FCC TEST REPORT

REPORT NO.: RF920619R01
MODEL NO.: CB-G-IN-01, CB-G-IN-03
RECEIVED: Jul. 17, 2003
TESTED: Jul. 8 ~ Jul 19, 2003

APPLICANT: UNIVERSAL SCIENTIFIC INDUSTRIAL CO., LTD.

ADDRESS: 141, Lane 351, Taiping Road, Sec. 1, Tsao Tuen, Nan-Tou, Taiwan, R.O.C.

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 :	IEEE 802.11G WLAN Card Bus
MODEL NO. :	CB-G-IN-01, CB-G-IN-03
APPLICANT :	UNIVERSAL SCIENTIFIC INDUSTRIAL CO., LTD.
STANDARDS :	47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-1992

We, **Advance Data Technology Corporation**, hereby certify that one sample of the designation has been tested in our facility from Jul. 8 ~ Jul 19, 2003, The test record, data evaluation and Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions herein specified.

PREPARED BY: Landy Soong , **DATE:** Jul. 15 ,2003

Landy Soong

APPROVED BY: for **DATE:** Jul. 15 ,2003

Dr. Alan Lane, JVP

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.207	AC Power Conducted Emission	PASS	Meet the requirement of limit Minimum passing margin is –14.96dBuV at 0.15391MHz
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 320 MHz
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	IEEE 802.11G WLAN Card Bus
MODEL NO.	CB-G-IN-01, CB-G-IN-03
POWER SUPPLY	3.3VDC from host equipment
MODULATION TYPE	BPSK, QPSK, CCK,16QAM, 64QAM
RADIO TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	1/2/5.5/6/9/11/12/18/24/36/48/54Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
BANDWIDTH OF EACH CHANNEL	22MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	12.46dBm
ANTENNA TYPE	Printed Antenna
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. Model CB-G-IN-01 has no connector, while CB-G-IN-03 is with RF connector.
2. The EUT operates in the 2.4GHz frequency spectrum with throughput of up to 54Mbps.
3. The EUT complies with IEEE 802.11g draft standards, and backwards compatible with IEEE 802.11b products.
4. For more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Eleven channels are provided to this EUT.

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

NOTE:

1. Below 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. Data rate, 11Mbps with CCK technique and 6Mbps with OFDM technique, the worst case, were chosen for final test.

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a IEEE 802.11G WLAN Card Bus. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR 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	Compaq	N800C	470048-515	DoC
2	PRINTER	EPSON	LQ-300+	DCGY017096	FCC DoC Approved

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

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 OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

NOTE:
1. The lower limit shall apply at the transition frequencies.
2. 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	ESCS 30	838251/021	Jan. 20, 2004
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Dec. 18, 2003
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Dec. 18, 2003
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100220	Dec. 18, 2003
ROHDE & SCHWARZ 4-wire ISN	ENY41	837032/016	Nov. 29 2003
ROHDE & SCHWARZ 2-wire ISN	ENY22	837497/016	Nov. 29 2003
Software	Cond-V2M3	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	May. 01, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010770	Mar. 24, 2004
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Apr. 06, 2004

NOTE: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. "*": These equipment are used for conducted telecom port test only (if tested).
3. The test was performed in ADT Shielded Room No. 10.
4. The VCCI Site Registration No. is C-1312.

4.1.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

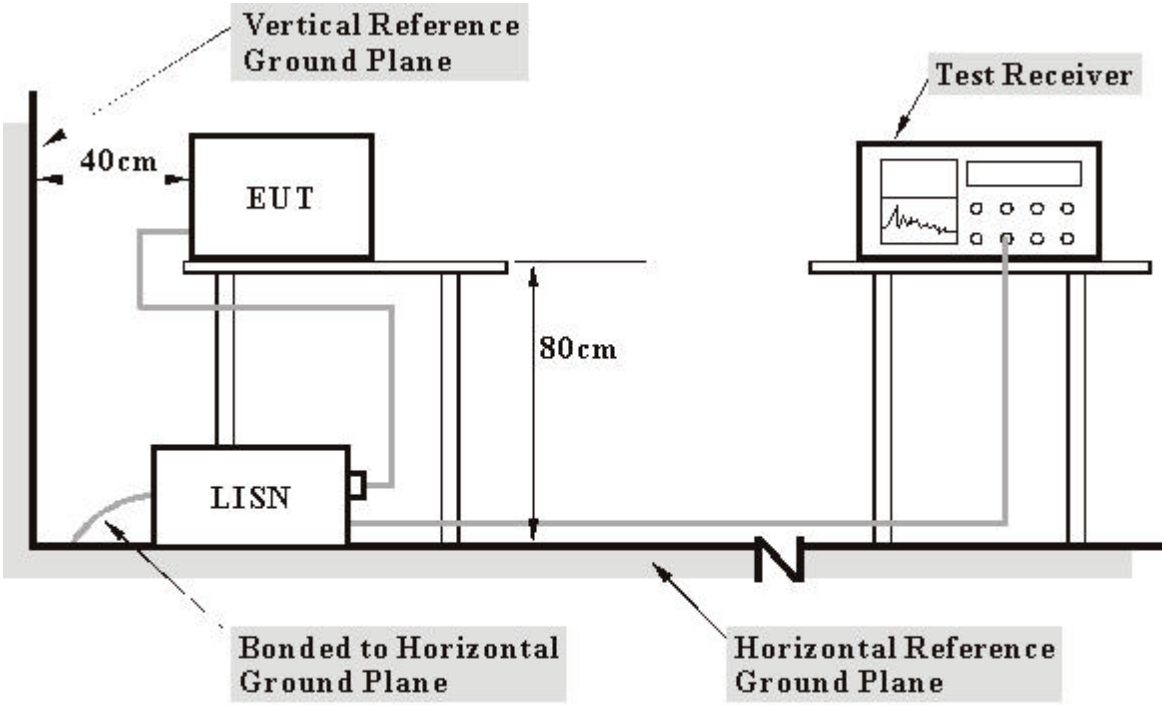
b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

c. The frequency range from 150 kHz to 30 MHz was searched. Emission levels over 10dB under the prescribed limits could not be reported

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

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

4.1.6 EUT OPERATING CONDITIONS

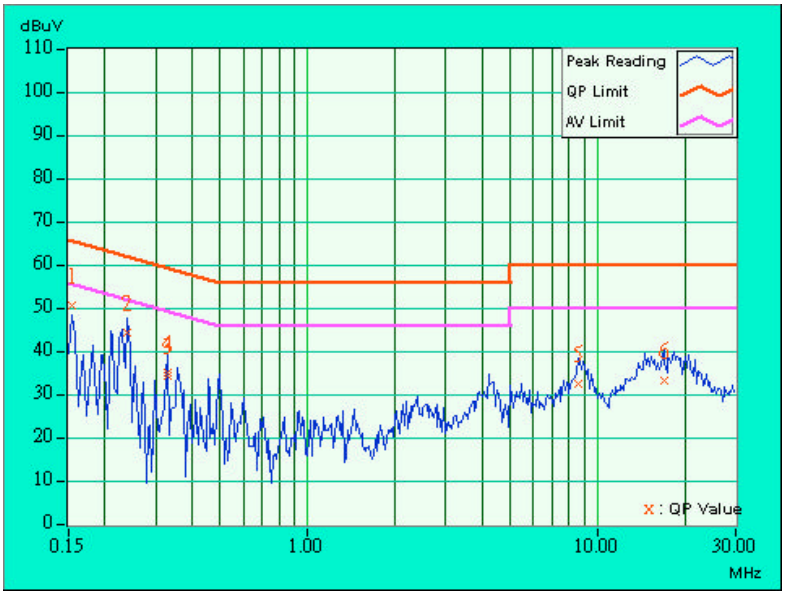
a. Connected the EUT to a computer system placed on a testing table.
b. The computer system ran a test program to enable EUT under transmission/receiving condition continuously at specific channel frequency.
c. The computer system sent "H" messages to its screen.
d. The computer system sent "H" messages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

4.1.7 TEST RESULTS

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 991 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	0.154	0.06	50.05	-	50.11	-	65.79	55.79	-15.68	-
2	0.240	0.06	43.80	-	43.86	-	62.10	52.10	-18.24	-
3	0.330	0.06	33.96	-	34.02	-	59.46	49.46	-25.44	-
4	0.330	0.06	34.58	-	34.64	-	59.46	49.46	-24.82	-
5	8.605	0.37	31.94	-	32.31	-	60.00	50.00	-27.69	-
6	16.918	0.59	32.82	-	33.41	-	60.00	50.00	-26.59	-

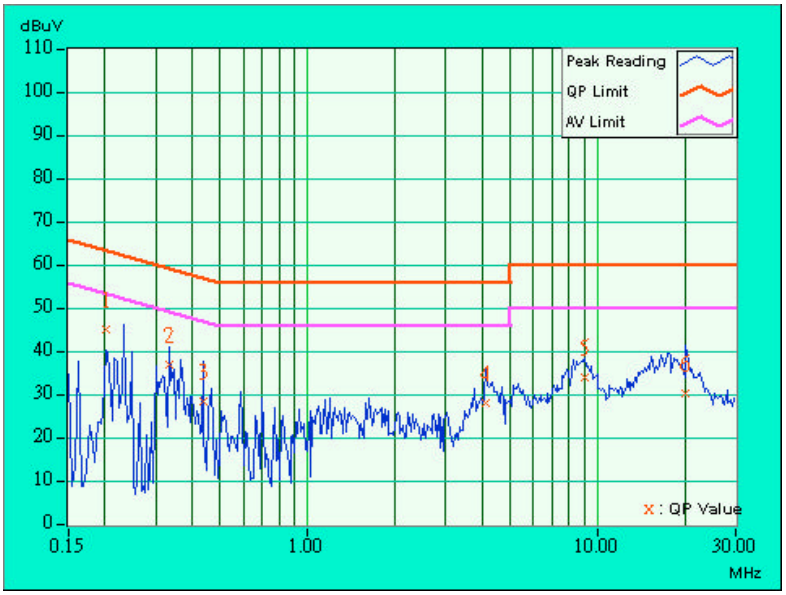
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
MODE	Channel 1	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 991 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	0.201	0.05	44.60	-	44.65	-	63.58	53.58	-18.93	-
2	0.334	0.05	36.41	-	36.46	-	59.36	49.36	-22.90	-
3	0.435	0.06	27.99	-	28.05	-	57.15	47.15	-29.11	-
4	4.141	0.21	27.58	-	27.79	-	56.00	46.00	-28.21	-
5	9.031	0.36	33.67	-	34.03	-	60.00	50.00	-25.97	-
6	20.188	0.52	29.97	-	30.49	-	60.00	50.00	-29.51	-

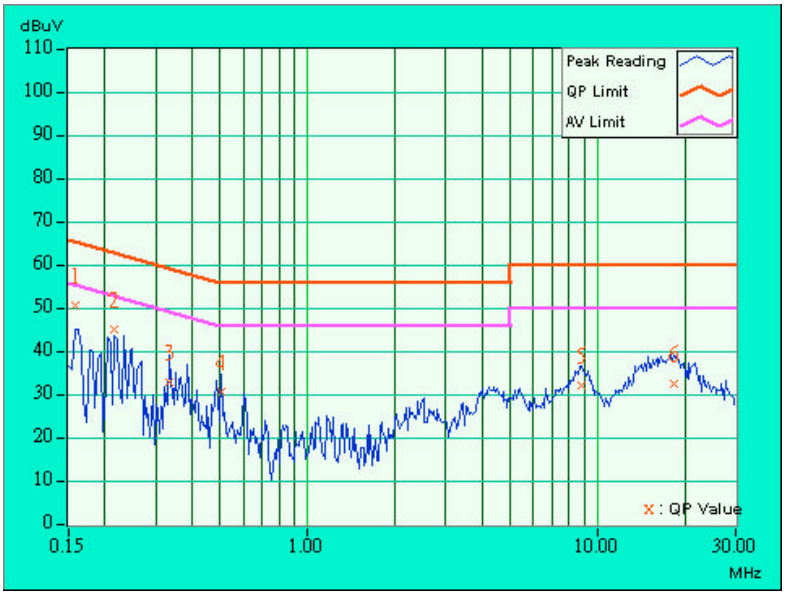
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 991 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	0.158	0.06	50.19	-	50.25	-	65.58	55.58	-15.33	-
2	0.216	0.06	44.44	-	44.50	-	62.96	52.96	-18.46	-
3	0.334	0.06	32.42	-	32.48	-	59.36	49.36	-26.88	-
4	0.502	0.08	29.96	-	30.04	-	56.00	46.00	-25.96	-
5	8.836	0.37	31.70	-	32.07	-	60.00	50.00	-27.93	-
6	18.477	0.62	32.05	-	32.67	-	60.00	50.00	-27.33	-

