FCC TEST REPORT

REPORT NO.: RF930607L08E
MODEL NO.: CG-WLPCI54GS
RECEIVED: Aug. 02, 2005
TESTED: Aug. 03, 2005
ISSUED: Aug. 12, 2005

APPLICANT: Alpha Networks Inc.

ADDRESS: NO.8,Li Hsing Rd VII ,SCIENCE-BASED INDUSTRIAL PARK,HSINCHU,TAIWAN,R.O.C.

ISSUED BY: Advance Data Technology Corporation

LAB LOCATION: No. 81-1, Lu Liao Keng, 9 Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien, Taiwan, R.O.C.

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Table of Contents

1 CERTIFICATION 3
2 SUMMARY OF TEST RESULTS 4
3 GENERAL INFORMATION 5
3.1 GENERAL DESCRIPTION OF EUT 5
3.2 DESCRIPTION OF TEST MODES 7
3.3 TEST MODE APPLICABLITY AND TESTED CHANNEL DETAIL: 8
3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS 9
3.5 DESCRIPTION OF SUPPORT UNITS 10
3.6 CONFIGURATION OF SYSTEM UNDER TEST 11
4 TEST TYPES AND RESULTS 12
4.1 RADIATED EMISSION MEASUREMENT 12
4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT 12
4.1.2 TEST INSTRUMENTS 13
4.1.3 TEST PROCEDURES 14
4.1.4 TEST SETUP 15
4.1.5 EUT OPERATING CONDITIONS 15
4.1.6 TEST RESULTS 16
4.1.7 TEST RESULTS – DSSS 17
4.1.8 TEST RESULTS – OFDM 20
4.2 MAXIMUM PEAK OUTPUT POWER 24
4.2.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT 24
4.2.2 TEST INSTRUMENTS 24
4.2.3 TEST PROCEDURES 25
4.2.4 TEST SETUP 25
4.2.5 EUT OPERATING CONDITIONS 25
4.2.6 TEST RESULTS – DSSS 26
4.2.7 TEST RESULTS – OFDM 27
4.3 BAND EDGES MEASUREMENT 28
4.3.1 LIMITS OF BAND EDGES MEASUREMENT 28
4.3.2 TEST INSTRUMENTS 28
4.3.3 TEST PROCEDURE 28
4.3.4 EUT OPERATING CONDITION 28
4.3.5 TEST RESULTS – DSSS 29
4.3.6 TEST RESULTS – OFDM 32
4.4 ANTENNA REQUIREMENT 35
4.4.1 STANDARD APPLICABLE 35
4.4.2 ANTENNA CONNECTED CONSTRUCTION 35
5 PHOTOGRAPHS OF THE TEST CONFIGURATION 36
6 INFORMATION ON THE TESTING LABORATORIES 37

1 CERTIFICATION

PRODUCT :	108M Wireless PCI Adapter
BRAND NAME :	corega K.K.
MODEL NO. :	CG-WLPCI54GS
TESTED:	Aug. 03, 2005
APPLICANT :	Alpha Networks Inc.
TEST ITEM:	ENGINEERING SAMPLE
STANDARDS :	47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-2003

The above equipment (Model: CG-WLPCI54GS) has been tested by **Advance Data Technology Corporation**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Midoli Peng , **DATE:** Aug. 12, 2005
(Midoli Peng)

TECHNICAL ACCEPTANCE : Hank Chung , **DATE:** Aug. 12, 2005
Responsible for RF
(Hank Chung)

APPROVED BY : May , **DATE:** Aug. 12, 2005
(May Chen, Deputy 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**
15.247(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 –1.1 dB at 2483.5 MHz
15.247(c)	Band Edge Measurement Limit: 20 dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

NOTE: This report is prepared for FCC class II permissive change. Only radiated emission, Maximum Peak Output Power and Band Edge Measurement conducted emission were presented in this test report.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	108M Wireless PCI Adapter
MODEL NO.	CG-WLPCI54GS
POWER SUPPLY	5Vdc from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
RADIO TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps (Turbo mode: up to 108Mbps *see Note 2)
FREQUENCY RANGE	802.11b & 802.11g: 2412 ~ 2462MHz
NUMBER OF CHANNEL	802.11b & 802.11g: 11 (1 for 802.11g Turbo mode)
CHANNEL SPACING	802.11b & 802.11g: 5MHz
OUTPUT POWER	21.00 dBm
ANTENNA TYPE	Dipole antenna
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. This report is prepared for FCC class II permissive change. The difference compared with the original design is as the following:

   ◆ Add a new antenna and redo partial PCB layout:

Antenna Type	Gain (dBi)	Antenna Connector	Cable loss (dB)
Dipole	5dBi	SMA Plug Reverse	2.7dB

2. The EUT operates in both the 2.4GHz Bands and compatibility with 802.11b, 802.11g technology.

3. The EUT is capable of providing data rates of up to 108 Mbps in 802.11g Turbo mode depending upon reception quality.

4. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

For 802.11b/g normal mode: 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		

For 802.11g turbo mode: One channel is provided to this EUT

Channel	Frequency
6	2437 MHz

3.3 TEST MODE APPLICABLITY AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
-	NA	x	x	x	NA

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz APCM: Antenna Port Conducted Measurement

Radiated Emission Test (Below 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11g	1 to 11	11	OFDM	BPSK	6

Radiated Emission Test (Above 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	CCK	11
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11g turbo	6	6	OFDM	BPSK	12

Bandedge Measurement:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 11	DSSS	CCK	11
802.11g	1 to 11	1, 11	OFDM	BPSK	6
802.11g turbo	6	6	OFDM	BPSK	12

Antenna Port Conducted Measurement:

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	CCK	11
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6
802.11g turbo	6	6	OFDM	BPSK	12

3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 108M Wireless PCI Adapter. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C. (15.247)
ANSI C63.4 : 2003

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 47 CFR Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.5 DESCRIPTION OF SUPPORT UNITS

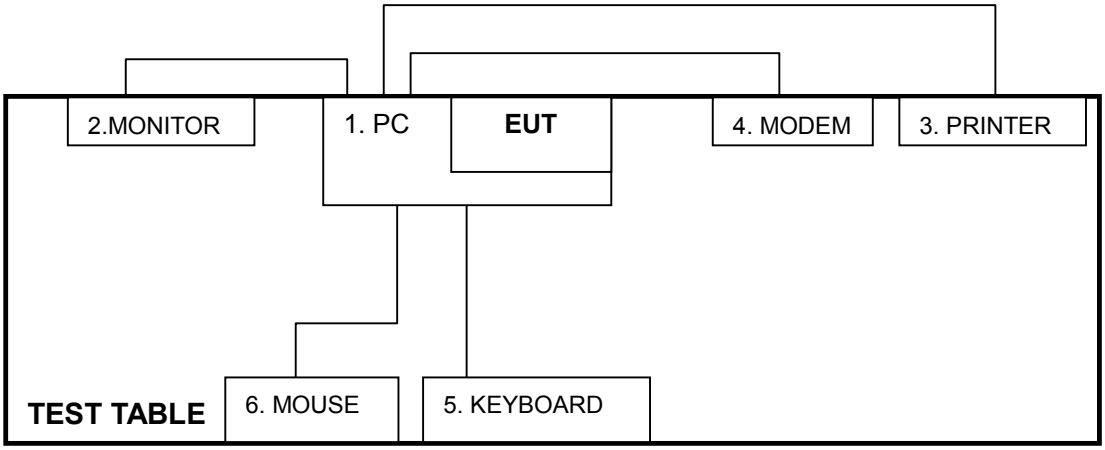
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	PERSONAL COMPUTER	DELL	4600	00043-517-542-487	DoC
2	MONITOR	ADI	CM100	026058T10200628 A	DoC
3	PRINTER	HP	C2642A	MY79F1C3MZ	B94C2642X
4	MODEM	ACEEX	1414	0206026776	IFAXDM1414
5	KEYBOARD	BTC	KB-5200T	N23305028	E5XKB5122WTH0110
6	PS/2 MOUSE	BTC	M851	G00347024432	NA

No.	Signal cable description
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core.
3	1.9m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core
4	1.0 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
5	1.4 m foil shielded wire, terminal by frame, PS2 Connector, w/o Core.
6	1.4 m foil shielded wire, terminal by frame, PS2 Connector, w/o Core.

