	88.00	36.5 QP	40.00	-3.50	1.81H	179	27.37	8.24	0.89	0.00	-9.13
2	176.00	41.4 QP	43.50	-2.10	1.93H	29	31.00	9.08	1.33	0.00	-10.41
3	220.00	37.0 QP	46.00	-9.00	1.30H	25	25.37	10.12	1.51	0.00	-11.63
4	264.00	40.0 QP	46.00	-6.00	1.11H	344	25.42	12.89	1.70	0.00	-14.58
5	308.00	35.0 QP	46.00	-11.00	1.12H	14	19.71	13.38	1.91	0.00	-15.29
6	352.00	39.1 QP	46.00	-6.90	1.18H	159	22.70	14.31	2.05	0.00	-16.36
7	396.00	34.0 QP	46.00	-12.00	2.16H	141	15.82	15.96	2.22	0.00	-18.18
8	440.00	34.0 QP	46.00	-12.00	1.98H	358	15.31	16.32	2.38	0.00	-18.69
9	748.00	35.0 QP	46.00	-11.00	1.52H	55	11.60	20.14	3.26	0.00	-23.41

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	34.0 QP	43.50	-9.50	1.07V	18	23.59	9.08	1.33	0.00	-10.41
2	264.00	32.0 QP	46.00	-14.00	1.59V	236	17.42	12.89	1.70	0.00	-14.58
3	352.00	34.5 QP	46.00	-11.50	1.40V	82	18.14	14.31	2.05	0.00	-16.37
4	440.00	31.5 QP	46.00	-14.50	1.08V	246	12.81	16.32	2.38	0.00	-18.69
5	484.00	31.2 QP	46.00	-14.80	1.58V	35	11.77	16.96	2.47	0.00	-19.44
6	528.00	33.0 QP	46.00	-13.00	1.53V	184	12.78	17.62	2.60	0.00	-20.22
7	660.00	32.2 QP	46.00	-13.80	1.63V	31	9.91	19.25	3.05	0.00	-22.29
8	836.00	30.0 QP	46.00	-16.00	1.78V	187	6.01	20.54	3.45	0.00	-23.99

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 1	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	1.45H	232	53.00	25.20	4.86	34.90	4.84
2	*2412.00	101.0 PK	-	-	1.01H	7	68.80	27.11	5.10	0.00	-32.21.
3	*2412.00	92.2 AV	-	-	1.01H	7	60.00	27.11	5.10	0.00	-32.21.
4	4076.00	45.2 PK	74.00	-28.80	1.28H	232	42.80	30.13	6.78	34.52	-2.39
5	4824.00	46.6 PK	74.00	-27.40	1.17H	130	42.60	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	46.2 PK	74.00	-27.80	1.19V	261	51.00	25.20	4.86	34.90	4.84
2	*2412.00	109.3 PK	-	-	1.19V	357	77.11	27.11	5.10	0.00	-32.21
3	*2412.00	101.2 AV	-	-	1.19V	357	69.00	27.11	5.10	0.00	-32.21
4	4076.00	46.6 PK	74.00	-27.40	1.19V	111	44.20	30.13	6.78	34.52	-2.39
5	4824.00	47.8 PK	74.00	-26.20	1.36V	53	43.80	31.43	7.23	34.63	-4.03

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 6	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	49.5 PK	74.00	-24.50	1.30H	128	54.00	25.41	4.96	34.90	4.53
2	*2437.00	102.4 PK	-	-	1.30H	267	70.00	27.33	5.08	0.00	-32.40
3	*2437.00	95.4 AV	-	-	1.30H	267	63.00	27.33	5.08	0.00	-32.40
4	4126.00	45.6 PK	74.00	-28.40	1.21H	171	43.10	30.32	6.70	34.56	-2.46
5	4874.00	48.3 PK	74.00	-25.70	1.24H	5	44.20	31.47	7.21	34.63	-4.05

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	48.5 PK	74.00	-25.50	1.35V	321	53.00	25.41	4.96	34.90	4.53
2	*2437.00	107.4 PK	-	-	1.00V	8	75.00	27.33	5.08	0.00	-32.40.
3	*2437.00	99.4 AV	-	-	1.00V	8	67.00	27.33	5.08	0.00	-32.40.
4	4126.00	45.9 PK	74.00	-28.10	1.38V	4	43.40	30.32	6.70	34.56	-2.46
5	4874.00	48.1 PK	74.00	-25.90	1.40V	243	44.00	31.47	7.21	34.63	-4.05

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	52.7 PK	74.00	-21.30	1.45H	358	57.00	25.62	5.02	34.90	4.26
2	*2463.00	102.6 PK	-	-	1.40H	359	70.15	27.33	5.08	0.00	-32.41
3	*2463.00	95.4 AV	-	-	1.40H	359	63.00	27.33	5.08	0.00	-32.41
4	2491.00	46.7 PK	74.00	-27.30	1.15H	234	49.00	27.54	5.06	34.90	2.31
5	4176.00	45.5 PK	74.00	-28.50	1.22H	268	43.00	30.41	6.68	34.58	-2.51
6	4924.00	46.6 PK	74.00	-27.40	1.25H	240	42.50	31.51	7.21	34.62	-4.10

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M											
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2088.00	49.7 PK	74.00	-24.30	1.40V	201	54.00	25.62	5.02	34.90	4.26
2	*2463.00	110.9 PK	-	-	1.23V	2	78.50	27.33	5.08	0.00	-32.40.
3	*2463.00	102.4 AV	-	-	1.23V	2	70.00	27.33	5.08	0.00	-32.40.
4	2490.00	44.9 PK	74.00	-29.10	1.17V	345	47.20	27.54	5.06	34.90	2.31
5	4176.00	46.2 PK	74.00	-27.80	1.40V	3	43.70	30.41	6.68	34.58	-2.51
6	4924.00	49.1 PK	74.00	-24.90	1.22V	354	45.00	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.

4.2.8 TEST RESULTS (B) – for circuit 2 (2.5dBi antenna gain)

EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % RH, 1050 hPa	**TESTED BY**: Gary Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M											
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	132.00	32.5 QP	43.50	-11.00	1.10H	229	20.21	11.16	1.13	0.00	-12.29
2	176.00	34.0 QP	43.50	-9.50	1.15H	188	23.59	9.08	1.33	0.00	-10.41
3	264.00	32.0 QP	46.00	-14.00	1.25H	146	17.42	12.89	1.70	0.00	-14.58
4	352.00	33.0 QP	46.00	-13.00	1.32H	108	16.64	14.31	2.05	0.00	-16.36
5	396.00	32.0 QP	46.00	-14.00	1.27H	69	13.82	15.96	2.22	0.00	-18.19
6	484.00	33.0 QP	46.00	-13.00	1.32H	32	13.57	16.96	2.47	0.00	-19.44
7	528.00	34.0 QP	46.00	-12.00	1.37H	14	13.78	17.62	2.60	0.00	-20.23
8	748.00	37.0 QP	46.00	-9.00	1.42H	62	13.60	20.14	3.26	0.00	-23.40