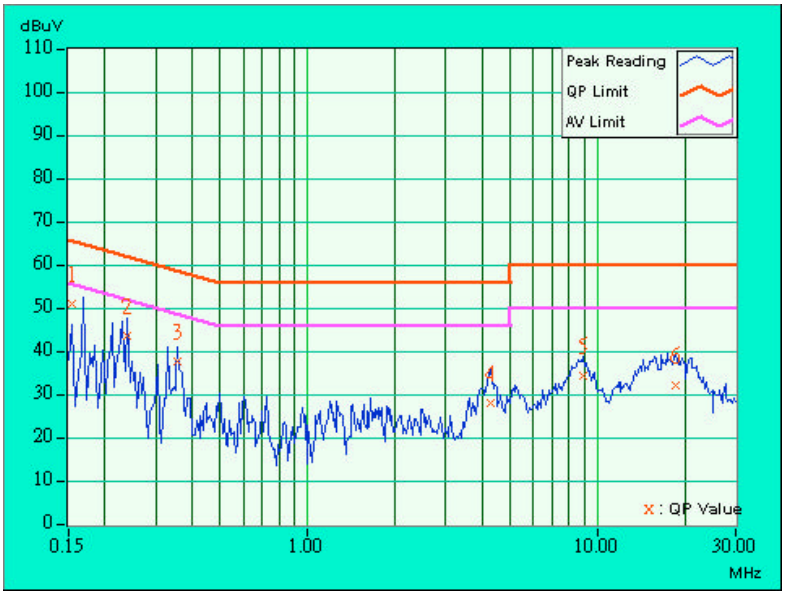
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
MODE	Channel 6	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 991 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	0.154	0.05	50.78	-	50.83	-	65.79	55.79	-14.96	-
2	0.240	0.05	43.20	-	43.25	-	62.10	52.10	-18.85	-
3	0.357	0.05	37.32	-	37.37	-	58.80	48.80	-21.43	-
4	4.277	0.21	27.66	-	27.87	-	56.00	46.00	-28.13	-
5	8.883	0.36	34.08	-	34.44	-	60.00	50.00	-25.56	-
6	18.664	0.50	31.60	-	32.10	-	60.00	50.00	-27.90	-

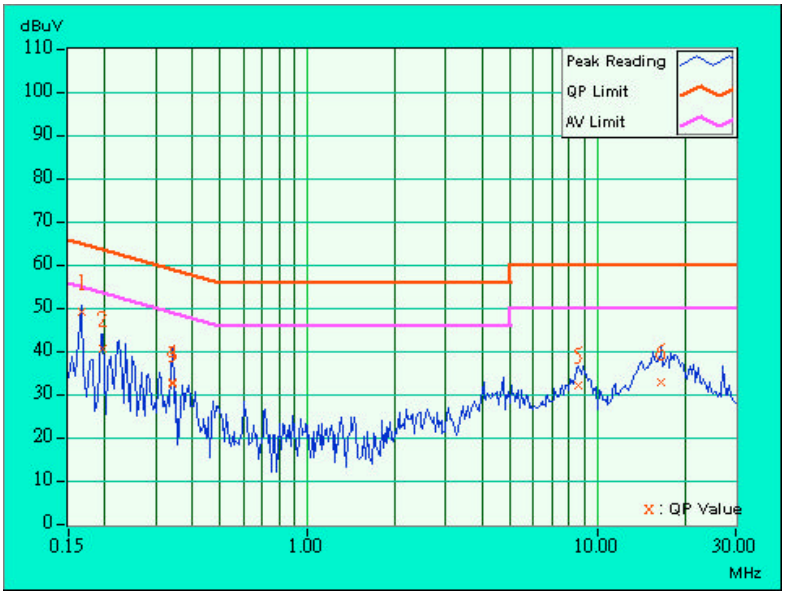
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Line (L)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 991 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	0.166	0.06	48.58	-	48.64	-	65.18	55.18	-16.54	-
2	0.197	0.06	40.01	-	40.07	-	63.74	53.74	-23.67	-
3	0.341	0.06	32.00	-	32.06	-	59.17	49.17	-27.11	-
4	0.341	0.06	32.49	-	32.55	-	59.17	49.17	-26.62	-
5	8.594	0.37	31.56	-	31.93	-	60.00	50.00	-28.07	-
6	16.551	0.58	32.54	-	33.12	-	60.00	50.00	-26.88	-

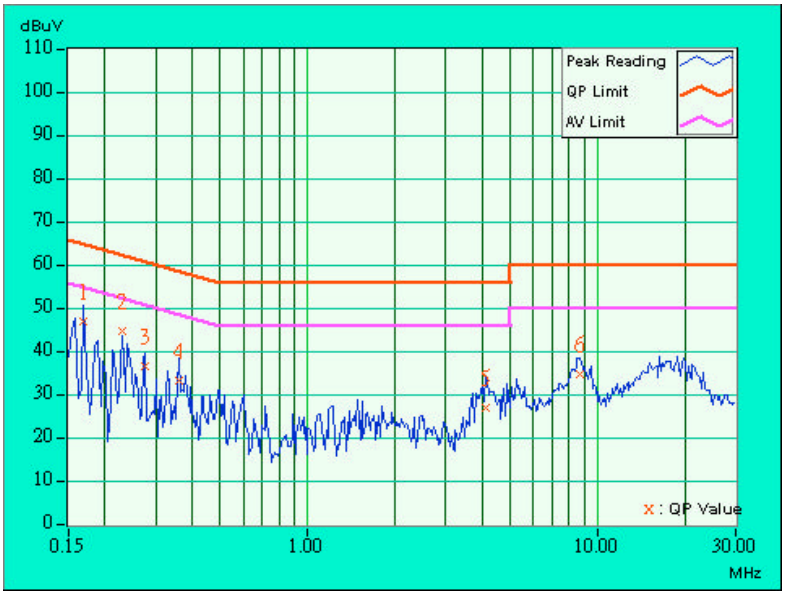
REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
3. The emission levels of other frequencies were very low against the limit.
4. Margin value = Emission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



EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
MODE	Channel 11	**6dB BANDWIDTH**	9 kHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**PHASE**	Neutral (N)
ENVIRONMENTAL CONDITIONS	25 deg. C, 60%RH, 991 hPa	**TESTED BY**: Gary Chang	

No	Freq.	Corr. Factor	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.170	0.05	46.82	-	46.87	-	64.98	54.98	-18.11	-
2	0.228	0.05	44.47	-	44.52	-	62.52	52.52	-18.00	-
3	0.275	0.05	36.45	-	36.50	-	60.97	50.97	-24.47	-
4	0.361	0.05	32.91	-	32.96	-	58.71	48.71	-25.75	-
5	4.141	0.21	26.66	-	26.87	-	56.00	46.00	-29.13	-
6	8.750	0.35	34.55	-	34.90	-	60.00	50.00	-25.10	-

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
*HP Spectrum Analyzer	8594A	3144A00308	Aug. 18, 2003
*HP Preamplifier	8447D	2944A08119	Jul. 01, 2004
* HP Preamplifier	8449B	3008A01201	Dec. 01, 2003
* HP Preamplifier	8449B	3008A01292	Aug. 07, 2003
SCHAFFNER TEST RECEIVER	SCR 3501	408	Jan. 26, 2004
SCHAFFNER Tunable Dipole Antenna	VHBA 9123	459	Nov. 22, 2003
SCHWARZBECK Tunable Dipole Antenna	UHA 9105	977	
* ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Feb. 13, 2004
* CHASE Bilog Antenna	CBL6112B	2433	July. 13, 2003
* SCHWARZBECK Horn Antenna	BBHA9120-D1	D130	Jun 30, 2004
* EMCO Horn Antenna	3115	9312-4192	Mar. 23 2004
* ADT. Turn Table	TT100	0201	NA
* ADT. Tower	AT100	0201	NA
* Software	ADT_Radiated _V5.14	NA	NA
* ANRITSU RF Switches	MP59B	E10124	Feb. 28, 2004
* TIMES RF cable	8D	CABLE-ST2-01	Feb. 28, 2004

NOTE: 1. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to NML/ROC and NIST/USA.
2. "*" = These equipment are used for the final measurement.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The test was performed in ADT Open Site No. 2.
5. The VCCI Site Registration No. is R-237.

4.2.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

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

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

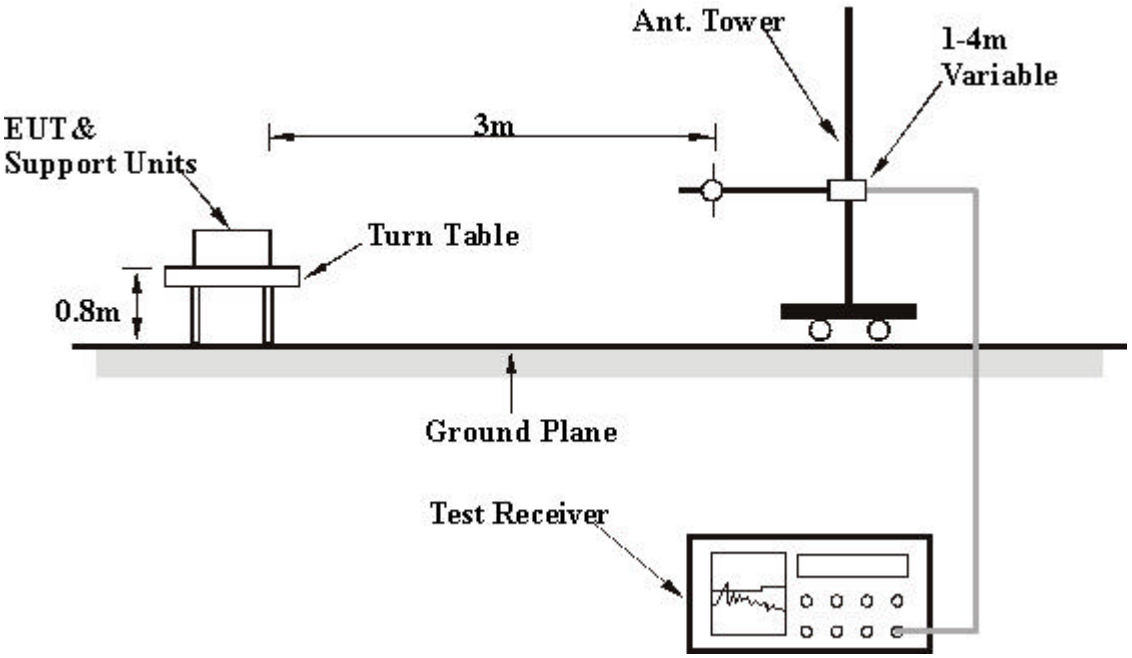
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
CHANNEL	Channel 11	**FREQUENCY RANGE**	Below 1000 MHz
MODE	CCK & OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	30 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Quasi-Peak
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	160.00	30.8 QP	43.50	-12.70	1.62 H	222	19.90	10.90
2	240.00	34.2 QP	46.00	-11.80	1.86 H	12	20.30	13.80
3	280.00	38.2 QP	46.00	-7.80	1.53 H	183	22.50	15.70
4	320.00	44.0 QP	46.00	-2.00	1.35 H	18	27.40	16.60
5	360.00	42.0 QP	46.00	-4.00	1.04 H	1	24.30	17.70
6	400.00	41.0 QP	46.00	-5.00	1.01 H	0	21.70	19.40
7	440.00	33.3 QP	46.00	-12.70	1.53 H	1	13.50	19.80
8	480.00	36.7 QP	46.00	-9.30	1.00 H	338	16.00	20.80
9	520.00	33.4 QP	46.00	-12.60	1.00 H	16	11.50	21.90
10	560.00	35.0 QP	46.00	-11.00	1.90 H	142	12.10	22.90
11	600.00	36.2 QP	46.00	-9.80	1.61 H	194	13.20	23.10
12	640.00	35.7 QP	46.00	-10.30	1.36 H	169	12.20	23.50
13	720.00	29.4 QP	46.00	-16.60	2.50 H	207	5.60	23.90