Note: 1. All power cords of the above support units are unshielded (1.8m).

3.6 CONFIGURATION OF SYSTEM UNDER TEST



NOTE: 1. Please refer to the photos of test configuration in Item 5 also.

4 TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 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 (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.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ADVANTEST Spectrum Analyzer	R3271A	85060311	July 07, 2006
HP Pre_Amplifier	8449B	3008A01922	Oct. 13, 2005
ROHDE & SCHWARZ Test Receiver	ESCS30	100287	Dec. 08, 2005
CHASE Broadband Antenna	VULB9168	138	Dec. 21, 2005
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 11, 2005
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 30, 2006
SCHWARZBECK Biconical Antenna	VHBA9123	459	Jun. 26, 2006
SCHWARZBECK Periodic Antenna	UPA6108	1148	Jun. 26, 2006
RF Switches (ARNITSU)	CS-201	1565157	NA
RF CABLE (Chaintek) 1GHz-20GHz	SF102	22054-2	Nov. 15. 2005
RF Cable(RICHTEC)	9913-30M	STCCAB-30M-1GHz-021	Jul. 16, 2006
Software	ADT_Radiated_V 5.14	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Periodic Antenna)and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in ADT Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 4824-3.

4.1.3 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.

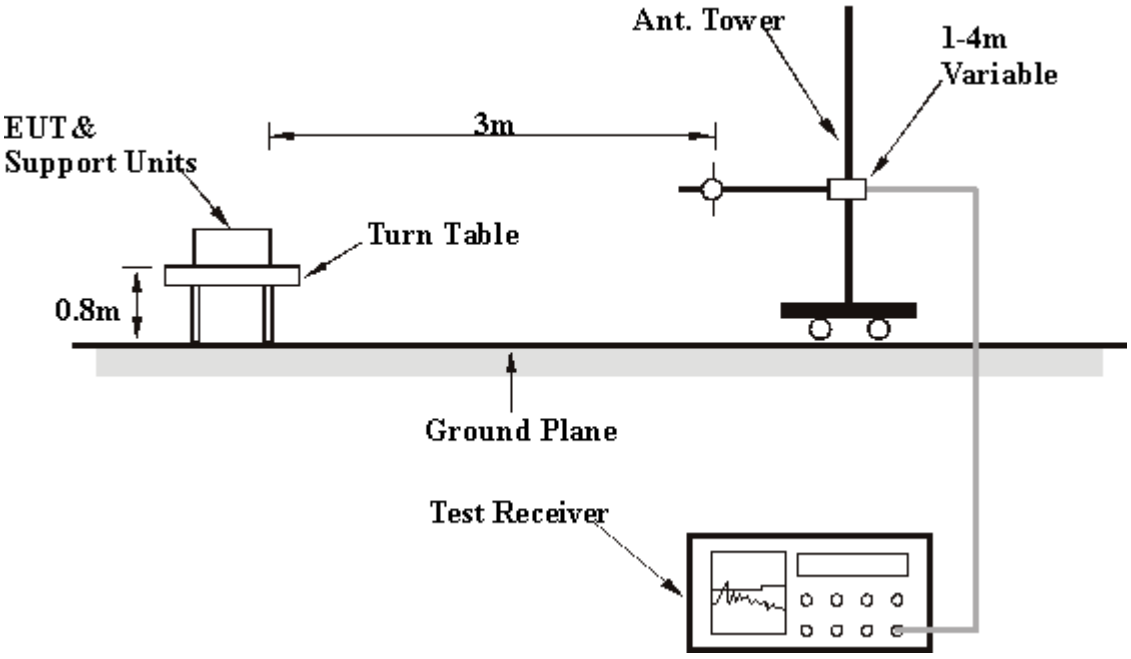
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

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.

4.1.4 TEST SETUP



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

4.1.5 EUT OPERATING CONDITIONS

a. Plug the EUT into the support unit 1 (personal computer).

b. The support unit 1 (personal computer) ran a test program “ART V51 build8” to enable EUT under transmission condition continuously at specific channel frequency.

c. PC sends "H" messages to modem.

d. PC sends "H" messages to printer, and the printer prints them on paper.

4.1.6 TEST RESULTS

EUT	108M Wireless PCI Adapter	**MODEL**	CG-WLPCI54GS
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	26 deg. C, 64%RH, 970 hPa	**TESTED BY**	Sky Liao

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	144.00	20.90 QP	43.50	-22.60	1.48 H	22	7.70	13.20
2	200.00	25.40 QP	43.50	-18.10	1.05 H	182	14.20	11.20
3	333.85	25.90 QP	46.00	-20.10	1.21 H	315	9.30	16.60
4	580.06	31.90 QP	46.00	-14.10	1.20 H	28	8.90	23.00
5	787.50	32.20 QP	46.00	-13.80	1.26 H	306	5.60	26.60
6	816.00	37.70 QP	46.00	-8.30	1.06 H	47	10.90	26.90
7	899.95	38.70 QP	46.00	-7.30	1.00 H	184	10.80	27.90

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	144.00	21.10 QP	43.50	-22.40	1.01 V	307	7.80	13.20
2	200.00	24.20 QP	43.50	-19.30	1.00 V	94	13.00	11.20
3	333.72	24.60 QP	46.00	-21.40	1.02 V	353	8.00	16.60
4	580.00	28.10 QP	46.00	-17.90	1.01 V	22	5.10	23.00
5	787.50	32.80 QP	46.00	-13.20	1.00 V	326	6.20	26.60
6	816.00	39.60 QP	46.00	-6.40	1.00 V	331	12.80	26.90
7	899.95	38.30 QP	46.00	-7.70	1.00 V	17	10.40	27.90

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

4.1.7 TEST RESULTS – DSSS

EUT	108M Wireless PCI Adapter	**MODEL**	CG-WLPCI54GS
MODE	Channel 1	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 53%RH, 970 hPa	**TESTED BY**	Tony Chen