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	264.00	32.0 QP	46.00	-14.00	1.05V	2	17.42	12.89	1.70	0.00	-14.58
2	352.00	31.0 QP	46.00	-15.00	1.40V	288	14.64	14.31	2.05	0.00	-16.36
3	528.00	31.0 QP	46.00	-15.00	1.06V	12	10.78	17.62	2.60	0.00	-20.23
4	572.00	31.2 QP	46.00	-14.80	1.26V	247	10.20	18.25	2.75	0.00	-21.00
5	660.00	27.0 QP	46.00	-19.00	1.51V	104	4.71	19.25	3.05	0.00	-22.29
6	748.00	34.0 QP	46.00	-12.00	1.01V	287	10.60	20.14	3.26	0.00	-23.40
7	792.00	33.4 QP	46.00	-12.60	1.50V	63	9.49	20.60	3.31	0.00	-23.91
8	836.00	30.4 QP	46.00	-15.60	1.39V	339	6.41	20.54	3.45	0.00	-23.99

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 1	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	50.0 PK	74.00	-24.00	1.02H	107	54.84	25.20	4.86	34.90	4.84
2	*2412.00	99.0 PK	-	-	1.06H	132	66.79	27.11	5.10	0.00	-32.21
3	*2412.00	94.0 AV	-	-	1.06H	132	61.79	27.11	5.10	0.00	-32.21
4	4076.00	44.0 PK	74.00	-30.00	1.04H	61	41.61	30.13	6.78	34.52	-2.39
5	4824.00	43.1 PK	74.00	-30.90	1.08H	9	39.08	31.43	7.23	34.63	-4.03

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	50.2 PK	74.00	-23.80	1.09V	222	55.04	25.20	4.86	34.90	4.84
2	*2412.00	106.4 PK	-	-	1.13V	152	74.19	27.11	5.10	0.00	-32.21
3	*2412.00	99.0 AV	-	-	1.13V	152	66.79	27.11	5.10	0.00	-32.21
4	4076.00	45.0 PK	74.00	-29.00	1.12V	272	42.61	30.13	6.78	34.52	-2.39
5	4824.00	43.0 PK	74.00	-31.00	1.22V	298	38.98	31.43	7.23	34.63	-4.02

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 6	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	52.0 PK	74.00	-22.00	1.31H	115	56.53	25.41	4.96	34.90	4.53
2	*2437.00	98.0 PK	-	-	1.25H	69	65.60	27.33	5.08	0.00	-32.41
3	*2437.00	93.0 AV	-	-	1.25H	69	60.60	27.33	5.08	0.00	-32.41
4	4126.00	43.8 PK	74.00	-30.20	1.26H	160	41.34	30.32	6.70	34.56	-2.46
5	4874.00	45.2 PK	74.00	-28.80	1.27H	207	41.15	31.47	7.21	34.63	-4.06

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	51.0 PK	74.00	-23.00	1.24V	179	55.53	25.41	4.96	34.90	4.53
2	*2437.00	105.8 PK	-	-	1.20V	126	73.40	27.33	5.08	0.00	-32.40
3	*2437.00	97.0 AV	-	-	1.20V	126	64.60	27.33	5.08	0.00	-32.40
4	4126.00	43.1 PK	74.00	-30.90	1.14V	222	40.64	30.32	6.70	34.56	-2.46
5	4874.00	44.0 PK	74.00	-30.00	1.19V	261	39.95	31.47	7.21	34.63	-4.05

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	53.7 PK	74.00	-20.30	1.41H	122	57.96	25.62	5.02	34.90	4.26
2	2088.00	51.3 AV	54.00	-2.70	1.41H	122	55.56	25.62	5.02	34.90	4.26
3	*2463.00	99.4 PK	-	-	1.50H	47	67.00	27.33	5.08	0.00	-32.40
4	*2463.00	93.8 AV	-	-	1.50H	47	61.40	27.33	5.08	0.00	-32.40
5	2491.00	48.1 PK	74.00	-25.90	1.45H	57	50.41	27.54	5.06	34.90	2.32
6	4176.00	43.7 PK	74.00	-30.30	1.35H	158	41.19	30.41	6.68	34.58	-2.51
7	4924.00	44.2 PK	74.00	-29.80	1.31H	196	40.10	31.51	7.21	34.62	-4.10

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M											
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (DbuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	2088.00	53.0 PK	74.00	-21.00	1.55V	115	57.26	25.62	5.02	34.90	4.26
2	2088.00	50.9 AV	54.00	-3.10	1.55V	115	55.16	25.62	5.02	34.90	4.26
3	*2463.00	104.7 PK	-	-	1.42V	63	72.30	27.33	5.08	0.00	-32.40
4	*2463.00	98.0 AV	-	-	1.42V	63	65.60	27.33	5.08	0.00	-32.40
5	2493.00	49.0 PK	74.00	-25.00	1.50V	159	51.31	27.54	5.06	34.90	2.31
6	4176.00	45.0 PK	74.00	-29.00	1.44V	231	42.49	30.41	6.68	34.58	-2.51
7	4924.00	44.7 PK	74.00	-29.30	1.40V	272	40.60	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.

4.2.9 TEST RESULTS (B) – for circuit 2 (0dBi antenna gain)

EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % RH, 1050 hPa	**TESTED BY**: Gary Chang	

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB)	Cable Factor (dB)	Pre-Amp. Factor (dB)	Correction Factor (dB)
1	132.00	34.0 QP	43.50	-9.50	1.23H	149	21.71	11.16	1.13	0.00	-12.29
2	176.00	31.0 QP	43.50	-12.50	1.37H	78	20.59	9.08	1.33	0.00	-10.42
3	264.00	35.0 QP	46.00	-11.00	1.22H	220	20.42	12.89	1.70	0.00	-14.58
4	308.00	32.0 QP	46.00	-14.00	1.19H	153	16.71	13.38	1.91	0.00	-15.29
5	352.00	36.0 QP	46.00	-10.00	1.28H	117	19.64	14.31	2.05	0.00	-16.36
6	396.00	34.0 QP	46.00	-12.00	1.09H	9	15.82	15.96	2.22	0.00	-18.18
7	528.00	31.0 QP	46.00	-15.00	1.51H	245	10.78	17.62	2.60	0.00	-20.22
8	616.00	28.0 QP	46.00	-18.00	1.42H	8	6.29	18.82	2.89	0.00	-21.71.
9	660.00	26.7 QP	46.00	-19.30	1.28H	192	4.41	19.25	3.05	0.00	-22.29
10	748.00	34.0 QP	46.00	-12.00	1.43H	2	10.60	20.14	3.26	0.00	-23.40

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % RH, 1050 hPa	**TESTED BY**: Gary Chang	

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	30.5 QP	43.50	-13.00	1.08V	339	18.21	11.16	1.13	0.00	-12.29
2	176.00	31.5 QP	43.50	-12.00	1.06V	356	21.09	9.08	1.33	0.00	-10.42
3	264.00	32.0 QP	46.00	-14.00	1.56V	105	17.42	12.89	1.70	0.00	-14.58
4	352.00	31.0 QP	46.00	-15.00	1.28V	247	14.64	14.31	2.05	0.00	-16.36
5	484.00	27.0 QP	46.00	-19.00	1.38V	138	7.57	16.96	2.47	0.00	-19.44
6	528.00	31.0 QP	46.00	-15.00	1.97V	235	10.78	17.62	2.60	0.00	-20.22
7	748.00	32.0 QP	46.00	-14.00	1.00V	142	8.60	20.14	3.26	0.00	-23.40