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
CHANNEL	Channel 11	**FREQUENCY RANGE**	Below 1000 MHz
MODE	CCK & OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	30 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Quasi-Peak
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	159.99	27.5 QP	43.50	-16.00	1.11 V	253	16.60	10.90
2	239.98	25.9 QP	46.00	-20.10	1.74 V	103	12.10	13.80
3	280.00	29.9 QP	46.00	-16.10	1.85 V	115	14.10	15.70
4	319.99	39.0 QP	46.00	-7.00	1.26 V	153	22.40	16.60
5	359.99	32.4 QP	46.00	-13.60	1.00 V	278	14.70	17.70
6	399.99	35.1 QP	46.00	-10.90	1.25 V	125	15.70	19.30
7	439.99	33.4 QP	46.00	-12.60	1.16 V	105	13.60	19.80
8	480.00	33.9 QP	46.00	-12.10	1.18 V	71	13.20	20.80
9	520.00	31.9 QP	46.00	-14.10	1.79 V	241	10.00	21.90
10	560.00	31.6 QP	46.00	-14.40	1.80 V	48	8.70	22.90
11	600.00	34.0 QP	46.00	-12.00	1.49 V	81	10.90	23.10
12	640.00	35.1 QP	46.00	-10.90	1.06 V	91	11.60	23.50
13	720.00	32.1 QP	46.00	-13.90	1.21 V	76	8.20	23.90

REMARKS:

1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level - Limit value
4. The other emission levels were very low against the limit.

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
CHANNEL	Channel 1	**FREQUENCY RANGE**	Above 1000 MHz
MODE	CCK	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	30 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2412.00	103.0 PK			1.00 H	300	69.30	33.70
1	*2412.00	94.9 AV			1.00 H	300	61.20	33.70
2	4824.00	49.7 PK	74.00	-24.30	1.00 H	274	8.50	41.10

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2412.00	100.3 PK			1.20 V	212	66.70	33.70
1	*2412.00	91.7 AV			1.20 V	212	58.00	33.70
2	4824.00	53.6 PK	74.00	-20.40	1.39 V	90	12.50	41.10
2	4824.00	49.7 AV	54.00	-4.30	1.39 V	90	8.50	41.10

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level – Limit value.
4. " * " : Fundamental frequency.
5. The other emission levels were very low against the limit.

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
CHANNEL	Channel 6	**FREQUENCY RANGE**	Above 1000 MHz
MODE	CCK	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	30 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.02	103.6 PK			1.03 H	45	69.80	33.80
1	*2437.02	95.0 AV			1.03 H	45	61.20	33.80
2	4874.20	50.6 PK	74.00	-23.40	1.62 H	300	9.40	41.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.20	101.3 PK			1.09 V	263	67.60	33.80
1	*2437.20	92.8 AV			1.09 V	263	59.10	33.80
2	4874.20	53.6 PK	74.00	-20.40	1.66 V	306	12.40	41.30
2	4874.20	49.9 AV	54.00	-4.10	1.66 V	306	8.60	41.30

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level – Limit value.
4. " * " : Fundamental frequency.
5. The other emission levels were very low against the limit.

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
CHANNEL	Channel 11	**FREQUENCY RANGE**	Above 1000 MHz
MODE	CCK	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	30 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	101.6 PK			1.06 H	78	67.80	33.90
1	*2462.00	94.1 AV			1.06 H	78	60.20	33.90
2	4924.00	49.3 PK	74.00	-24.70	1.29 H	299	7.90	41.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	100.3 PK			1.13 V	200	66.50	33.90
1	*2462.00	92.0 AV			1.13 V	200	58.10	33.90
2	4924.00	52.8 PK	74.00	-21.20	1.40 V	63	11.40	41.40
2	4924.00	48.7 AV	54.00	-5.30	1.40 V	63	7.30	41.40

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level – Limit value.
4. " * " : Fundamental frequency.
5. The other emission levels were very low against the limit.

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
CHANNEL	Channel 1	**FREQUENCY RANGE**	Above 1000 MHz
MODE	OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	30 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2412.00	93.3 PK			1.35 H	56	59.60	33.70
1	*2412.00	84.3 AV			1.35 H	56	50.70	33.70
2	4824.05	48.3 PK	74.00	-25.70	1.56 H	25	7.20	41.10

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2412.00	92.3 PK			1.44 V	16	58.60	33.70
1	*2412.00	83.2 AV			1.44 V	16	49.60	33.70
2	4824.05	53.4 PK	74.00	-20.60	1.45 V	69	12.20	41.10
2	4824.05	49.0 AV	54.00	-5.00	1.45 V	69	7.80	41.10

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level – Limit value.
4. " * " : Fundamental frequency.
5. The other emission levels were very low against the limit.

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
CHANNEL	Channel 6	**FREQUENCY RANGE**	Above 1000 MHz
MODE	OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	30 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	94.2 PK			1.30 H	225	60.40	33.80
1	*2437.00	85.5 AV			1.30 H	225	51.70	33.80
2	4874.00	47.0 PK	74.00	-27.00	1.60 H	144	5.70	41.30

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2437.00	95.1 PK			1.00 V	202	61.30	33.80
1	*2437.00	86.9 AV			1.00 V	202	53.10	33.80
2	4874.00	52.4 PK	74.00	-21.60	1.66 V	305	11.10	41.30
2	4874.00	48.4 AV	54.00	-5.60	1.66 V	305	7.10	41.30

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. Margin value = Emission level – Limit value.
4. " * " : Fundamental frequency.
5. The other emission levels were very low against the limit.

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
CHANNEL	Channel 11	**FREQUENCY RANGE**	Above 1000 MHz
MODE	OFDM	**INPUT POWER (SYSTEM)**	120Vac, 60 Hz
ENVIRONMENTAL CONDITIONS	30 deg. C, 60 % RH, 991 hPa	**DETECTOR FUNCTION**	Peak / Average
TESTED BY	Steven Lu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	95.7 PK			1.03 H	89	61.80	33.90
1	*2462.00	86.6 AV			1.03 H	89	52.70	33.90
2	4924.02	51.3 PK	74.00	-22.70	1.65 H	354	9.90	41.40
2	4924.02	46.9 AV	54.00	-7.10	1.65 H	354	5.50	41.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	95.7 PK			1.09 V	242	61.80	33.90
1	*2462.00	87.0 AV			1.09 V	242	53.10	33.90
2	4924.02	52.4 PK	74.00	-21.60	2.00 V	233	11.00	41.40
2	4924.02	46.9 AV	54.00	-7.10	2.00 V	233	5.50	41.40

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. 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 24, 2003

NOTE:

1. 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 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP

4.3.6 EUT OPERATING CONDITIONS

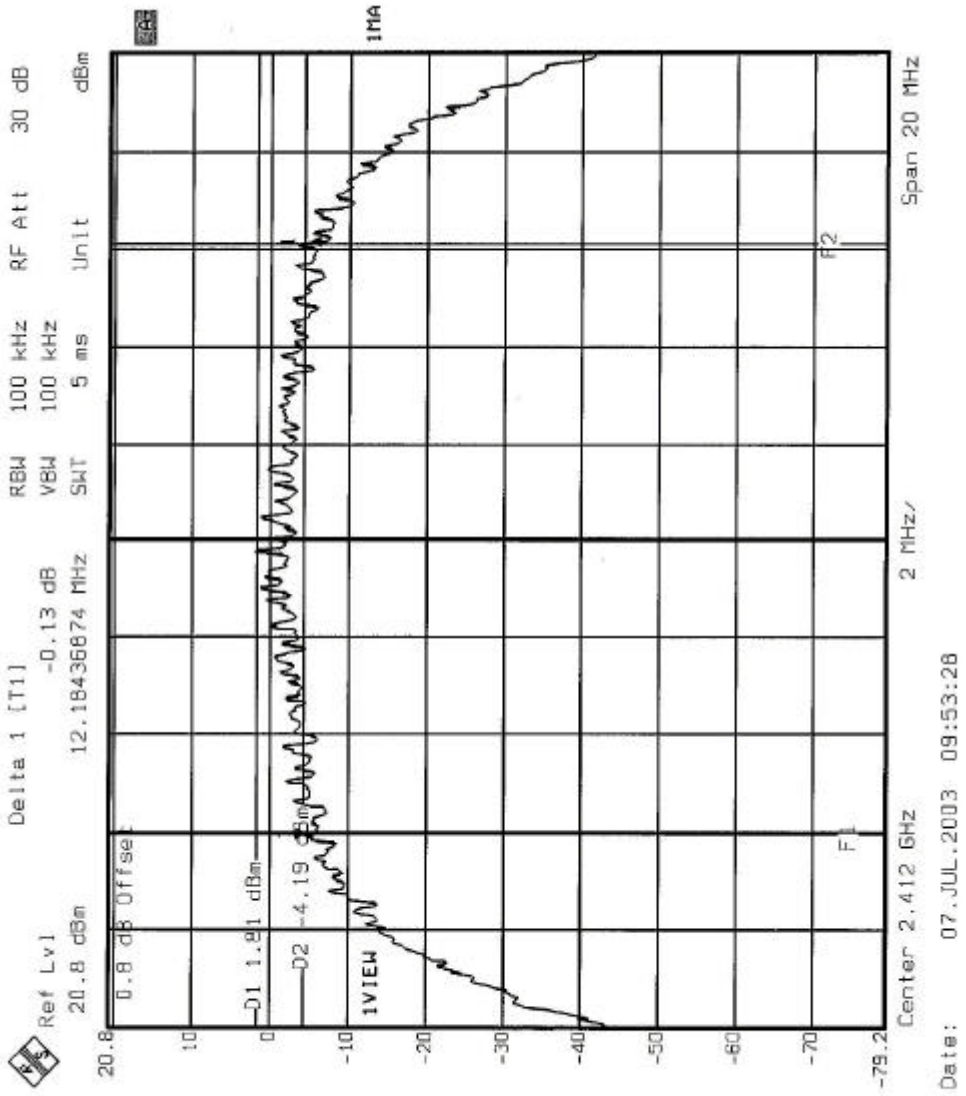
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 TEST RESULTS

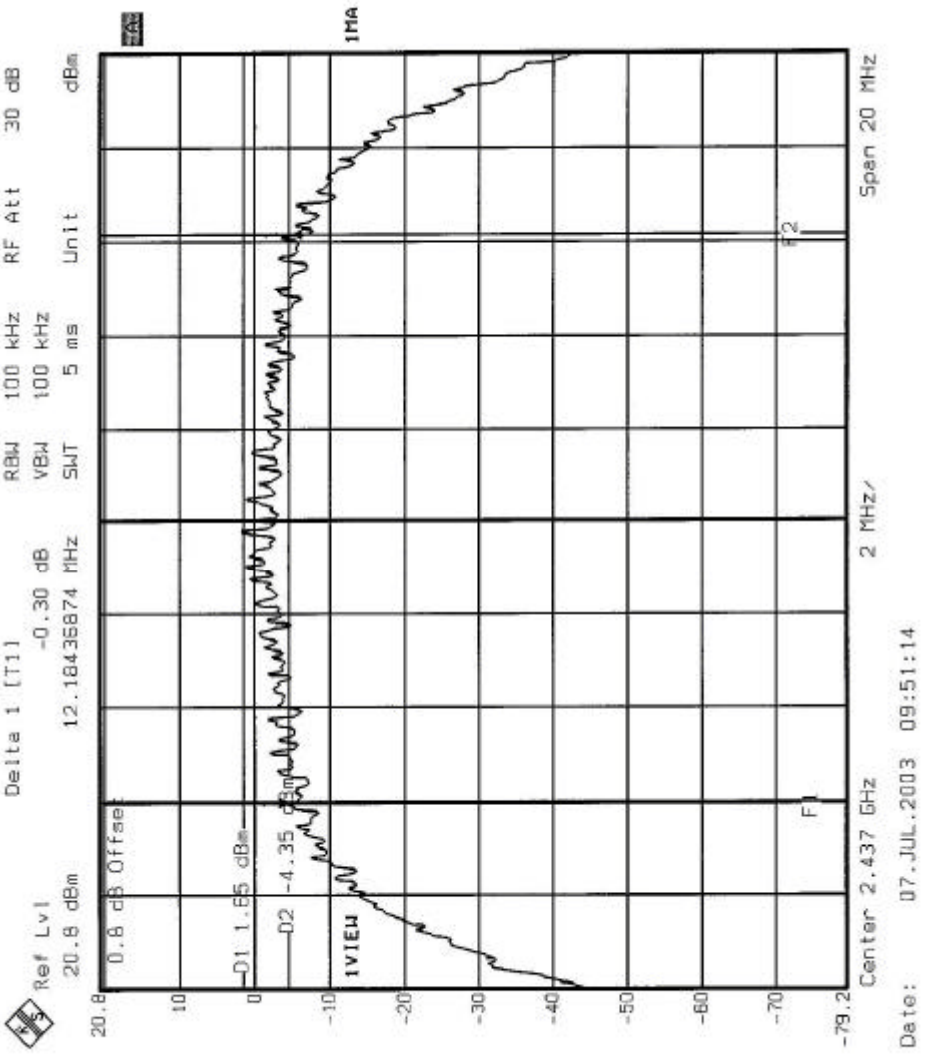
EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 68%RH, 991 hPa
MODE	CCK	**TESTED BY**	Ansen Lei