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	2390.00	50.10 PK	74.00	-23.90	1.57 H	241	16.40	33.70
1	2390.00	44.20 AV	54.00	-9.80	1.57 H	241	10.50	33.70
2	*2412.00	97.40 PK			1.57 H	241	67.60	29.80
2	*2412.00	91.80 AV			1.57 H	241	62.00	29.80
3	3216.00	38.70 PK	74.00	-35.30	1.51 H	223	6.60	32.00
3	3216.00	30.80 AV	54.00	-23.20	1.51 H	223	-1.20	32.00
4	4824.00	38.20 PK	74.00	-35.80	1.27 H	236	3.10	35.10
4	4824.00	29.50 AV	54.00	-24.50	1.27 H	236	-5.60	35.10
5	7236.00	44.20 PK	74.00	-29.80	2.10 H	222	3.70	40.50
5	7236.00	34.50 AV	54.00	-19.50	2.10 H	222	-6.00	40.50
6	9648.00	43.10 PK	74.00	-30.90	2.25 H	147	-0.70	43.80
6	9648.00	34.70 AV	54.00	-19.30	2.25 H	147	-9.10	43.80

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	2390.00	53.80 PK	74.00	-20.20	1.40 V	251	20.10	33.70
1	2390.00	46.30 AV	54.00	-7.70	1.40 V	251	12.60	33.70
2	*2412.00	111.80 PK			1.40 V	251	82.00	29.80
2	*2412.00	105.30 AV			1.40 V	251	75.50	29.80
3	3216.00	42.70 PK	74.00	-31.30	1.88 V	162	10.60	32.00
3	3216.00	37.30 AV	54.00	-16.70	1.88 V	162	5.30	32.00
4	4824.00	37.40 PK	74.00	-36.60	1.26 V	2	2.30	35.10
4	4824.00	29.00 AV	54.00	-25.00	1.26 V	2	-6.10	35.10
5	7236.00	45.20 PK	74.00	-28.80	1.13 V	324	4.70	40.50
5	7236.00	34.90 AV	54.00	-19.10	1.13 V	324	-5.60	40.50
6	9648.00	43.20 PK	74.00	-30.80	1.15 V	308	-0.60	43.80
6	9648.00	34.20 AV	54.00	-19.80	1.15 V	308	-9.60	43.80

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	108M Wireless PCI Adapter	MODEL	CG-WLPCI54GS
MODE	Channel 6	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 53%RH, 970 hPa	TESTED BY	Tony Chen

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	*2437.00	96.80 PK			1.52 H	242	66.90	29.90
1	*2437.00	90.30 AV			1.52 H	242	60.30	29.90
2	3249.00	36.50 PK	74.00	-37.50	1.78 H	148	4.40	32.10
2	3249.00	28.00 AV	54.00	-26.00	1.78 H	148	-4.10	32.10
3	4874.00	41.40 PK	74.00	-32.60	1.12 H	253	6.10	35.30
3	4874.00	29.80 AV	54.00	-24.20	1.12 H	253	-5.50	35.30
4	7311.00	45.60 PK	74.00	-28.40	1.27 H	142	5.00	40.70
4	7311.00	35.50 AV	54.00	-18.50	1.27 H	142	-5.20	40.70
5	9748.00	42.60 PK	74.00	-31.40	1.23 H	247	-1.00	43.60
5	9748.00	34.50 AV	54.00	-19.50	1.23 H	247	-9.10	43.60

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	*2437.00	114.20 PK			1.38 V	250	84.20	29.90
1	*2437.00	107.40 AV			1.38 V	250	77.50	29.90
2	3249.00	40.70 PK	74.00	-33.30	1.22 V	153	8.60	32.10
2	3249.00	35.90 AV	54.00	-18.10	1.22 V	153	3.80	32.10
3	4874.00	39.80 PK	74.00	-34.20	1.24 V	214	4.50	35.30
3	4874.00	30.80 AV	54.00	-23.20	1.24 V	214	-4.50	35.30
4	7311.00	46.60 PK	74.00	-27.40	1.27 V	58	5.90	40.70
4	7311.00	36.20 AV	54.00	-17.80	1.27 V	58	-4.50	40.70
5	9748.00	42.50 PK	74.00	-31.50	1.23 V	222	-1.10	43.60
5	9748.00	34.50 AV	54.00	-19.50	1.23 V	222	-9.10	43.60

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	108M Wireless PCI Adapter	**MODEL**	CG-WLPCI54GS
MODE	Channel 11	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 53%RH, 970 hPa	**TESTED BY**	Tony Chen

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	*2462.00	96.30 PK			1.46 H	251	66.20	30.00
1	*2462.00	90.40 AV			1.46 H	251	60.40	30.00
2	2483.50	39.70 PK	74.00	-34.30	1.46 H	251	9.60	30.10
2	2483.50	32.00 AV	54.00	-22.00	1.46 H	251	1.90	30.10
3	3282.00	39.40 PK	74.00	-34.60	1.25 H	258	7.30	32.20
3	3282.00	29.10 AV	54.00	-24.90	1.25 H	258	-3.00	32.20
4	4924.00	35.70 PK	74.00	-38.30	1.04 H	234	0.10	35.50
4	4924.00	28.90 AV	54.00	-25.10	1.04 H	234	-6.60	35.50
5	7386.00	44.30 PK	74.00	-29.70	1.11 H	24	3.40	40.80
5	7386.00	35.30 AV	54.00	-18.70	1.11 H	24	-5.50	40.80
6	9848.00	43.50 PK	74.00	-30.50	1.06 H	360	0.10	43.40
6	9848.00	34.10 AV	54.00	-19.90	1.06 H	360	-9.30	43.40

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	*2462.00	114.20 PK			1.29 V	252	84.10	30.00
1	*2462.00	107.60 AV			1.29 V	252	77.50	30.00
2	2483.50	57.60 PK	74.00	-16.40	1.29 V	252	27.50	30.10
2	2483.50	49.20 AV	54.00	-4.80	1.29 V	252	19.10	30.10
3	3282.00	41.30 PK	74.00	-32.70	1.22 V	360	9.20	32.20
3	3282.00	33.80 AV	54.00	-20.20	1.22 V	360	1.60	32.20
4	4924.00	38.50 PK	74.00	-35.50	1.24 V	236	3.00	35.50
4	4924.00	30.90 AV	54.00	-23.10	1.24 V	236	-4.60	35.50
5	7386.00	47.40 PK	74.00	-26.60	1.04 V	298	6.60	40.80
5	7386.00	36.30 AV	54.00	-17.70	1.04 V	298	-4.50	40.80
6	9848.00	44.20 PK	74.00	-29.80	1.11 V	20	0.80	43.40
6	9848.00	35.20 AV	54.00	-18.80	1.11 V	20	-8.20	43.40

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.1.8 TEST RESULTS – OFDM

EUT	108M Wireless PCI Adapter	**MODEL**	CG-WLPCI54GS
MODE	Channel 1	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 53%RH, 970 hPa	**TESTED BY**	Tony Chen

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	2390.00	49.20 PK	74.00	-24.80	1.49 H	235	15.50	33.70
1	2390.00	38.00 AV	54.00	-16.00	1.49 H	235	4.30	33.70
2	*2412.00	93.30 PK			1.49 H	235	63.50	29.80
2	*2412.00	85.90 AV			1.49 H	235	56.10	29.80
3	3216.00	38.10 PK	74.00	-35.90	1.24 H	327	6.10	32.00
3	3216.00	30.20 AV	54.00	-23.80	1.24 H	327	-1.80	32.00
4	4824.00	39.40 PK	74.00	-34.60	1.14 H	230	4.30	35.10
4	4824.00	30.40 AV	54.00	-23.60	1.14 H	230	-4.70	35.10
5	7236.00	45.70 PK	74.00	-28.30	1.24 H	269	5.20	40.50
5	7236.00	34.20 AV	54.00	-19.80	1.24 H	269	-6.30	40.50
6	9648.00	44.20 PK	74.00	-29.80	1.03 H	203	0.40	43.80
6	9648.00	37.20 AV	54.00	-16.80	1.03 H	203	-6.60	43.80