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 1	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	51.0 PK	74.00	-23.00	1.49H	157	55.84	25.20	4.86	34.90	4.84
2	*2412.00	99.0 PK	-	-	1.53H	97	66.79	27.11	5.10	0.00	-32.22
3	*2412.00	93.4 AV	-	-	1.53H	97	61.19	27.11	5.10	0.00	-32.22
4	4076.00	43.8 PK	74.00	-30.20	1.45H	194	41.41	30.13	6.78	34.52	-2.39
5	4824.00	44.0 PK	74.00	-30.00	1.42H	233	39.98	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	51.1 PK	74.00	-22.90	1.30V	353	55.94	25.20	4.86	34.90	4.84
2	*2412.00	107.0 PK	-	-	1.26V	353	109.69	27.11	5.10	34.90	2.69
3	*2412.00	101.0 AV	-	-	1.26V	353	103.69	27.11	5.10	34.90	2.69
4	4076.00	45.0 PK	74.00	-29.00	1.33V	301	42.61	30.13	6.78	34.52	-2.39
5	4824.00	43.2 PK	74.00	-30.80	1.39V	266	39.18	31.43	7.23	34.63	-4.02

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 6	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	52.0 PK	74.00	-22.00	1.10H	204	21.63	25.41	4.96	0.00	-30.37
2	*2437.00	97.0 PK	-	-	1.16H	126	99.50	27.33	5.08	34.90	2.50.
3	*2437.00	92.0 AV	-	-	1.16H	127	94.50	27.33	5.08	34.90	2.50.
4	4126.00	45.2 PK	74.00	-28.80	1.07H	253	8.18	30.32	6.70	0.00	-37.03
5	4874.00	44.7 PK	74.00	-29.30	1.09H	292	6.02	31.47	7.21	0.00	-38.69

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	51.4 PK	74.00	-22.60	1.17V	185	21.03	25.41	4.96	0.00	-30.37
2	*2437.00	106.0 PK	-	-	1.25V	162	73.60	27.33	5.08	0.00	-32.40
3	*2437.00	99.8 AV	-	-	1.25V	162	67.40	27.33	5.08	0.00	-32.40
4	4126.00	44.1 PK	74.00	-29.90	1.12V	234	7.08	30.32	6.70	0.00	-37.03
5	4874.00	45.0 PK	74.00	-29.00	1.08V	273	6.32	31.47	7.21	0.00	-38.69

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 22Mbps RF Module	**MODEL**	GL242204-0T
MODE	Channel 11	**FREQUENCY RANGE**	Above 1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION**	Peak(PK) Average (AV)
ENVIRONMENTAL CONDITIONS	28 deg. C, 55 % 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	53.8 PK	74.00	-20.20	1.39H	202	23.16	25.62	5.02	0.00	-30.64
2	2088.00	51.4 AV	54.00	-2.60	1.39H	202	20.76	25.62	5.02	0.00	-30.64
3	*2463.00	97.8 PK	-	-	1.41H	118	65.40	27.33	5.08	0.00	-32.41
4	*2463.00	92.0 AV	-	-	1.41H	118	59.60	27.33	5.08	0.00	-32.41
5	2490.00	46.0 PK	74.00	-28.00	1.19H	212	13.41	27.54	5.06	0.00	-32.59
6	4176.00	44.7 PK	74.00	-29.30	1.01H	219	7.61	30.41	6.68	0.00	-37.10
7	4924.00	45.0 PK	74.00	-29.00	1.06H	228	6.28	31.51	7.21	0.00	-38.73

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	53.0 PK	74.00	-21.00	1.16V	100	22.36	25.62	5.02	0.00	-30.64
2	2088.00	50.7 AV	54.00	-3.30	1.16V	100	20.06	25.62	5.02	0.00	-30.64
3	*2463.00	105.0 PK	-	-	1.19V	92	72.60	27.33	5.08	0.00	-32.40.
4	*2463.00	99.0 AV	-	-	1.19V	92	66.60	27.33	5.08	0.00	-32.40.
5	2488.00	48.0 PK	74.00	-26.00	1.07V	158	15.41	27.54	5.06	0.00	-32.59
6	4176.00	43.7 PK	74.00	-30.30	1.03V	210	6.61	30.41	6.68	0.00	-37.09
7	4924.00	44.2 PK	74.00	-29.80	1.02V	250	5.48	31.51	7.21	0.00	-38.73

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

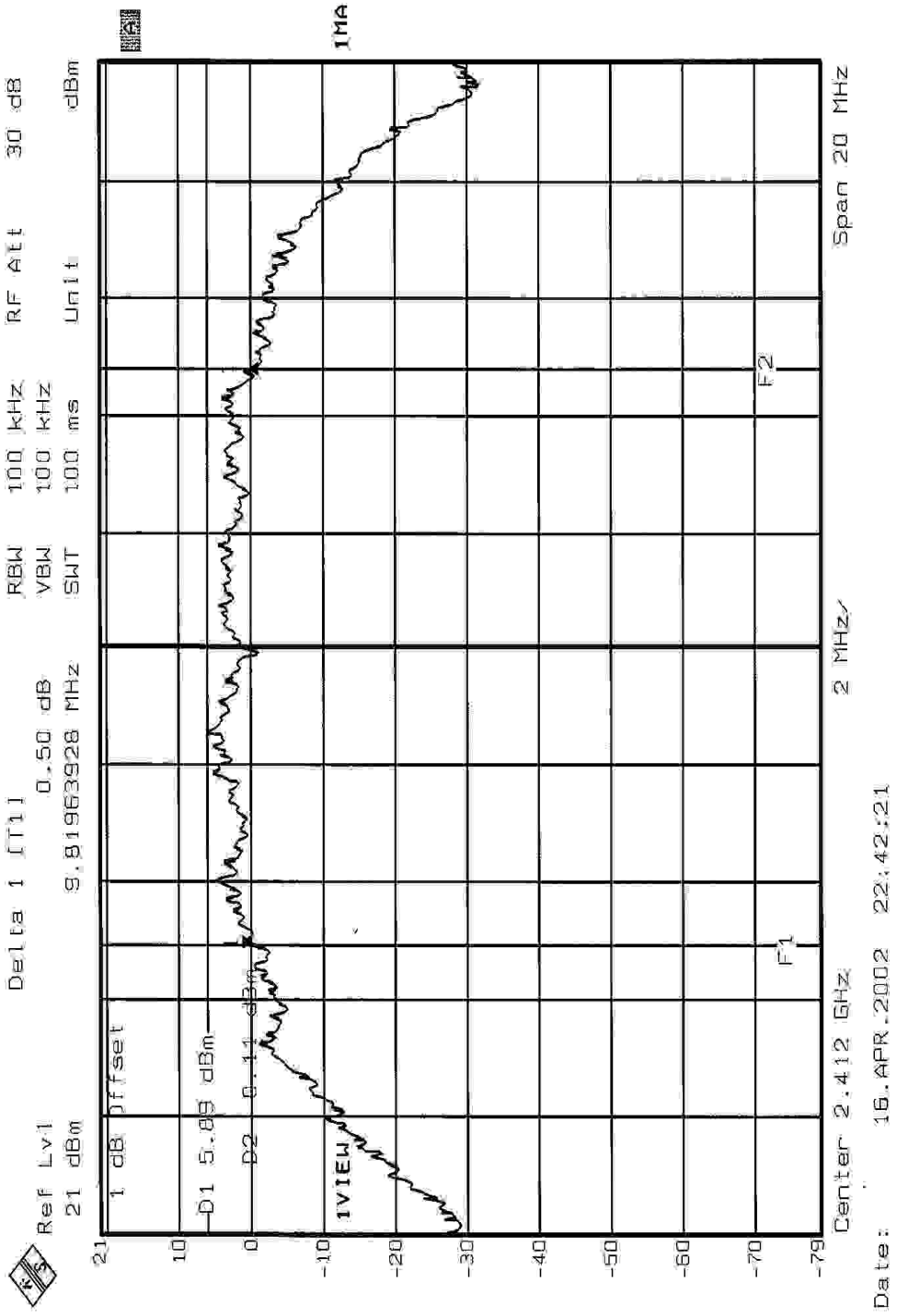
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.6 TEST RESULTS

EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 66%RH, 1005 hPa
TESTED BY: Steven Lu			

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	9.820	0.5	PASS
6	2437	11.182	0.5	PASS
11	2462	11.383	0.5	PASS

CH1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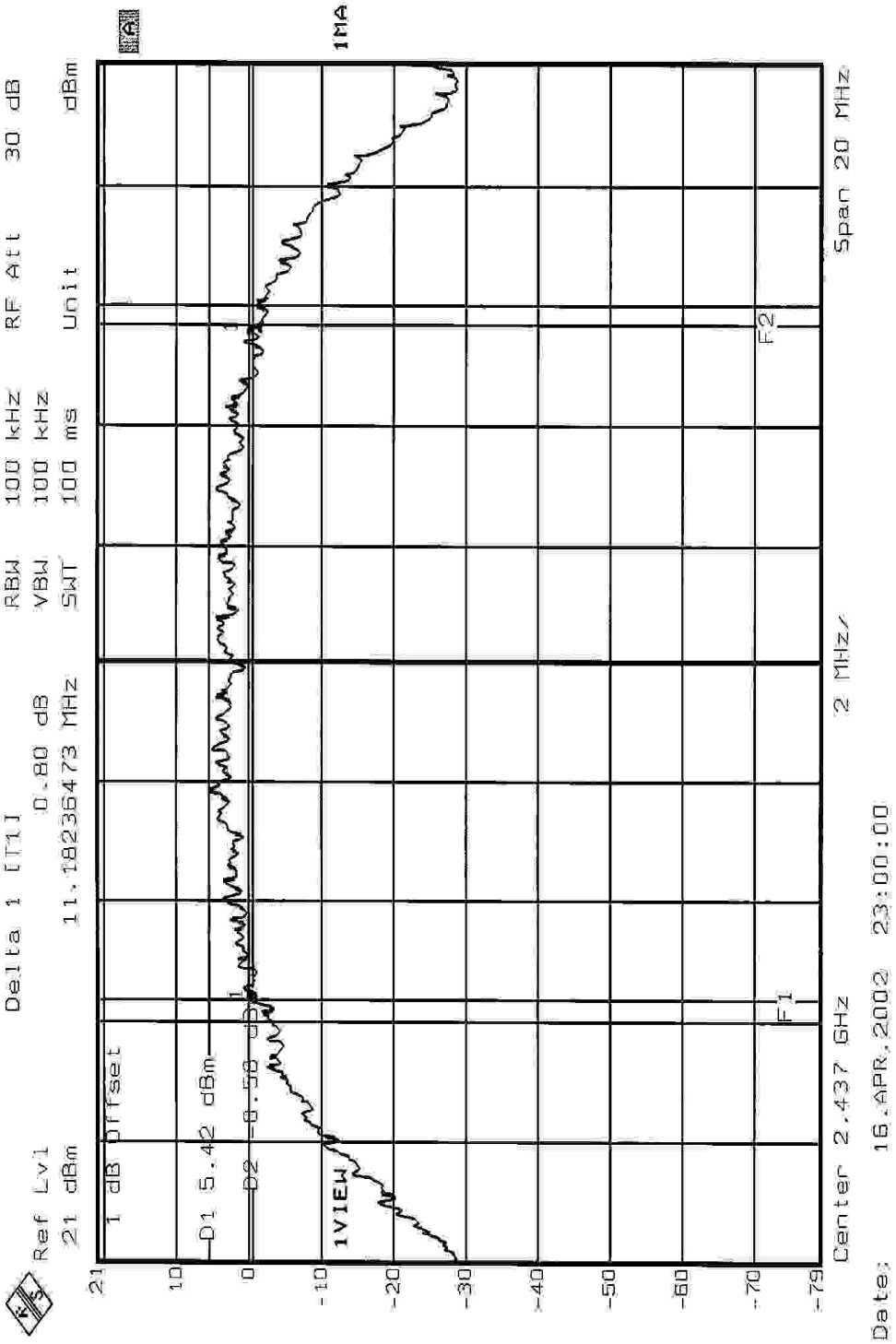
CH6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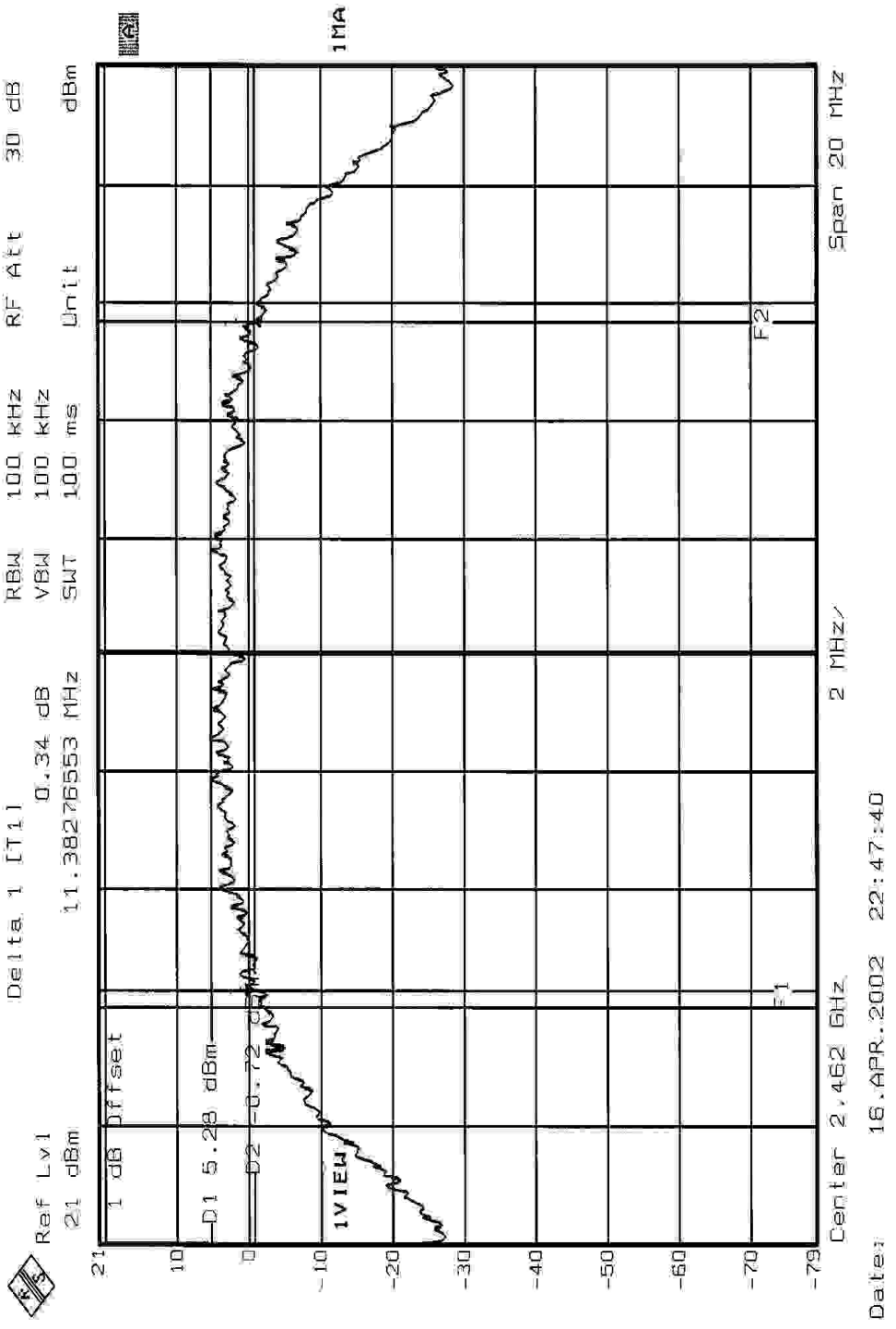
CH11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2 MHz/
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4.4 MAXIMUM PEAK OUTPUT POWER