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	12.184	0.5	PASS
6	2437	12.184	0.5	PASS
11	2462	12.184	0.5	PASS

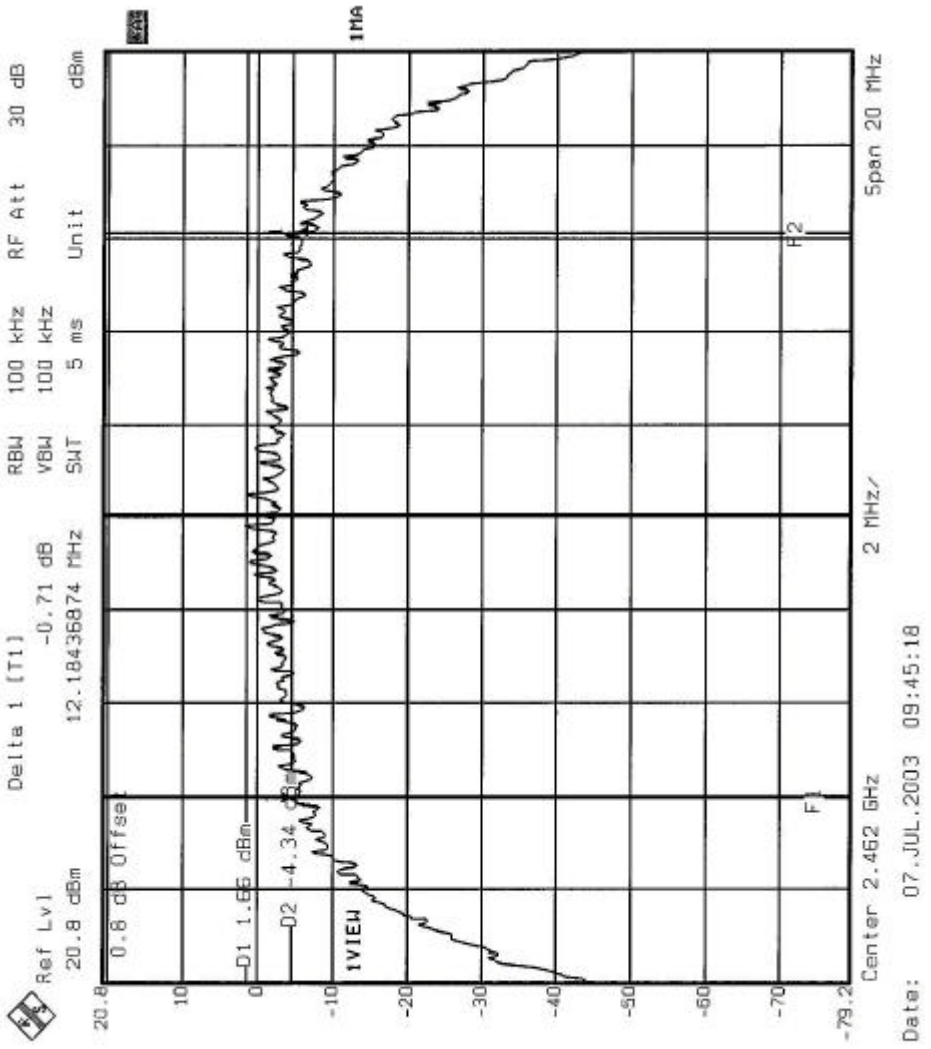
CH1


Delta 1 [T1]
-0.13 dB
12.18436874 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
D1 1.91 dBm
D2 -4.19 dBm
1VIEW
1MA
F1
F2
Center 2.412 GHz
2 MHz/
Span 20 MHz
Date: 07.JUL.2003 09:53:28
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

CH6


Ref Lvl
20.8 dBm
0.8 dB Offset
Delta 1 [T1]
-0.30 dB
12.18436874 MHz
D1 1.65 dBm
D2 -4.35 dBm
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
1VIEW
1MA
F1
F2
Center 2.437 GHz
2 MHz/
Span 20 MHz
Date: 07.JUL.2003 09:51:14
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

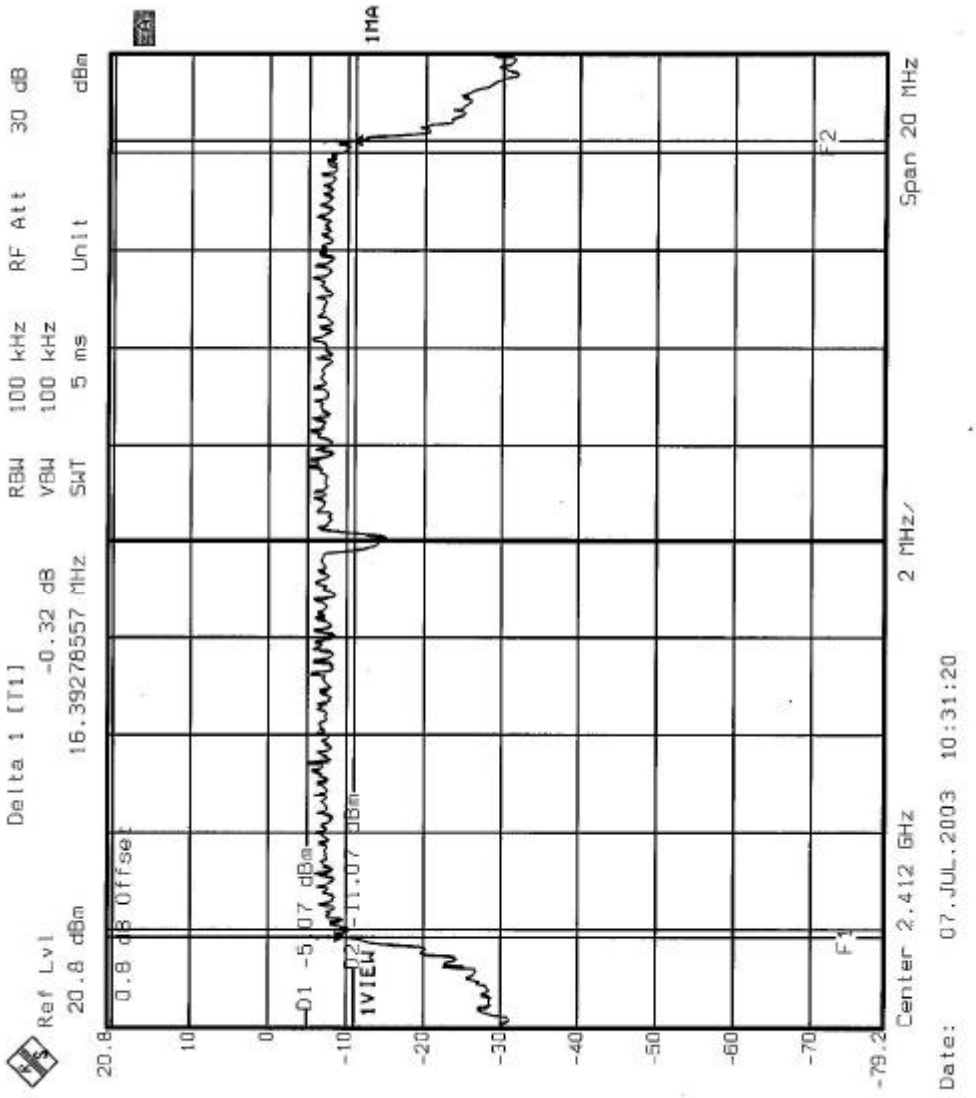
CH11


Ref Lvl
20.8 dBm
0.8 dB Offset
Delta 1 [T1]
-0.71 dB
12.18436874 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
D1 1.66 dBm
D2 -4.34 dB
1VIEW
1MA
H2
F1
Span 20 MHz
2 MHz/
Center 2.462 GHz
Data: 07.JUL.2003 09:45:18
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

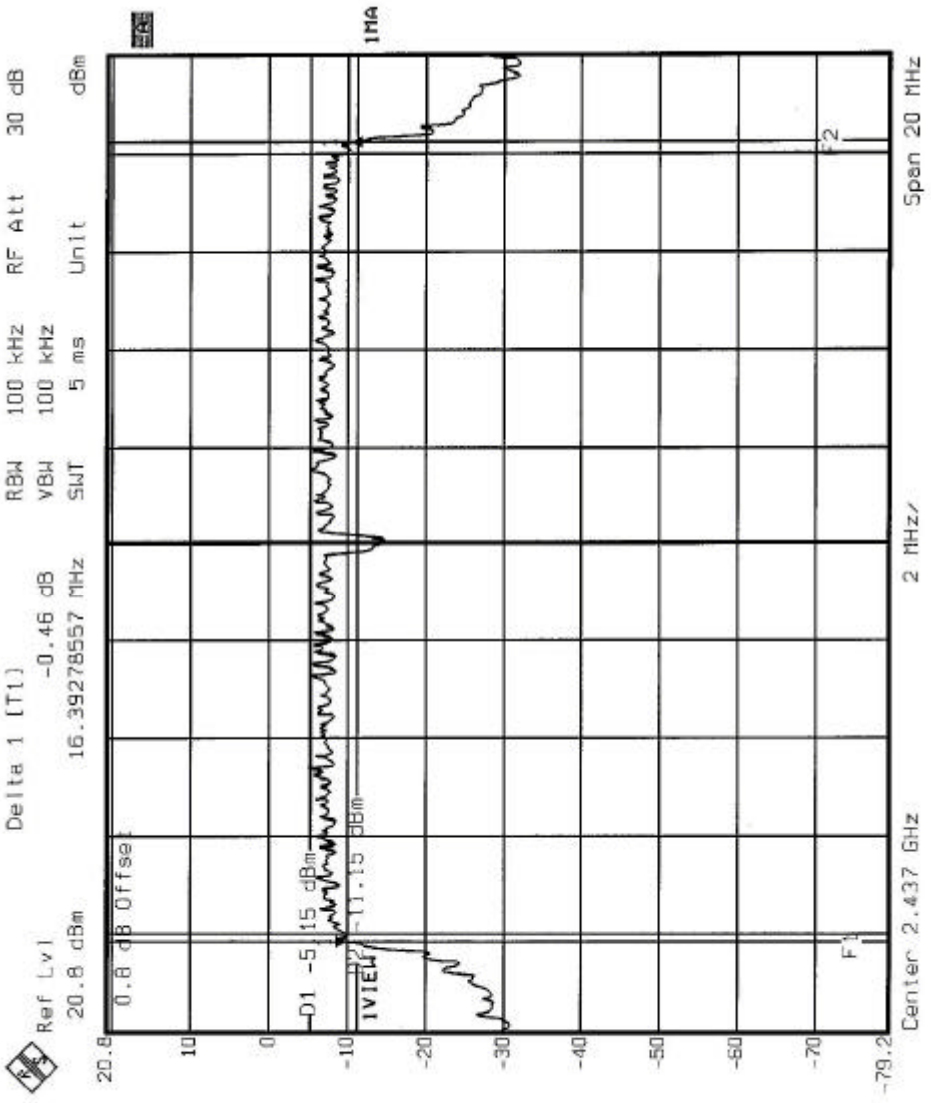
EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 68%RH, 991 hPa
MODE	OFDM	**TESTED BY**	Ansen Lei