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	2390.00	63.40 PK	74.00	-10.60	1.20 V	285	29.70	33.70
1	2390.00	51.40 AV	54.00	-2.60	1.20 V	285	17.70	33.70
2	*2412.00	107.50 PK			1.20 V	285	77.70	29.80
2	*2412.00	99.30 AV			1.20 V	285	69.50	29.80
3	3216.00	40.90 PK	74.00	-33.10	1.03 V	20	8.90	32.00
3	3216.00	32.70 AV	54.00	-21.30	1.03 V	20	0.70	32.00
4	4824.00	47.30 PK	74.00	-26.70	1.12 V	236	12.20	35.10
4	4824.00	38.20 AV	54.00	-15.80	1.12 V	236	3.10	35.10
5	7236.00	44.60 PK	74.00	-29.40	1.02 V	222	4.10	40.50
5	7236.00	35.20 AV	54.00	-18.80	1.02 V	222	-5.30	40.50
6	9648.00	45.80 PK	74.00	-28.20	1.23 V	207	2.00	43.80
6	9648.00	35.40 AV	54.00	-18.60	1.23 V	207	-8.40	43.80

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	108M Wireless PCI Adapter	MODEL	CG-WLPCI54GS
MODE	Channel 6	FREQUENCY RANGE	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	DETECTOR FUNCTION & BANDWIDTH	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 53%RH, 970 hPa	TESTED BY	Tony Chen

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	*2437.00	95.70 PK			1.48 H	236	65.80	29.90
1	*2437.00	88.40 AV			1.48 H	236	58.50	29.90
2	3249.00	38.60 PK	74.00	-35.40	1.24 H	234	6.50	32.10
2	3249.00	30.00 AV	54.00	-24.00	1.24 H	234	-2.10	32.10
3	4874.00	42.90 PK	74.00	-31.10	1.20 H	20	7.60	35.30
3	4874.00	31.20 AV	54.00	-22.80	1.20 H	20	-4.10	35.30
4	7311.00	47.90 PK	74.00	-26.10	1.29 H	68	7.20	40.70
4	7311.00	36.80 AV	54.00	-17.20	1.29 H	68	-3.90	40.70
5	9748.00	48.70 PK	74.00	-25.30	1.34 H	298	5.10	43.60
5	9748.00	36.20 AV	54.00	-17.80	1.34 H	298	-7.40	43.60

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	*2437.00	111.60 PK			1.45 V	252	81.70	29.90
1	*2437.00	103.60 AV			1.45 V	252	73.70	29.90
2	3249.00	42.10 PK	74.00	-31.90	1.28 V	230	10.00	32.10
2	3249.00	35.60 AV	54.00	-18.40	1.28 V	230	3.50	32.10
3	4874.00	43.80 PK	74.00	-30.20	1.54 V	23	8.50	35.30
3	4874.00	33.60 AV	54.00	-20.40	1.54 V	23	-1.70	35.30
4	7311.00	49.60 PK	74.00	-24.40	1.44 V	29	8.90	40.70
4	7311.00	38.50 AV	54.00	-15.50	1.44 V	29	-2.20	40.70
5	9748.00	46.90 PK	74.00	-27.10	1.64 V	214	3.30	43.60
5	9748.00	35.80 AV	54.00	-18.20	1.64 V	214	-7.80	43.60

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	108M Wireless PCI Adapter	**MODEL**	CG-WLPCI54GS
MODE	Channel 11	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 53%RH, 970 hPa	**TESTED BY**	Tony Chen

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	*2462.00	90.90 PK			1.43 H	234	60.90	30.00
1	*2462.00	84.10 AV			1.43 H	234	54.10	30.00
2	2483.50	47.40 PK	74.00	-26.60	1.43 H	234	17.30	30.10
2	2483.50	38.40 AV	54.00	-15.60	1.43 H	234	8.30	30.10
3	3282.00	41.30 PK	74.00	-32.70	1.43 H	149	9.10	32.20
3	3282.00	30.10 AV	54.00	-23.90	1.43 H	149	-2.10	32.20
4	4924.00	36.40 PK	74.00	-37.60	1.27 H	301	0.90	35.50
4	4924.00	29.60 AV	54.00	-24.40	1.27 H	301	-5.90	35.50
5	7386.00	45.80 PK	74.00	-28.20	1.14 H	251	5.00	40.80
5	7386.00	36.10 AV	54.00	-17.90	1.14 H	251	-4.70	40.80
6	9848.00	43.90 PK	74.00	-30.10	1.24 H	147	0.50	43.40
6	9848.00	34.20 AV	54.00	-19.80	1.24 H	147	-9.20	43.40

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	*2462.00	106.70 PK			1.21 V	278	76.70	30.00
1	*2462.00	98.60 AV			1.21 V	278	68.60	30.00
2	2483.50	63.20 PK	74.00	-10.80	1.21 V	278	33.10	30.10
2	**2483.50**	**52.90 AV**	**54.00**	**-1.10**	**1.21 V**	**278**	**22.80**	**30.10**
3	3282.00	41.20 PK	74.00	-32.80	1.56 V	360	9.00	32.20
3	3282.00	33.20 AV	54.00	-20.80	1.56 V	360	1.00	32.20
4	4924.00	41.20 PK	74.00	-32.80	4.00 V	257	5.70	35.50
4	4924.00	31.20 AV	54.00	-22.80	4.00 V	257	-4.30	35.50
5	7386.00	48.20 PK	74.00	-25.80	1.27 V	236	7.40	40.80
5	7386.00	36.90 AV	54.00	-17.10	1.27 V	236	-3.90	40.80
6	9848.00	45.60 PK	74.00	-28.40	1.36 V	269	2.20	43.40
6	9848.00	35.70 AV	54.00	-18.30	1.36 V	269	-7.70	43.40

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	108M Wireless PCI Adapter	**MODEL**	CG-WLPCI54GS
MODE	Turbo Channel 6	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	27 deg. C, 53%RH, 970 hPa	**TESTED BY**	Tony Chen

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	2390.00	41.30 PK	74.00	-32.70	1.24 H	310	7.60	33.70
1	2390.00	32.20 AV	54.00	-21.80	1.24 H	310	-1.50	33.70
2	*2437.00	88.20 PK			1.24 H	310	58.30	29.90
2	*2437.00	80.70 AV			1.24 H	310	50.80	29.90
3	2483.50	43.30 PK	74.00	-30.70	1.24 H	310	13.20	30.10
3	2483.50	34.70 AV	54.00	-19.30	1.24 H	310	4.60	30.10
4	4874.00	48.60 PK	74.00	-25.40	1.69 H	230	13.30	35.30
4	4874.00	31.50 AV	54.00	-22.50	1.69 H	230	-3.80	35.30
5	7311.00	48.20 PK	74.00	-25.80	1.57 H	169	7.50	40.70
5	7311.00	36.90 AV	54.00	-17.10	1.57 H	169	-3.80	40.70
6	9748.00	49.70 PK	74.00	-24.30	1.24 H	234	6.10	43.60
6	9748.00	36.80 AV	54.00	-17.20	1.24 H	234	-6.80	43.60