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, 2003
PEAK POWER SENSOR	NRV-Z32	100013	Feb. 21,2003

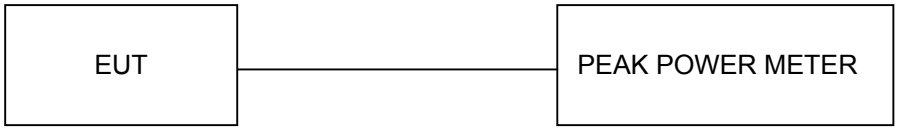
NOTE:

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

4.4.3 TEST PROCEDURES

The transmitter output was connected to the 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 22Mbps RF Module	**MODEL**	GL242204-0T
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 66%RH, 1005 hPa
TESTED BY: Steven Lu			

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	14.82	30	PASS
6	2437	14.75	30	PASS
11	2462	14.74	30	PASS

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	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

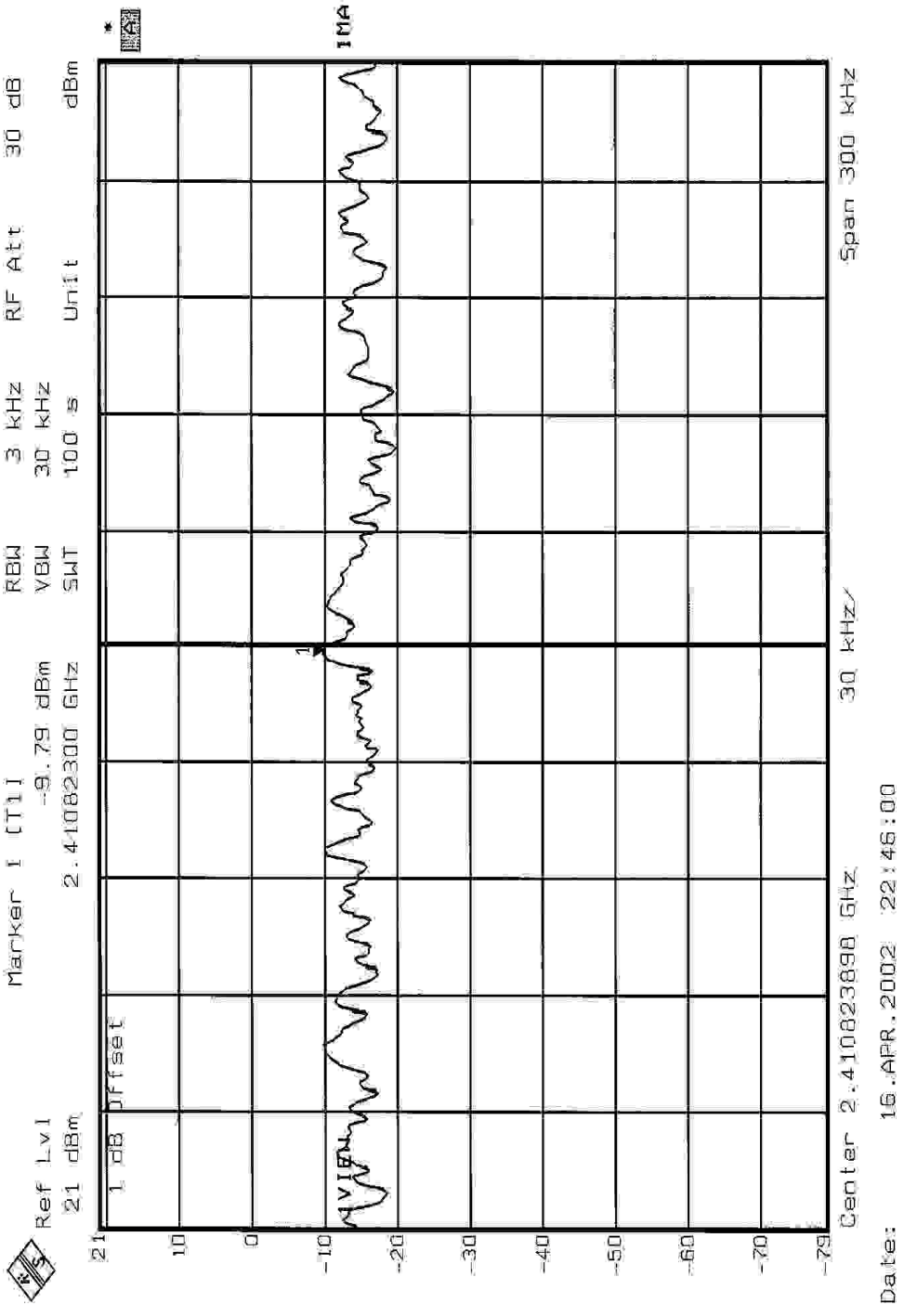
Same as 4.3.5

4.5.6 TEST RESULTS

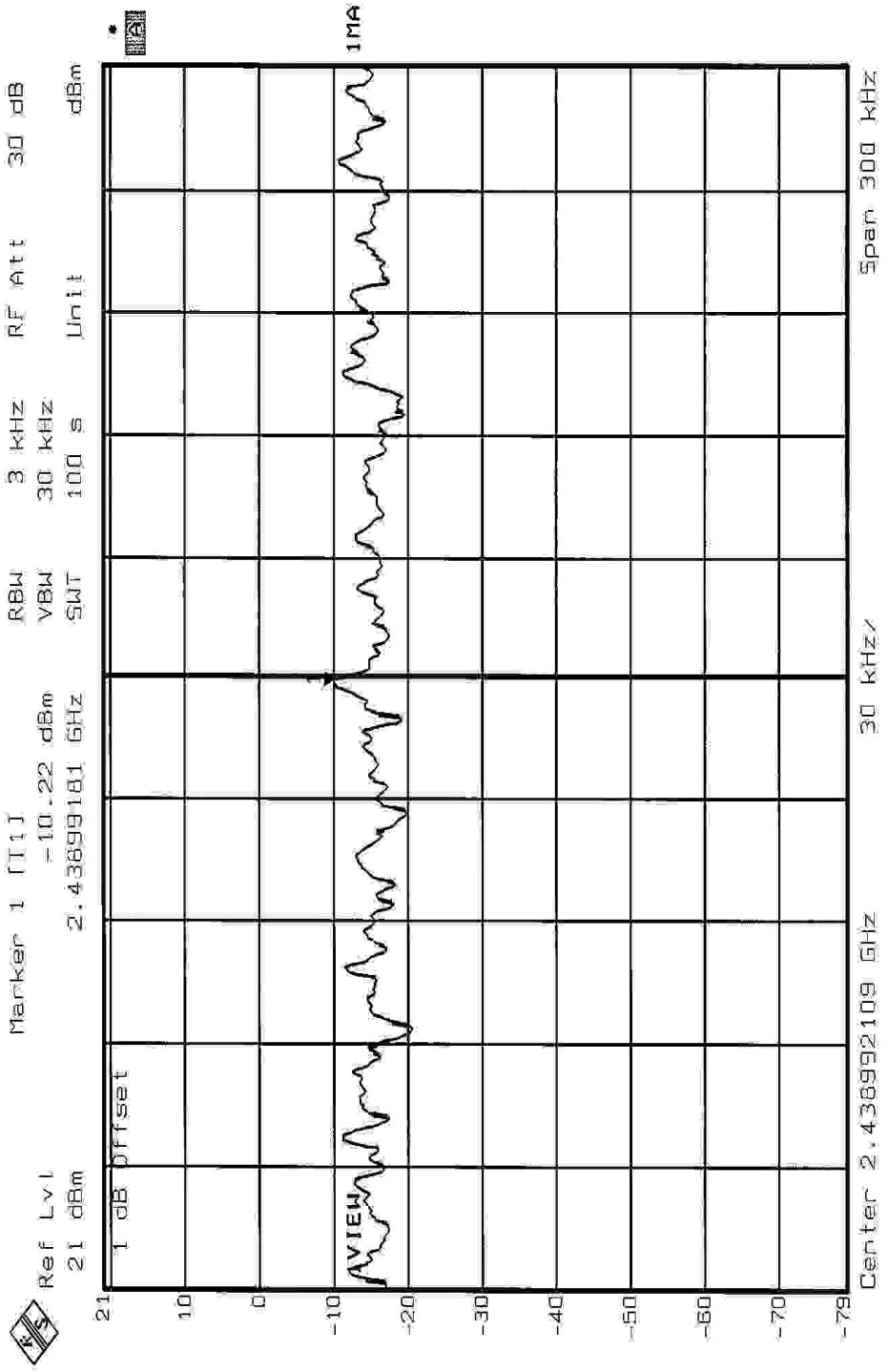
EUT	Wireless 22Mbps RF Module	**MODEL**	GL242204-0T
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 66%RH, 1005 hPa
TESTED BY: Steven Lu			

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-9.79	8	PASS
6	2437	-10.22	8	PASS
11	2462	-9.79	8	PASS