CHANNEL	CHANNEL FREQUENCY (MHz)	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
1	2412	16.393	0.5	PASS
6	2437	16.393	0.5	PASS
11	2462	16.433	0.5	PASS

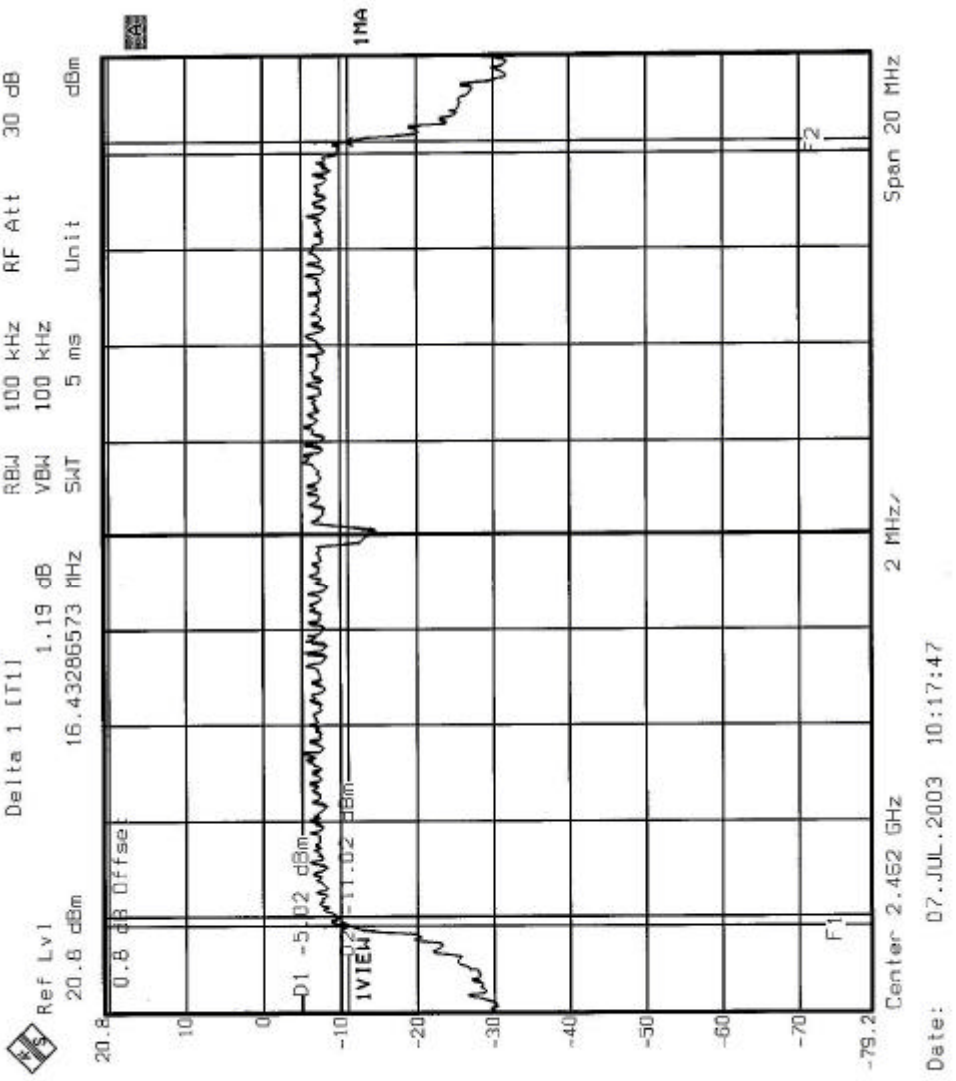
CH1


Delta 1 [T1]
-0.32 dB
16.392785557 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
D1 -5.07 dBm
D2 -11.07 dBm
1VIEW
1MA
Span 20 MHz
2 MHz/
Center 2.412 GHz
Date: 07.JUL.2003 10:31:20
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

CH6


Delta 1 [T1]
-0.46 dB
16.39278557 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
D1 -5.15 dBm
-11.15 dBm
1MA
F2
F1
Span 20 MHz
2 MHz/
Center 2.437 GHz
Date: 07.JUL.2003 10:23:38
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

CH11


Delta 1 [T1]
1.19 dB
16.43286573 MHz
RBW 100 kHz
VBW 100 kHz
SWT 5 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
D1 -5.32 dBm
1VIEW
-11.02 dBm
1MA
Span 20 MHz
2 MHz/
Center 2.462 GHz
Date: 07.JUL.2003 10:17:47
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

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
R&S SPECTRUM ANALYZER	FSEK30	100049	Jul. 24, 2003
R&S SIGNAL GENERATOR	SMP04	100011	May 28, 2004
TEKTRONIX OSCILLOSCOPE	TDS 220	B048470	Mar. 05, 2004
NARDA DETECTOR	4503A	FSCM99899	NA

NOTE:
The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

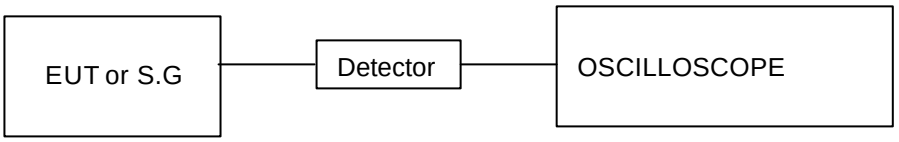
4.4.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the response of the detector.
2. Replaced the EUT by the signal generator . The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same reading on oscilloscope. Record the power level.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6

4.4.7 TEST RESULTS

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 68%RH, 991 hPa
MODE	CCK	**TESTED BY**	Ansen Lei

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	12.43	30	PASS
6	2437	12.37	30	PASS
11	2462	12.35	30	PASS

EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 68%RH, 991 hPa
MODE	OFDM	**TESTED BY**	Ansen Lei

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	12.46	30	PASS
6	2437	12.40	30	PASS
11	2462	12.36	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 24, 2003

NOTE:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

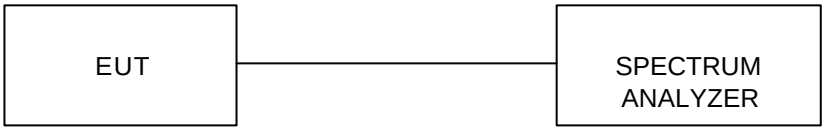
4.5.3 TEST PROCEDURE

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 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

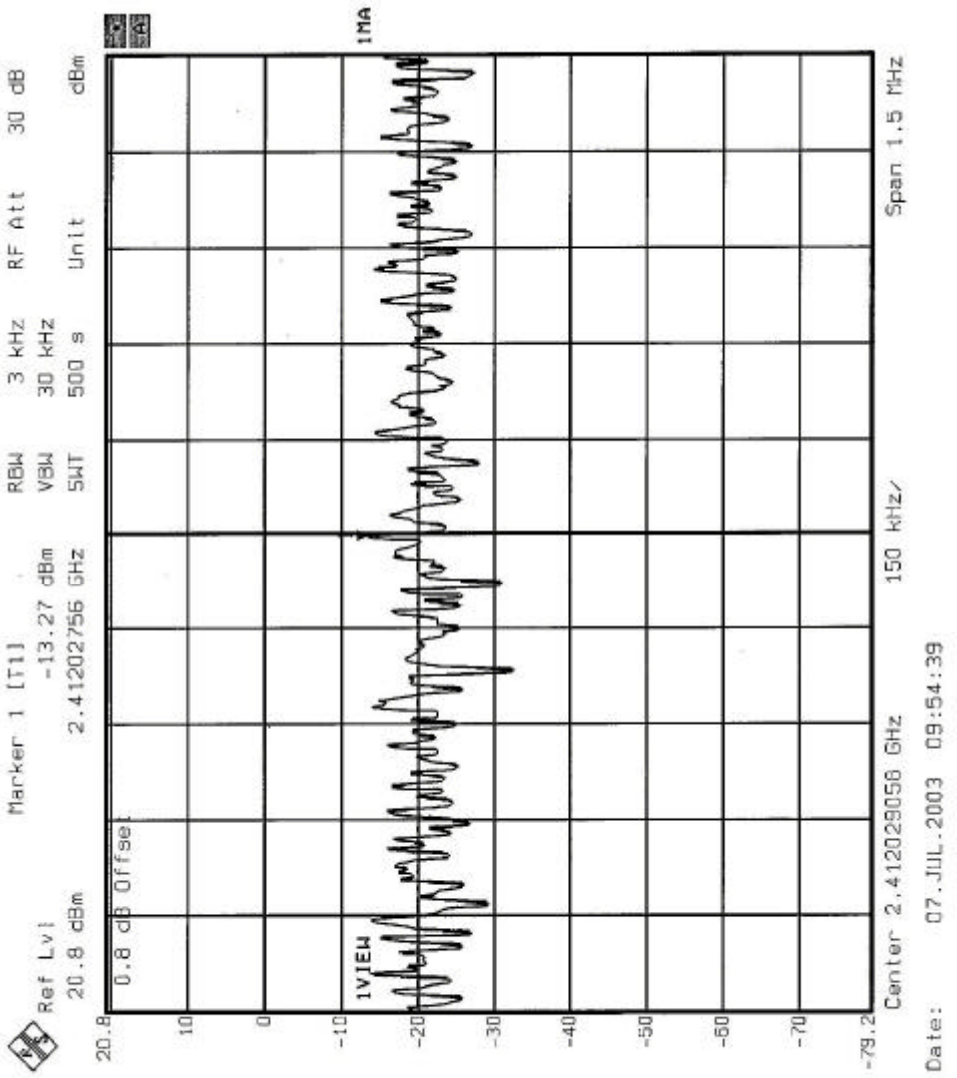
Same as 4.3.6

4.5.7 TEST RESULTS

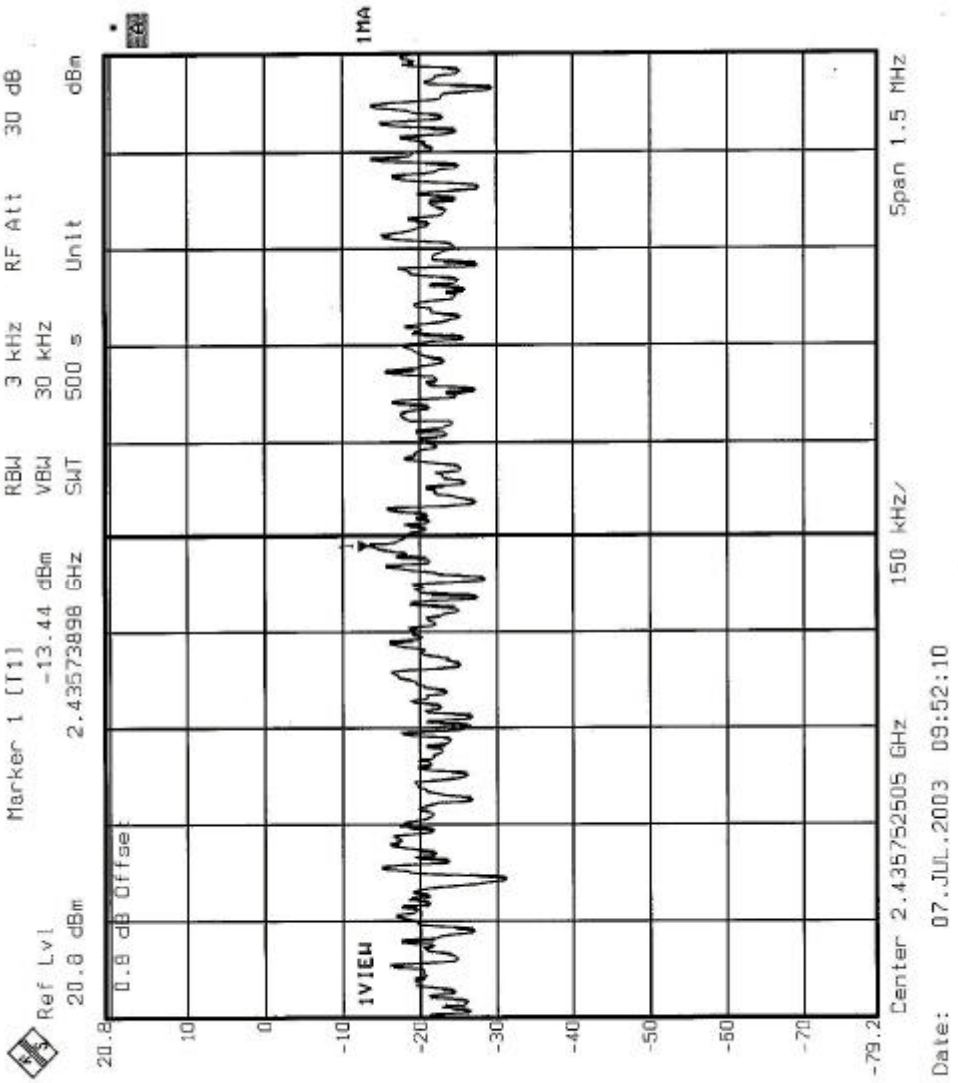
EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 68%RH, 991 hPa
MODE	CCK	**TESTED BY**	Ansen Lei