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	2390.00	57.40 PK	74.00	-16.60	1.26 V	278	23.70	33.70
1	2390.00	47.50 AV	54.00	-6.50	1.26 V	278	13.80	33.70
2	*2437.00	104.30 PK			1.26 V	278	74.40	29.90
2	*2437.00	96.00 AV			1.26 V	278	66.10	29.90
3	2483.50	59.40 PK	74.00	-14.60	1.26 V	278	29.30	30.10
3	2483.50	50.00 AV	54.00	-4.00	1.26 V	278	19.90	30.10
4	4874.00	42.30 PK	74.00	-31.70	1.27 V	201	7.00	35.30
4	4874.00	32.60 AV	54.00	-21.40	1.27 V	201	-2.70	35.30
5	7311.00	49.10 PK	74.00	-24.90	1.36 V	321	8.40	40.70
5	7311.00	38.20 AV	54.00	-15.80	1.36 V	321	-2.50	40.70
6	9748.00	46.80 PK	74.00	-27.20	1.20 V	146	3.20	43.60
6	9748.00	35.20 AV	54.00	-18.80	1.20 V	146	-8.40	43.60

REMARKS:
1. Emission level(dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor (dB/m) + Cable Factor (dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.2 MAXIMUM PEAK OUTPUT POWER

4.2.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.2.2 TEST INSTRUMENTS

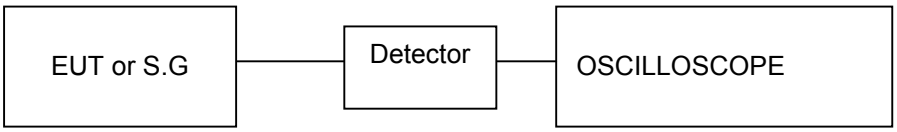
Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005
Agilent SIGNAL GENERATOR	E8257C	MY43320668	Dec. 07, 2005
TEKTRONIX OSCILLOSCOPE	TDS380	B016335	Jun. 22, 2006
NARDA DETECTOR	4503A	FSCM99899	NA

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

4.2.3 TEST PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the peak 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 peak reading on oscilloscope. Record the power level.

4.2.4 TEST SETUP



4.2.5 EUT OPERATING CONDITIONS

Same as Item 4.1.5

4.2.6 TEST RESULTS – DSSS

EUT	108M Wireless PCI Adapter		
MODEL	CG-WLPCI54GS	**ENVIRONMENTAL CONDITIONS**	27 deg. C, 53%RH, 970 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	18.64	30	PASS
6	2437	18.87	30	PASS
11	2462	18.75	30	PASS

4.2.7 TEST RESULTS – OFDM

EUT	108M Wireless PCI Adapter		
MODEL	CG-WLPCI54GS	ENVIRONMENTAL CONDITIONS	27 deg. C, 53%RH, 970 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	TESTED BY	Rex Huang

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	17.94	30	PASS
6	2437	21.00	30	PASS
11	2462	17.64	30	PASS
Turbo 6	2437	19.60	30	PASS

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB of the highest emission level of operating band (in 1MHz Resolution Bandwidth).

4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

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 via a low lose cable. Set RBW spectrum analyzer to 1 MHz and set VBW spectrum analyzer to 10 Hz with suitable frequency span including 1 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW=VBW=100kHz ; Average RBW=1MHz, VBW=10Hz) are attached on the following pages.

4.3.4 EUT OPERATING CONDITION

Same as Item 4.1.5

4.3.5 TEST RESULTS – DSSS

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

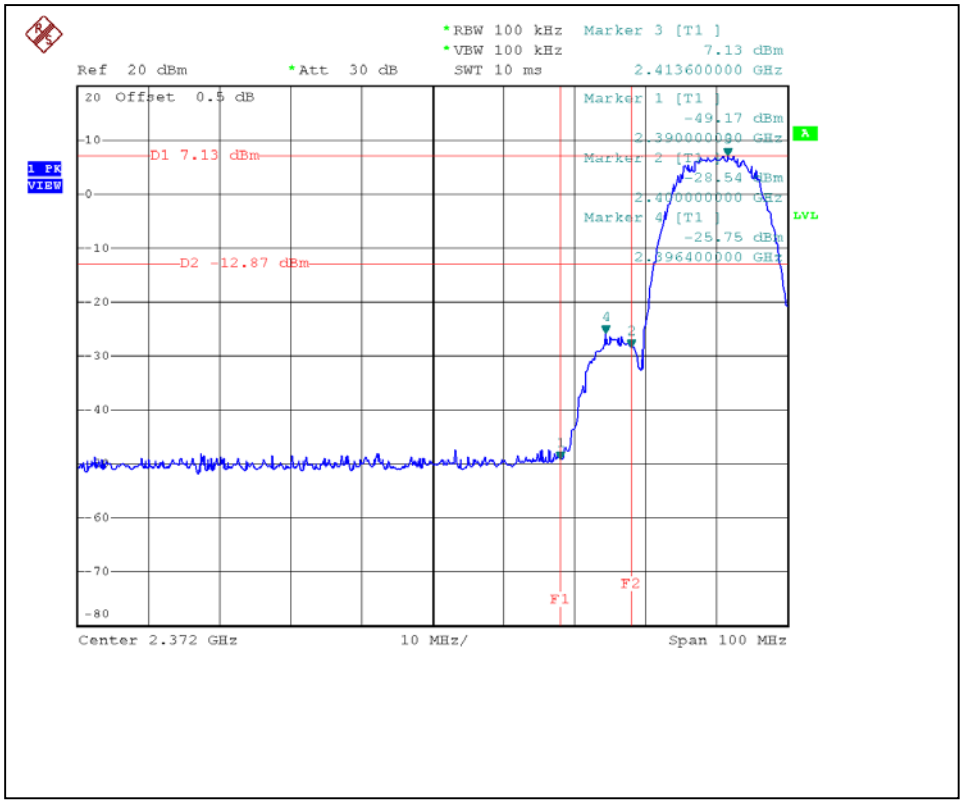
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