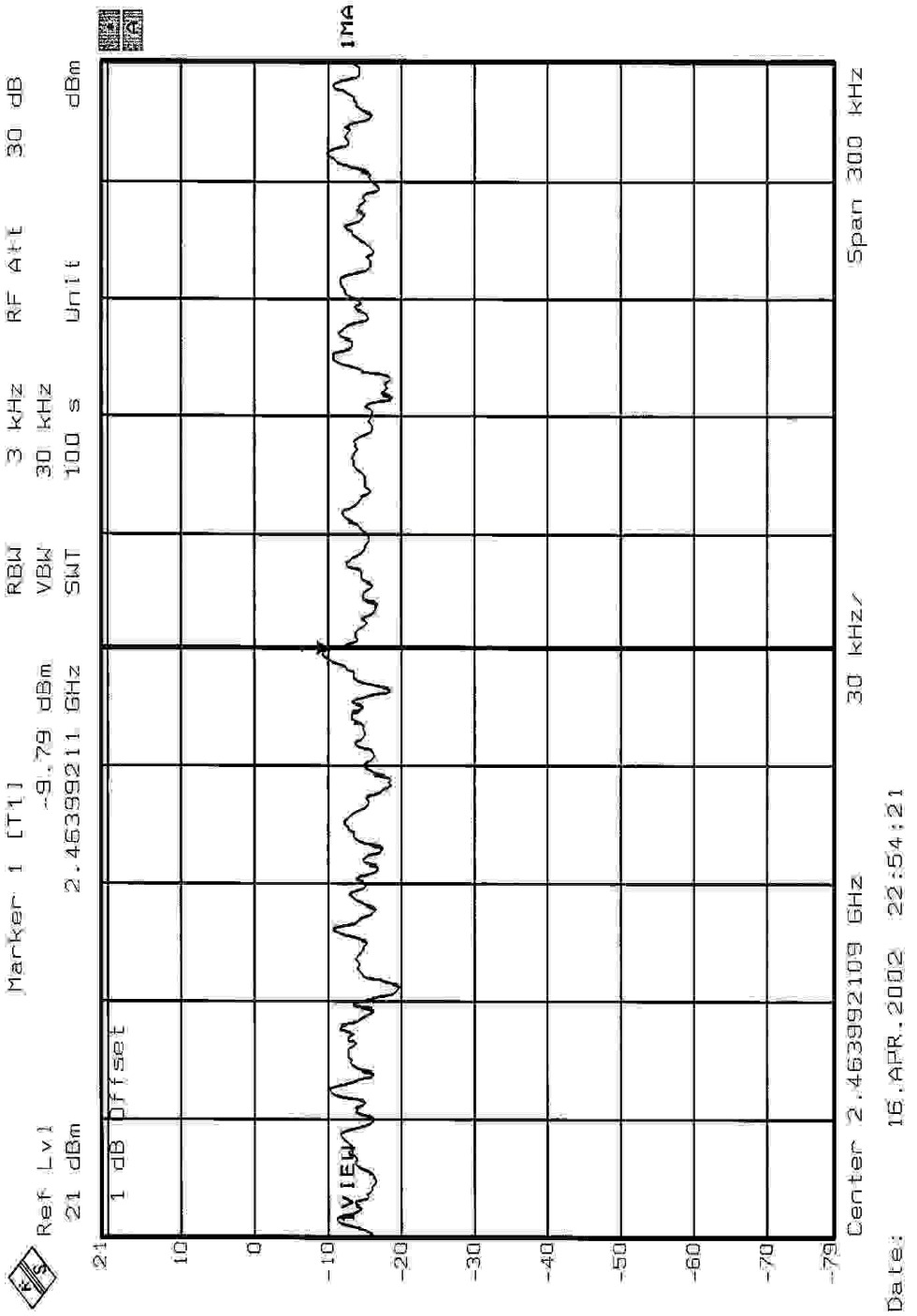
CH1


Ref Lvl
21 dBm
1 dB Offset
Marker 1 [T1]
-9.79 dBm
2.410823000 GHz
RBW 3 kHz
VBW 30 kHz
SWT 100 s
RF Att 30 dB
Unit dBm
1MA
VIEW
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Center 2.410823898 GHz
30 kHz/
Span 300 kHz
Date: 16.APR.2002 22:46:00

CH6


Ref Lvl
21 dBm
1 dB offset
Marker 1 [T1]
-10.22 dBm
2.43899181 GHz
RBW 3 kHz
VBW 30 kHz
SWT 100 s
RF Att 30 dB
Unit dBm
1MA
VIEW
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Center 2.43899109 GHz
30 kHz/
Span 300 kHz
Date: 16.APR.2002 23:01:09

CH11


Ref Lvl
21 dBm
1 dB Offset
Marker 1 [T1]
-9.79 dBm
2.4639211 GHz
RBW 3 kHz
VBW 30 kHz
SWT 100 s
RF Att 30 dB
Unit dBm
1MA
VIEW
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Center 2.4639211 GHz
30 kHz/
Span 300 kHz
Date: 16.APR.2002 22:54:21