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-13.27	8	PASS
6	2437	-13.44	8	PASS
11	2462	-13.18	8	PASS

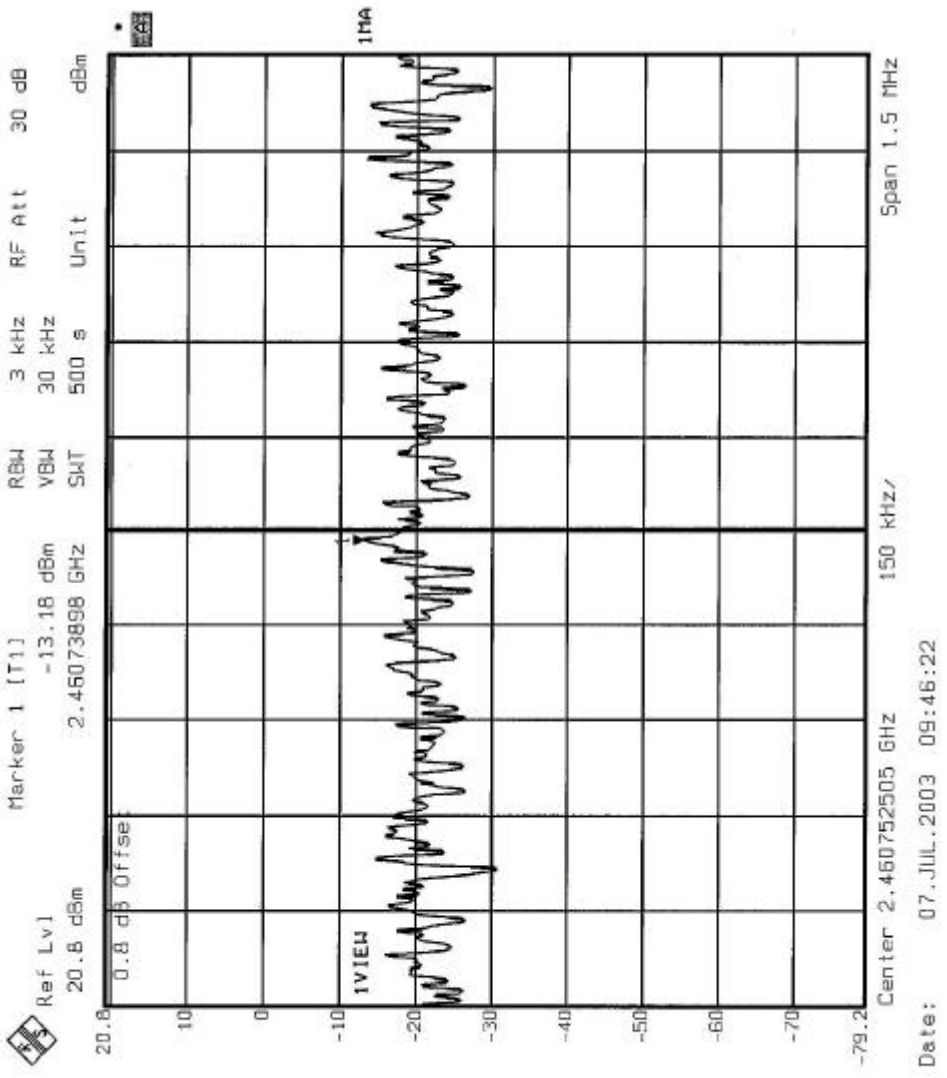
CH1


Marker 1 [T1]
-13.27 dBm
2.41202756 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
1VIEW
1MA
Center 2.41202956 GHz
150 kHz/
Span 1.5 MHz
Date: 07.JUL.2003 09:54:39
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

CH6


Ref Lvl
20.8 dBm
0.8 dB Offset
Marker 1 [T1]
-13.44 dBm
2.43573898 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
1MA
1VIEW
Center 2.435752505 GHz
150 kHz/
Span 1.5 MHz
Date: 07.JUL.2003 09:52:10

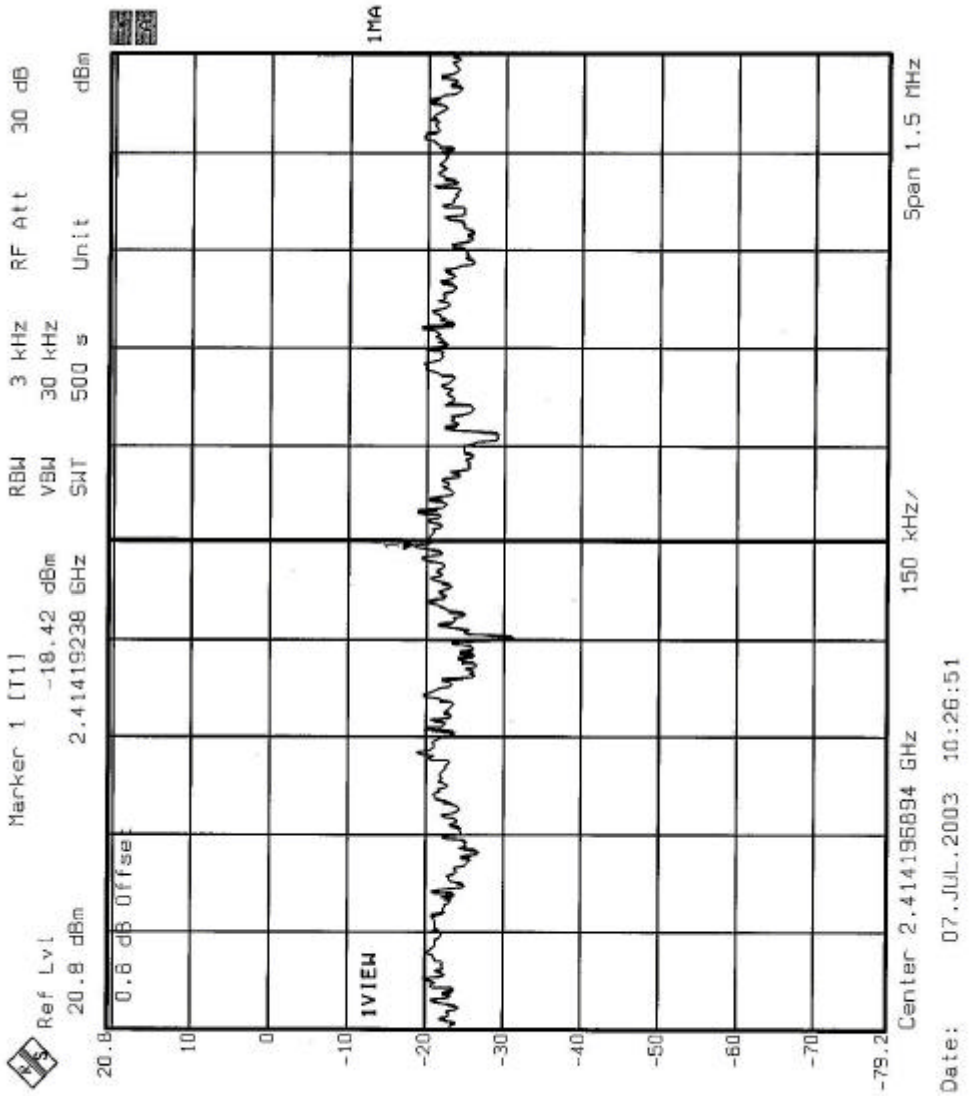
CH11


Marker 1 [T1]
-13.18 dBm
2.46073898 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
1VIEW
1MA
Center 2.460752505 GHz
150 kHz/
Span 1.5 MHz
Date: 07.JUL.2003 09:46:22
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

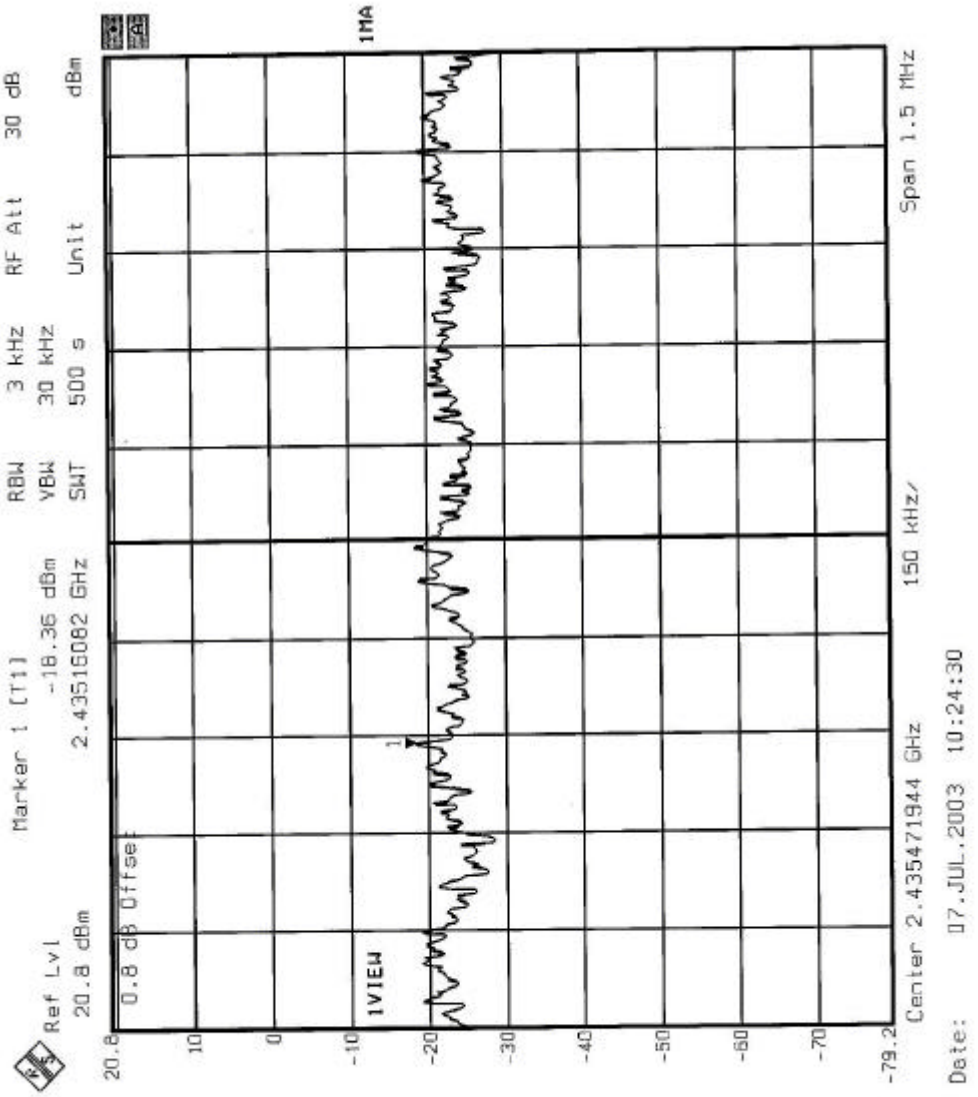
EUT	IEEE 802.11G WLAN Card Bus	**MODEL**	CB-G-IN-01
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	26 deg. C, 68%RH, 991 hPa
MODE	OFDM	**TESTED BY**	Ansen Lei