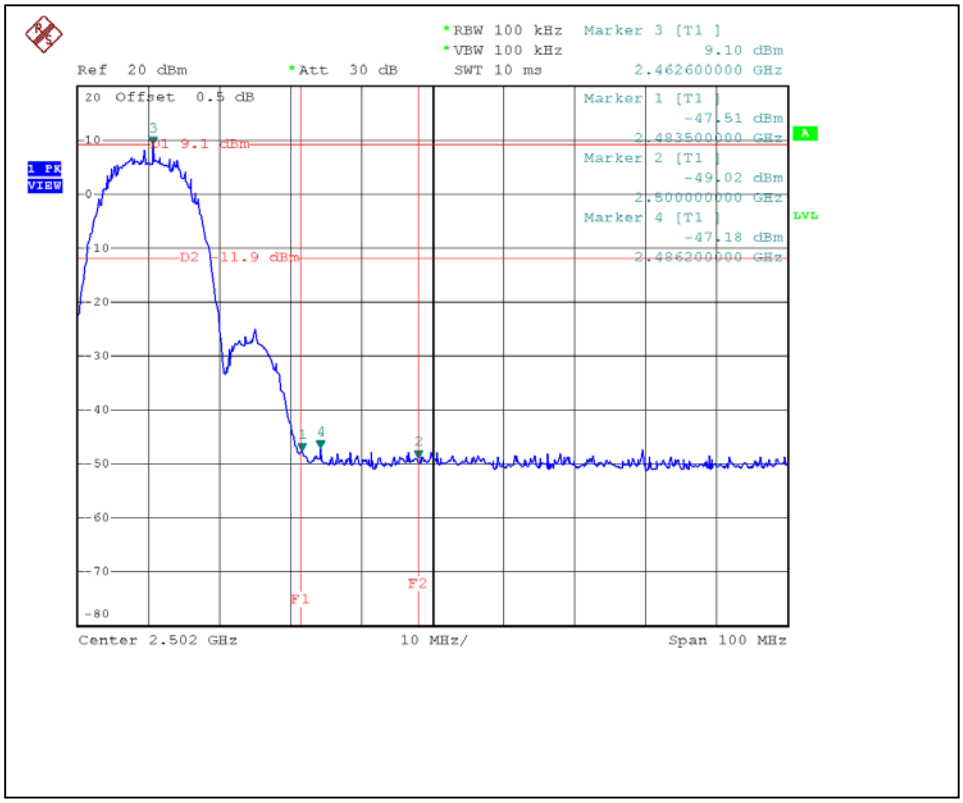
NOTE (Peak):
The band edge emission plot of DSSS technique on the following first page show 56.30dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 111.8dBuV/m, so the maximum field strength in restrict band is 111.8-56.3=55.5dBuV/m which is under 74 dBuV/m limit.

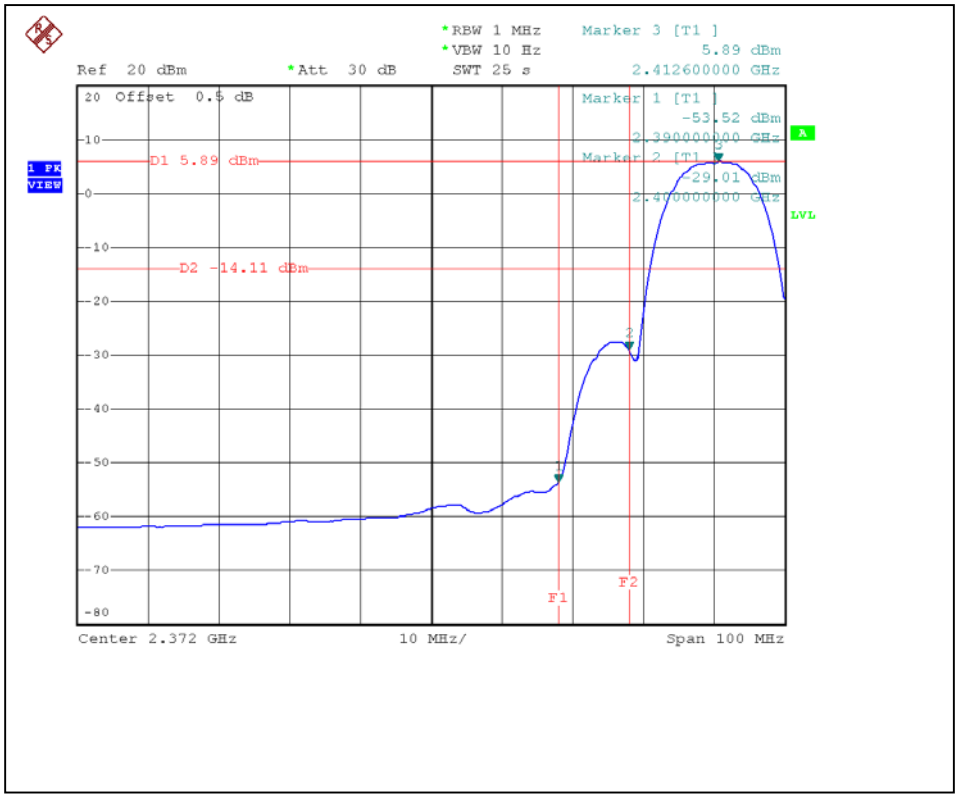
The band edge emission plot of DSSS technique on the following first page shows 56.61dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 114.2dBuV/m, so the maximum field strength in restrict band is 114.2-56.61=57.59dBuV/m which is under 74 dBuV/m limit.

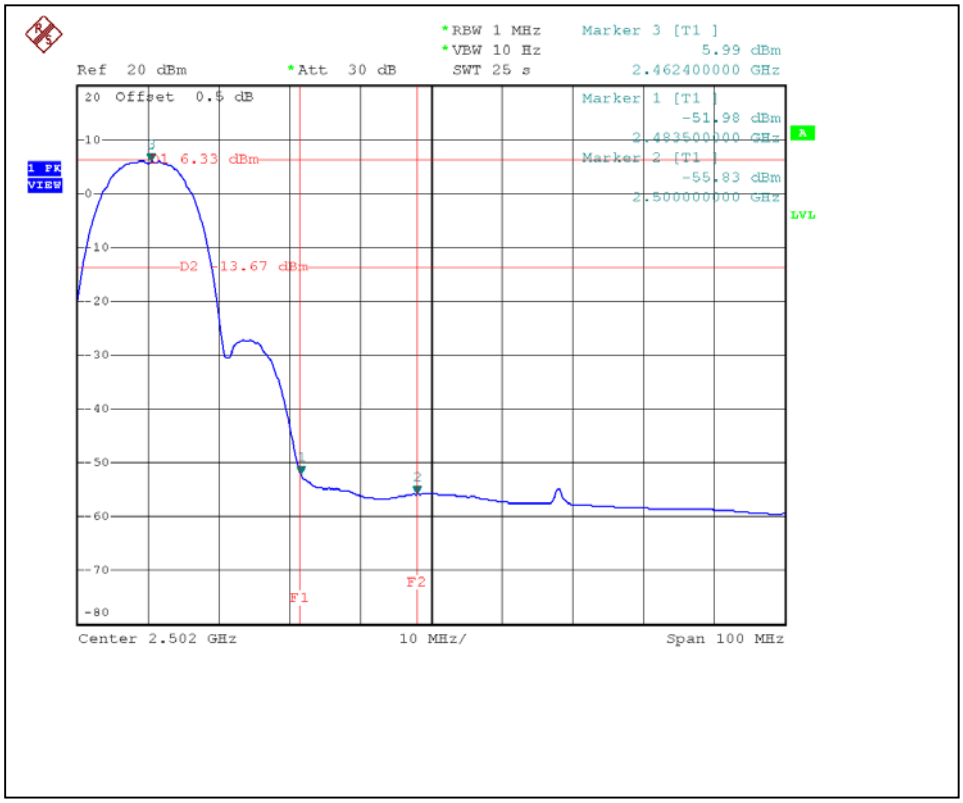
NOTE (Average):
The band edge emission plot of DSSS technique on the following second page shows 59.41strict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 105.3dBuV/m, so the maximum field strength in restrict band is 105.30-59.41=45.89dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 58.31dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 107.6dBuV/m, so the maximum field strength in restrict band is 107.6-58.31=49.29dBuV/m which is under 54 dBuV/m limit.