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

4.6.3 TEST PROCEDURE

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

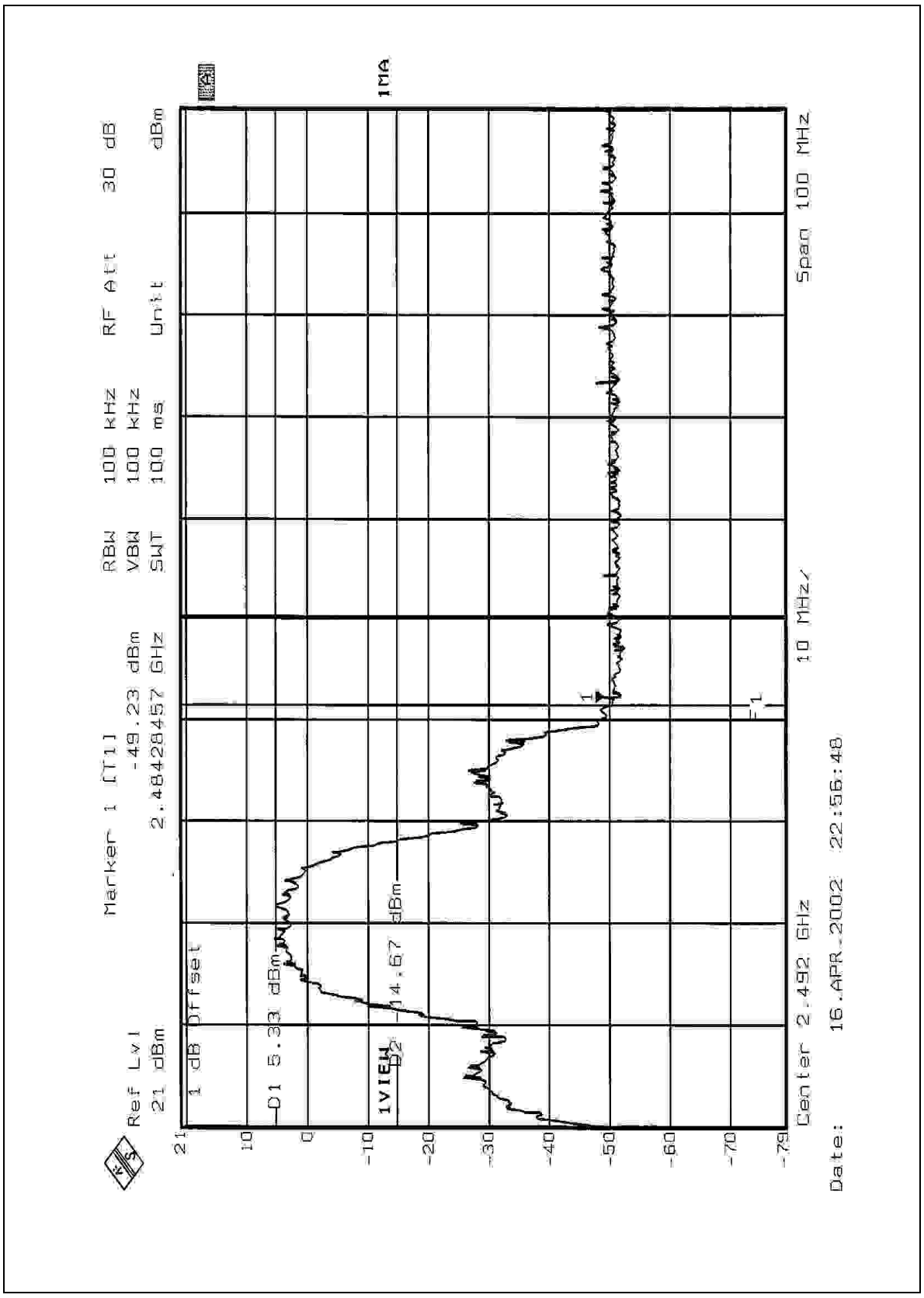
4.6.4 EUT OPERATING CONDITION

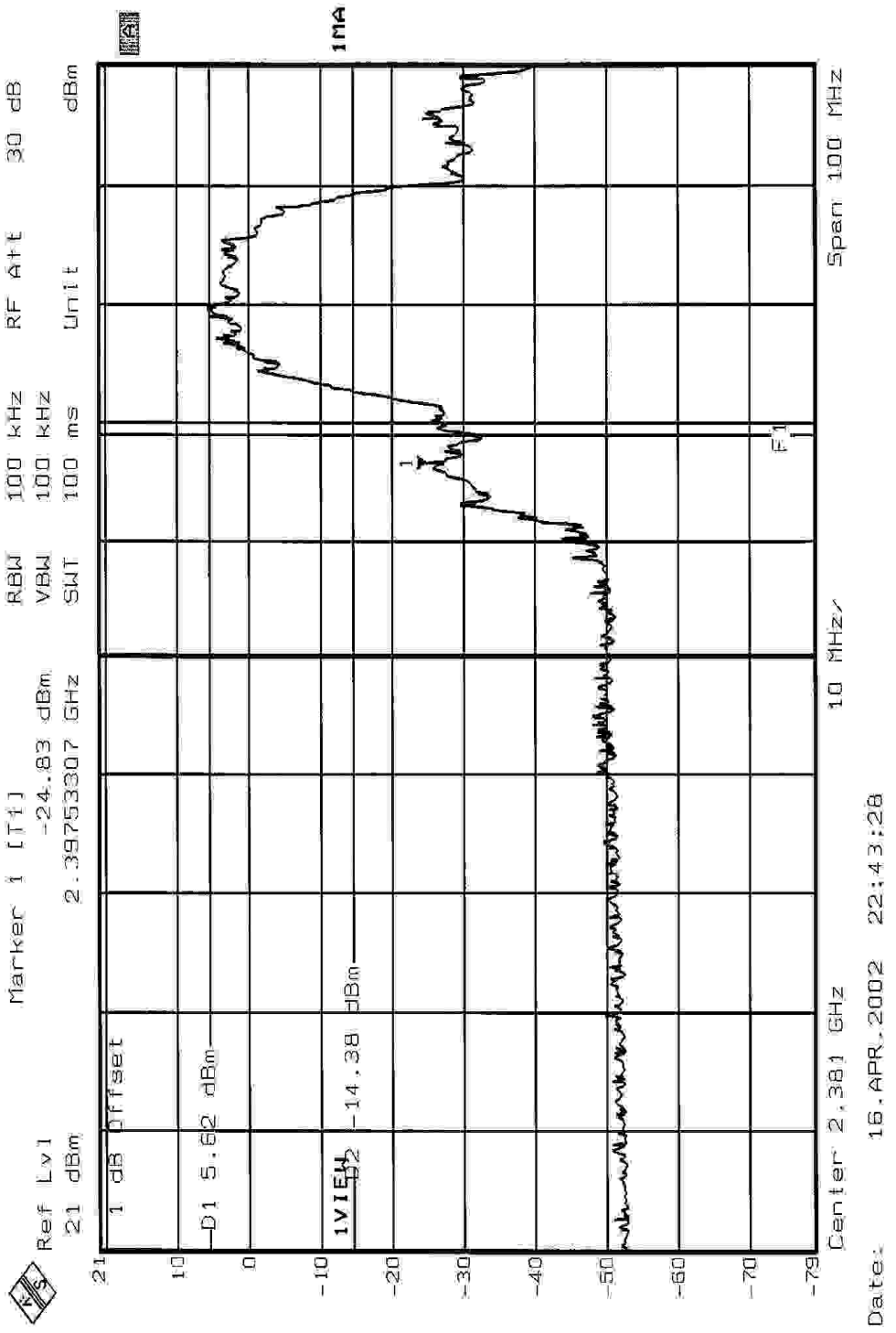
Same as Item 4.3.5

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 54.56dB delta between carrier maximum power and local maximum emission in restrict band (2.4842GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2.6 (Page 37) is 102.4dBuV/m, so the maximum field strength in restrict band is 102.4-54.56=47.84 dBuV/m which is under 54 dBuV/m limit.


Marker 1 [T1]
-49.23 dBm
2.48428457 GHz
RBW 100 kHz
VBW 100 kHz
SWT 100 ms
RF Att 30 dB
Unit dBm
Ref Lvl
21 dBm
1 dB Offset
D1 5.33 dBm
D2 4.67 dBm
1VIEW
1MA
Center 2.492 GHz
10 MHz/
Span 100 MHz