CHANNEL NUMBER	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 3 KHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	2412	-18.42	8	PASS
6	2437	-18.36	8	PASS
11	2462	-18.36	8	PASS

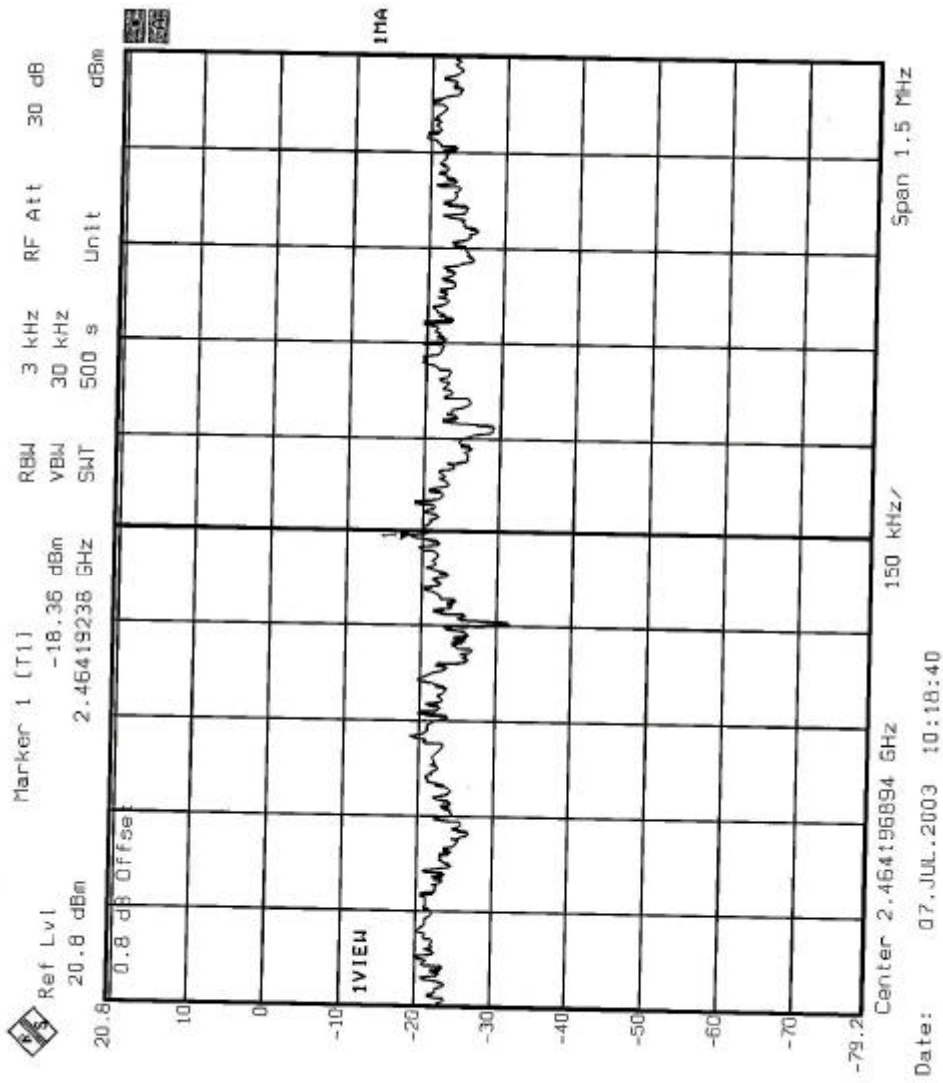
CH1


Ref Lvl
20.8 dBm
0.8 dB Offset
Marker 1 [T1]
-18.42 dBm
2.414192238 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
1MA
1VIEW
Center 2.414196894 GHz
150 kHz/
Span 1.5 MHz
Date: 07.JUL.2003 10:26:51
20.8
10
0
-10
-20
-30
-40
-50
-60
-70
-79.2

CH6


Ref Lvl
20.8 dBm
0.8 dB Offset
Marker 1 [T1]
-18.36 dBm
2.43516082 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
1MA
1VIEW
Span 1.5 MHz
150 kHz/
Center 2.435471944 GHz
Date: 07.JUL.2003 10:24:30

CH11


Marker 1 [T1]
-18.36 dBm
2.46419238 GHz
RBW 3 kHz
VBW 30 kHz
SWT 500 s
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offse
1VIEW
1MA
Span 1.5 MHz
150 kHz/
Center 2.464196894 GHz
Date: 07.JUL.2003 10:18:40