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 3 [T1]
7.13 dBm
2.413600000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-49.17 dBm
2.390000000 GHz
Marker 2 [T1]
-28.54 dBm
2.400000000 GHz
Marker 4 [T1]
-25.75 dBm
2.396400000 GHz
D1 7.13 dBm
D2 -12.87 dBm
1 PK VIEW
LVL
F1
F2
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 3 [T1]
9.10 dBm
2.462600000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-47.51 dBm
2.483500000 GHz
Marker 2 [T1]
-49.02 dBm
2.500000000 GHz
Marker 4 [T1]
-47.18 dBm
2.486200000 GHz
D1 9.1 dBm
D2 -11.9 dBm
1 PK VIEW
LVL
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 25 s
Marker 3 [T1]
5.89 dBm
2.412600000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-53.52 dBm
2.390000000 GHz
Marker 2 [T1]
-29.01 dBm
2.400000000 GHz
D1 5.89 dBm
D2 -14.11 dBm
1 PK VIEW
A
LVL
F1
F2
Center 2.372 GHz
10 MHz/
Span 100 MHz


RBW 1 MHz
VBW 10 Hz
SWT 25 s
Marker 3 [T1]
5.99 dBm
2.462400000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-51.98 dBm
2.483500000 GHz
Marker 2 [T1]
-55.83 dBm
2.500000000 GHz
D1 6.33 dBm
D2 -13.67 dBm
1 PK VIEW
A
LVL
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz

4.3.6 TEST RESULTS – OFDM

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

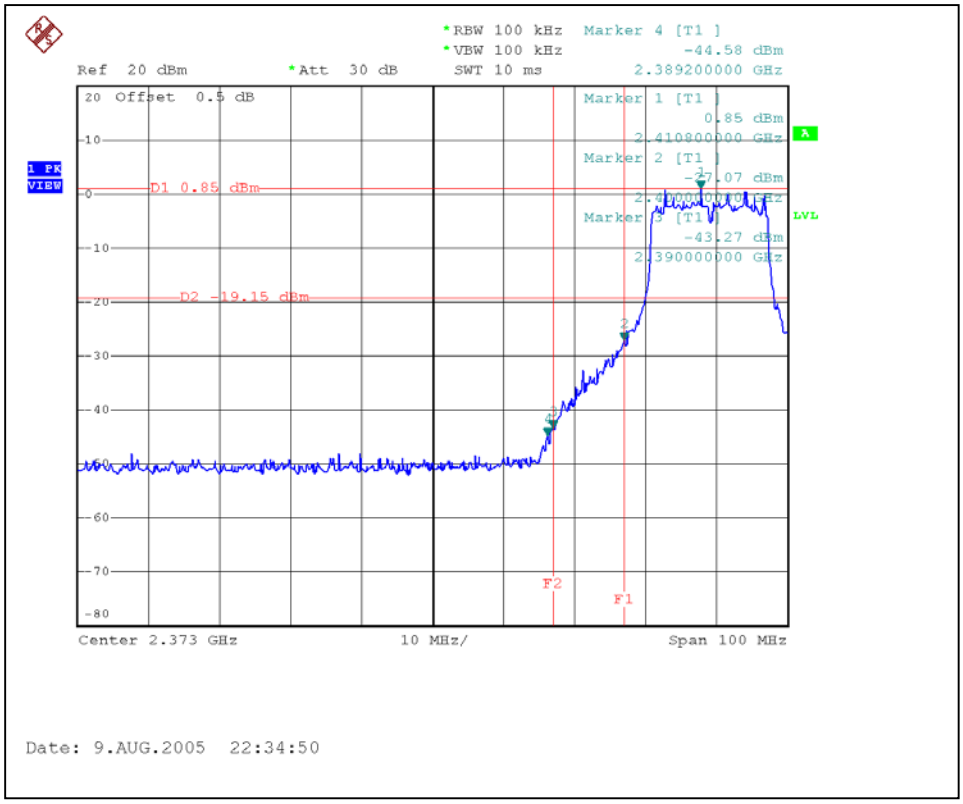
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

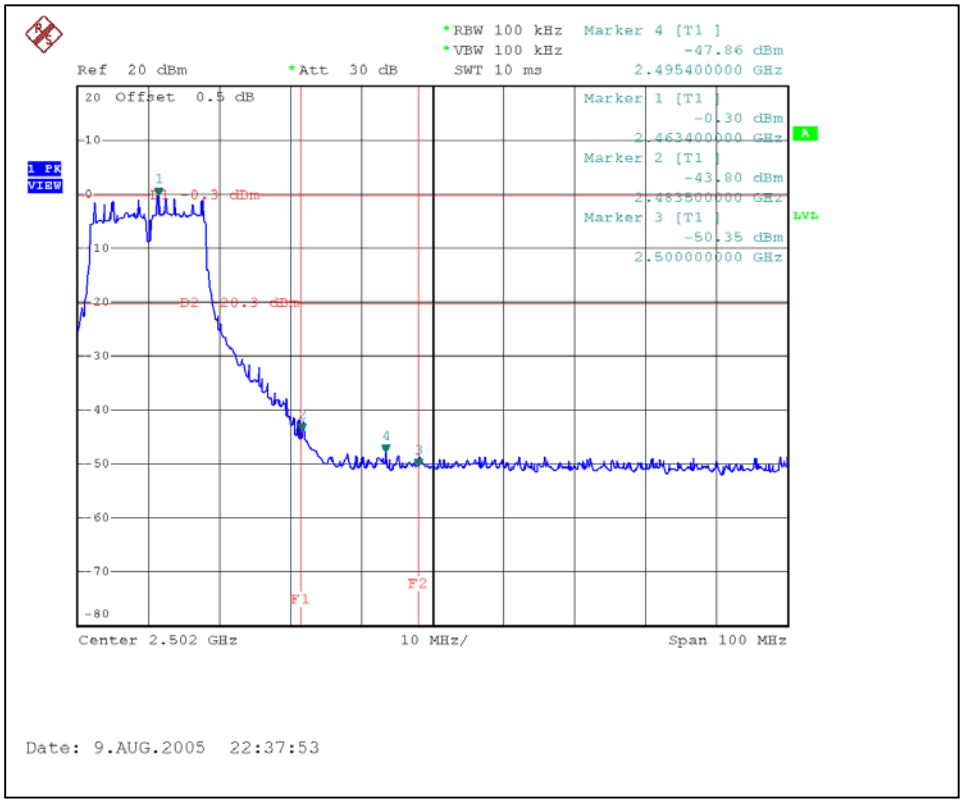
NOTE (Peak) :
The band edge emission plot of OFDM technique on the following first page show 44.12dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 107.5dBuV/m, so the maximum field strength in restrict band is 107.5-44.12=63.38dBuV/m which is under 74 dBuV/m limit.