Date: 16.APR.2002 22:56:48


Marker 1 [T1]
-24.83 dBm
2.39753307 GHz
RBW 100 kHz
VBW 100 kHz
SWT 100 ms
RF Att 30 dB
Unit dBm
Ref Lvl
21 dBm
1 dB Offset
D1 5.62 dBm
1VIEW -14.38 dBm
Center 2.381 GHz
10 MHz/
Span 100 MHz
Date: 16.APR.2002 22:43:28

4.7 ANTENNA REQUIREMENT

4.7.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.
And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

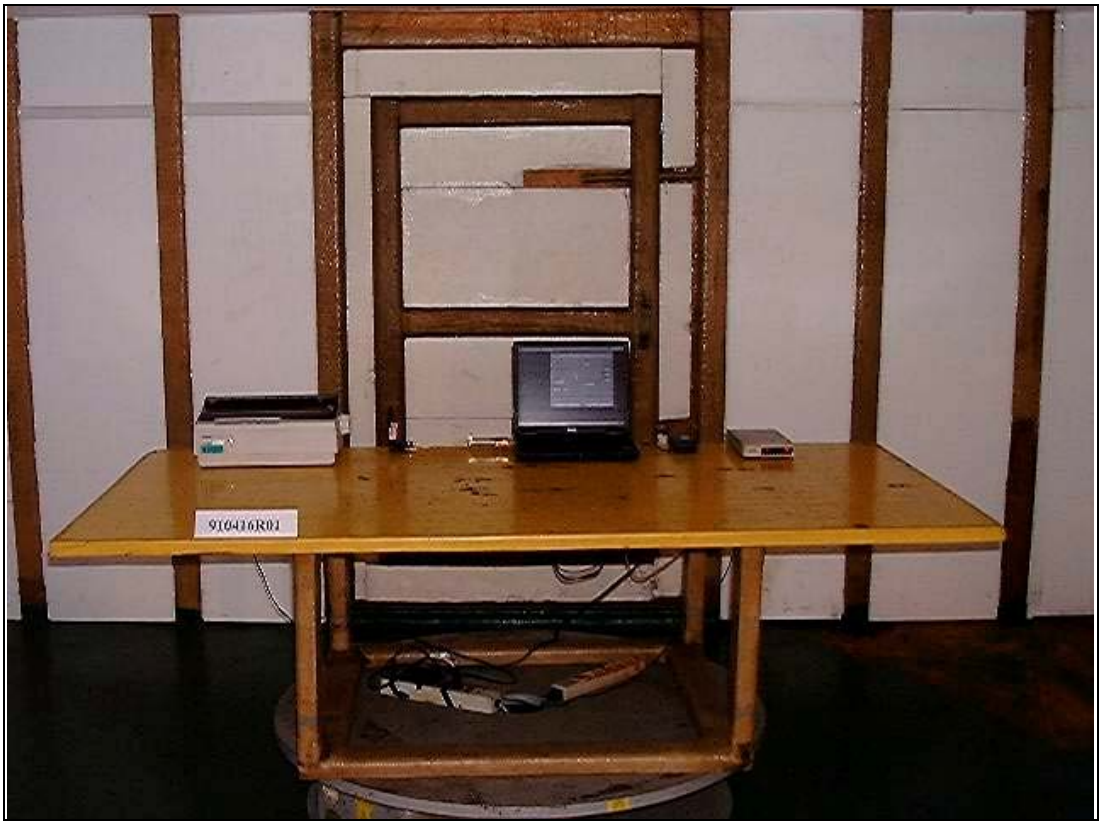
4.7.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is Dipole Antenna. There are two different antenna connector types (see page6). And the maximum Gain of this antenna is only 2.5dBi.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST

RADIATED EMISSION TEST




910416R01

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:

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