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 24, 2003

NOTE:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.6.3 TEST PROCEDURE

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

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 EUT OPERATING CONDITION

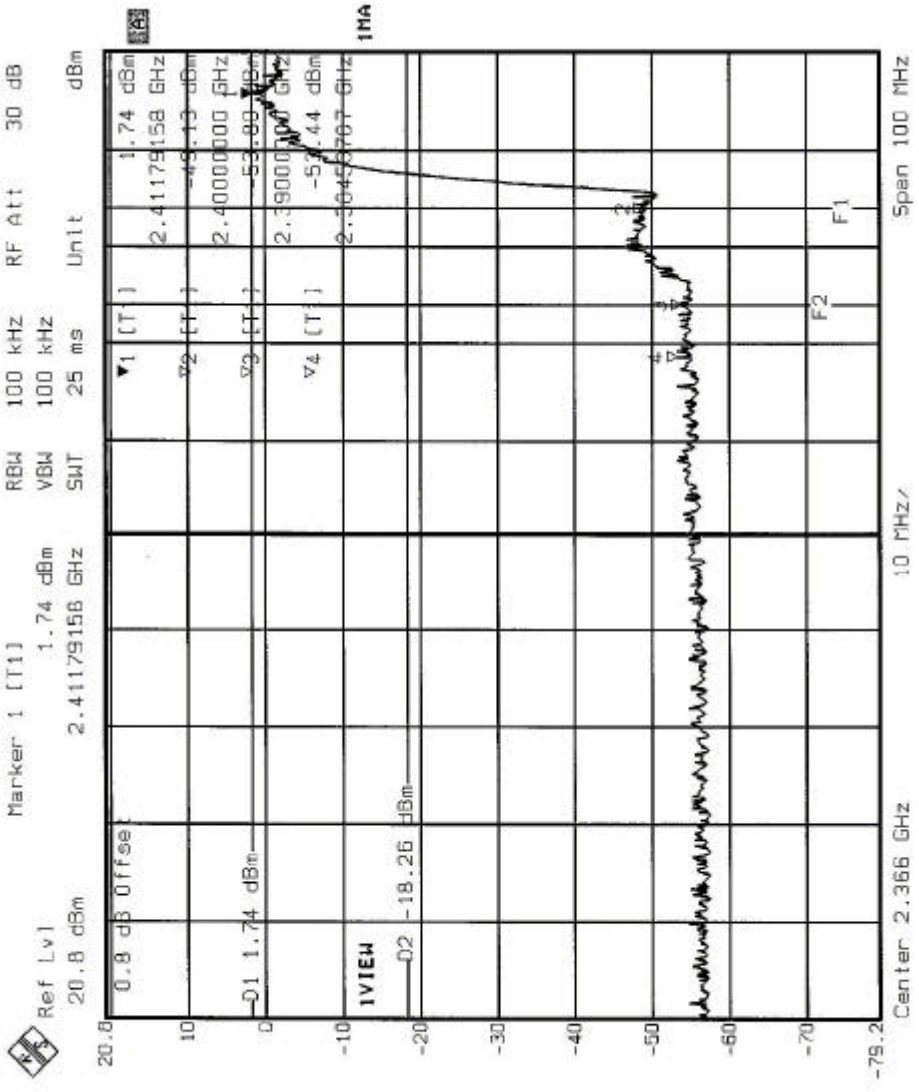
Same as Item 4.3.6

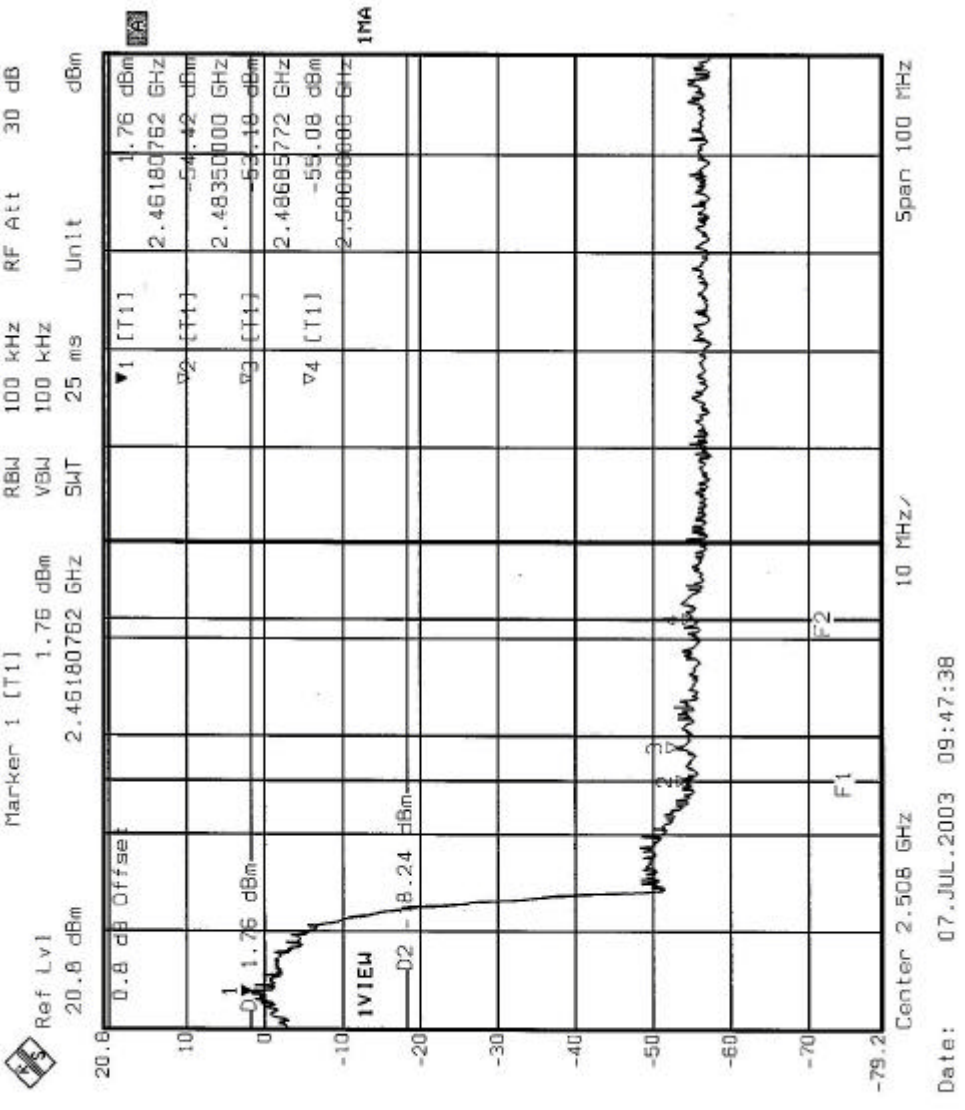
4.6.6 TEST RESULTS

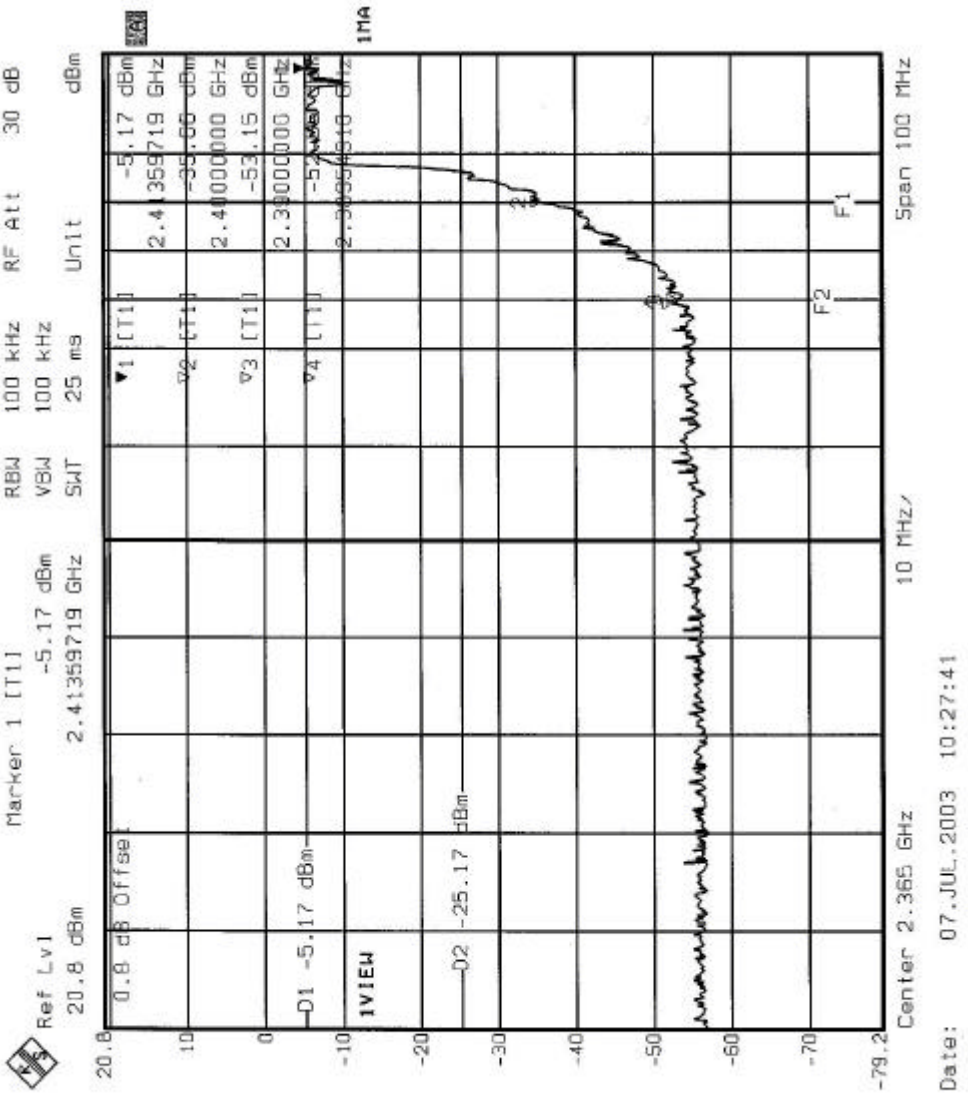
The spectrum plots are attached on the following 2 pages. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.247(C).

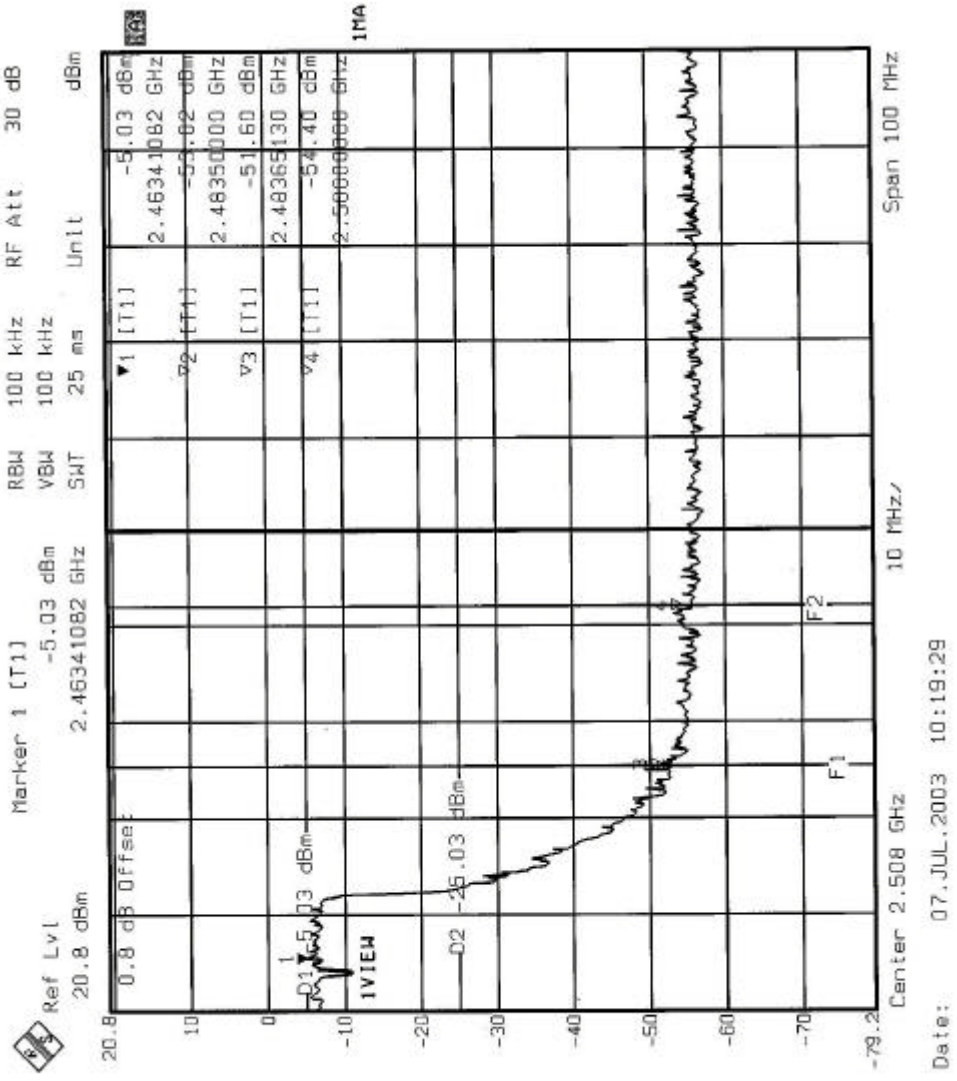
NOTE1: The band edge emission plot on the following 1-2 page shows 55.18dB / 54.94dB delta between carrier maximum power and local maximum emission in restrict band (2.38453GHz / 2.48685GHz). The emission of carrier strength list in the test result of channel 11 of CCK mode at the item 4.2.7 (page 25) is 92.10dBuV/m, so the maximum field strength in restrict band is 92.10-55.18=36.92 dBuV/m which is under 54 dBuV/m limit.

NOTE2: The band edge emission plot on the following 3-4 pages shows 57.83dB / 56.63dB delta between carrier maximum power and local maximum emission in restrict band (2.38954 GHz / 2.48365GHz). The emission of carrier strength list in the test result of channel 11 of OFDM mode at the item 4.2.7 (page 30) is 85.4dBuV/m, so the maximum field strength in restrict band is 85.4-56.63=28.77dBuV/m which is under 54dBuV/m limit.


Marker 1 [T1]
1.74 dBm
2.4117915B GHz
RBW 100 kHz
VBW 100 kHz
SWT 25 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
D1 1.74 dBm
D2 -18.26 dBm
1VIEW
Center 2.366 GHz
10 MHz/
Span 100 MHz
Date: 07.JUL.2003 09:55:22


Marker 1 [T1]
1.76 dBm
2.46180762 GHz
RBW 100 kHz
VBW 100 kHz
SWT 25 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
1VIEW
D2 -8.24 dBm
Center 2.508 GHz
10 MHz/
Span 100 MHz
Date: 07.JUL.2003 09:47:38


Marker 1 [T1]
-5.17 dBm
2.41359719 GHz
RBW 100 kHz
VBW 100 kHz
SWT 25 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
D1 -5.17 dBm
D2 -25.17 dBm
1VIEW
1MA
F1
F2
Center 2.365 GHz
10 MHz/
Span 100 MHz
Date: 07.JUL.2003 10:27:41


Marker 1 [T1]
-5.03 dBm
2.46341082 GHz
RBW 100 kHz
VBW 100 kHz
SWT 25 ms
RF Att 30 dB
Unit dBm
Ref Lvl
20.8 dBm
0.8 dB Offset
1VIEW
D1 -5.03 dBm
D2 -25.03 dBm
F1
F2
Center 2.508 GHz
10 MHz/
Span 100 MHz
Date: 07.JUL.2003 10:19:29

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

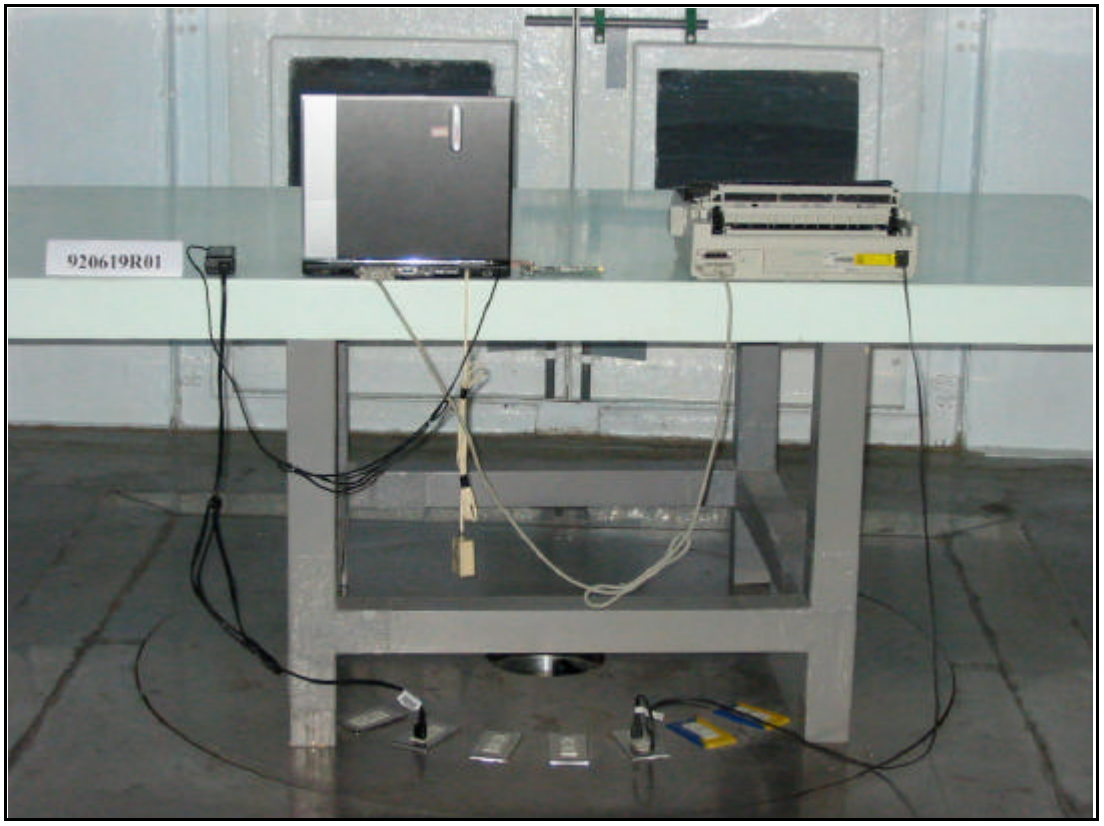
The antenna used in this product is Printed Antenna without antenna connector. The maximum Gain of this antenna is 1.434dBi.

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

CONDUCTED EMISSION TEST


920619R01

RADIATED EMISSION TEST




920619R01

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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Fax: 886-2-26052943

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Fax: 886-35-935342

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Tel: 886-3-3270910
Fax: 886-3-3270892

Email: service@mail.adt.com.tw
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The address and road map of all our labs can be found in our web site also.