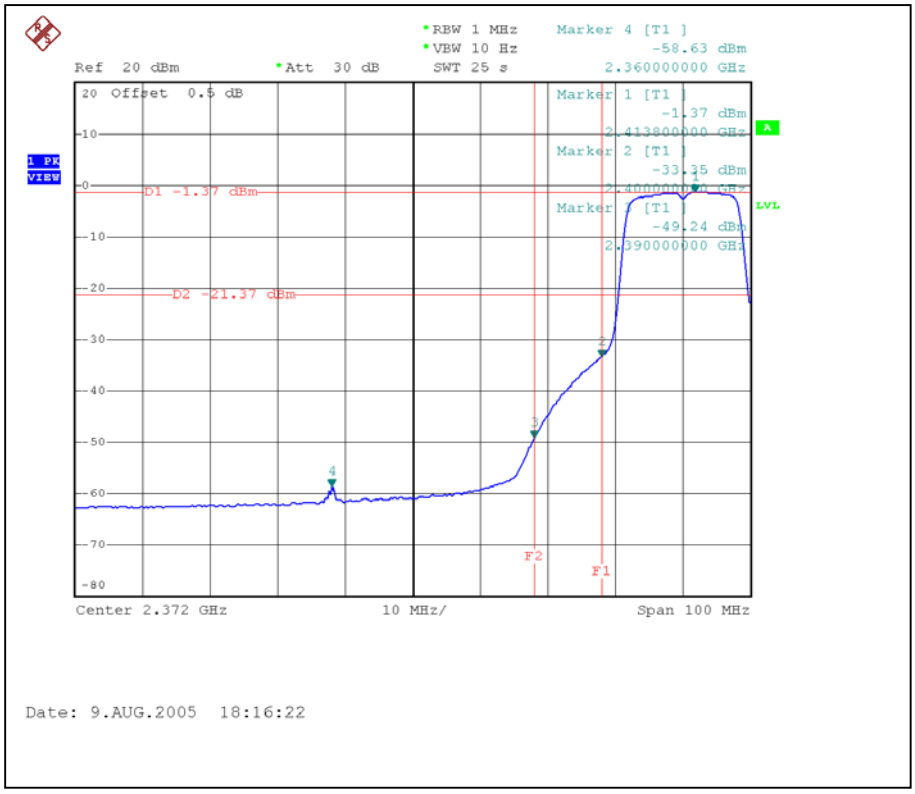
The band edge emission plot of OFDM technique on the following first page shows 43.5dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 106.7dBuV/m, so the maximum field strength in restrict band is 106.7-43.5=63.2dBuV/m which is under 74 dBuV/m limit.

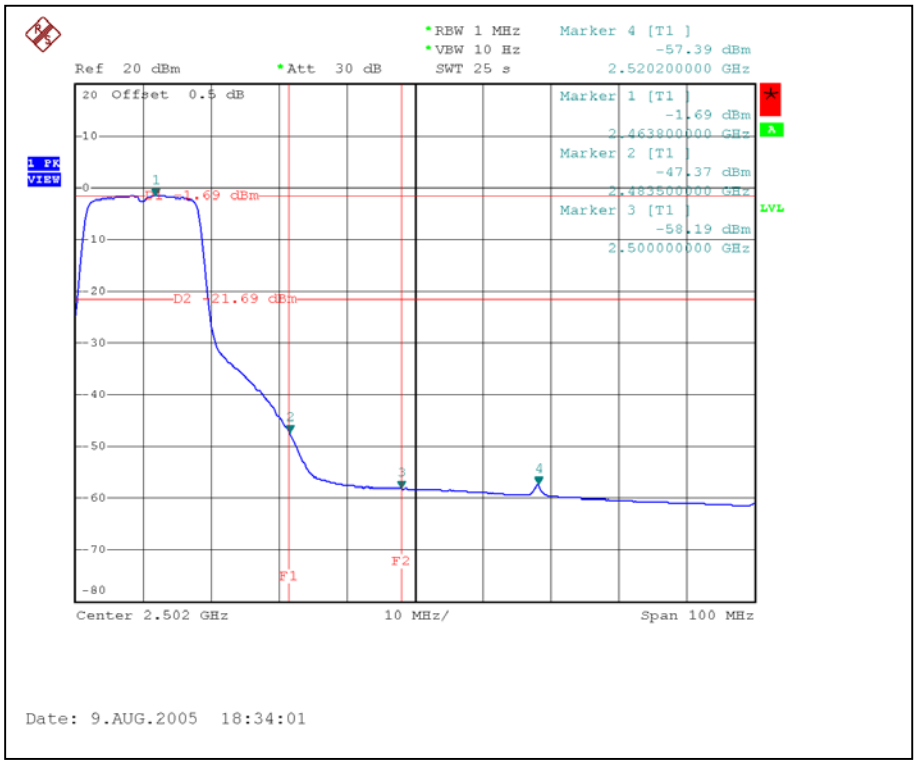
NOTE (Average):
The band edge emission plot of OFDM technique on the following second page shows 47.87dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 99.3dBuV/m, so the maximum field strength in restrict band is 99.3-47.87=51.43dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of OFDM technique on the following second page shows 45.68 dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 98.6dBuV/m, so the maximum field strength in restrict band is 98.6-45.68=52.92dBuV/m which is under 54 dBuV/m limit.


RBW 100 kHz
VBW 100 kHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Marker 4 [T1]
-44.58 dBm
2.389200000 GHz
20 Offset 0.5 dB
Marker 1 [T1]
0.85 dBm
2.410800000 GHz
Marker 2 [T1]
-47.07 dBm
Marker 3 [T1]
-43.27 dBm
2.390000000 GHz
1 PK
VIEW
D1 0.85 dBm
D2 -19.15 dBm
LVL
F1
F2
Center 2.373 GHz
10 MHz/
Span 100 MHz
Date: 9.AUG.2005 22:34:50


RBW 100 kHz
VBW 100 kHz
Ref 20 dBm
Att 30 dB
SWT 10 ms
Marker 4 [T1]
-47.86 dBm
2.495400000 GHz
20 Offset 0.5 dB
Marker 1 [T1]
-0.30 dBm
2.463400000 GHz
Marker 2 [T1]
-43.80 dBm
Marker 3 [T1]
-50.35 dBm
2.500000000 GHz
1 PK
VIEW
D1 -0.3 dBm
D2 -20.3 dBm
LVL
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Date: 9.AUG.2005 22:37:53


RBW 1 MHz
VBW 10 Hz
SWT 25 s
Marker 4 [T1]
-58.63 dBm
2.360000000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-1.37 dBm
2.413800000 GHz
Marker 2 [T1]
-33.35 dBm
Marker 3 [T1]
-49.24 dBm
2.390000000 GHz
D1 -1.37 dBm
D2 -21.37 dBm
1 PK VIEW
LVL
F1
F2
Center 2.372 GHz
10 MHz/
Span 100 MHz
Date: 9.AUG.2005 18:16:22


RBW 1 MHz
VBW 10 Hz
SWT 25 s
Marker 4 [T1]
-57.39 dBm
2.520200000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 0.5 dB
Marker 1 [T1]
-1.69 dBm
2.463800000 GHz
Marker 2 [T1]
-47.37 dBm
2.483500000 GHz
Marker 3 [T1]
-58.19 dBm
2.500000000 GHz
D2 -21.69 dBm
1 PK VIEW
LVL
F1
F2
Center 2.502 GHz
10 MHz/
Span 100 MHz
Date: 9.AUG.2005 18:34:01

4.4 ANTENNA REQUIREMENT

4.4.1 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.

4.4.2 ANTENNA CONNECTED CONSTRUCTION

The antennas used in this product are Dipole antenna with SMA Plug Reverse connector. The maximum Gain of the antenna is 5dBi(Cable lose: 2.7dB).

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

RADIATED EMISSION TEST

6 INFORMATION ON THE TESTING LABORATORIES

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

USA	FCC, NVLAP, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB, GOST-ASIA (MOU)
Russia	CERTIS (MOU)

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:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Email: service@adt.com.tw
Web Site: www.adt.com.tw

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