

# **FCC TEST REPORT**

REPORT NO.: RF950510A09E

**MODEL NO.:** RG-0570U

**RECEIVED:** Nov. 8, 2007

**TESTED:** Nov. 15 ~ 29, 2007

**ISSUED:** Nov. 30, 2007

**APPLICANT:** Chicony Electronics Co., Ltd.

ADDRESS: No. 25, Wu-Gong 6th Rd., Wu Ku Industrial Park,

Taipei Hsien, Taiwan, R.O.C.

**ISSUED BY:** Advance Data Technology Corporation

LAB LOCATION: No. 47, 14th Ling, Chia Pau Tsuen, Lin Kou

Hsiang 244, Taipei Hsien, Taiwan, R.O.C.

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Report No.: RF950510A09E Reference No.: 961108A09



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# 1. CERTIFICATION

PRODUCT: Receiver

**BRAND NAME:** Chicony

**RG-0570U** MODEL NO.:

Chicony Electronics Co., Ltd. APPLICANT:

TESTED: Nov. 15 ~ 29, 2007

TEST SAMPLE: **ENGINEERING SAMPLE** 

STANDARDS: FCC Part 15, Subpart C (Section 15.249),

FCC Part 15, Subpart B, Class B

ANSI C63.4-2003

The above equipment 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** Nov. 30, 2007 DATE:

**TECHNICAL ACCEPTANCE** Nov. 30, 2007 DATE:

Responsible for RF ( Jamison Chan / Senior Engineer )

**DATE:** Nov. 30, 2007 APPROVED BY (Ken Liu / Deputy Manager)



# 2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIE	APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.249)						
STANDARD PARAGRAPH TEST TYPE RESULT REMARKA							
15.207	Conducted Emission Test		Meet the requirement of limit. Minimum passing margin is –15.13dB at 0.228MHz				
Radiated Emission Test Band Edge Measurement Limit: 50dB less than the peak value of fundamental frequency or meet radiated emission limit in section 12.209			Meet the requirement of limit. Minimum passing margin is –1.33dB at 2483.500MHz				

APPLIED STANDARD: FCC Part 15, Subpart B						
STANDARD SECTION	TEST TYPE	RESULT	REMARK			
FCC Part 15,	Conducted Emission		Meets Class B Limit Minimum passing margin is –11.37 dB at 17.015 MHz			
Subpart B, Class B	Radiated Emissions		Meets Class B Limit Minimum passing margin is –4.99 dB at 128.00 MHz			



# 2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

# For Mode A

Measurement	Frequency	Uncertainty
Conducted emissions	9kHz ~ 30MHz	2.44 dB
Dedicted emissions	30MHz ~ 1GHz	3.75 dB
Radiated emissions	1GHz ~ 40GHz	2.89 dB

### For Mode B

Measurement	Frequency	Uncertainty
Conducted emissions	9kHz ~ 30MHz	2.46 dB
Dedicted emissions	30MHz ~ 1GHz	3.74 dB
Radiated emissions	1GHz ~ 40GHz	2.89 dB



# 3. GENERAL INFORMATION

# 3.1 GENERAL DESCRIPTION OF EUT

EUT	Receiver	
MODEL NO.	RG-0570U	
FCC ID	E8HRG-0570U-A	
POWER SUPPLY	5Vdc from host equipment	
MODULATION TYPE	GFSK	
FREQUENCY RANGE	2402 MHz ~ 2479 MHz	
NUMBER OF CHANNEL	78	
ANTENNA TYPE	Strip antenna with –1.96dBi gain	
DATA CABLE	1.4m Shielded cable	
I/O PORTS	USB port	
ASSOCIATED DEVICES	N/A	

## NOTE:

- 1. The EUT is a transceiver.
- 2. 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.



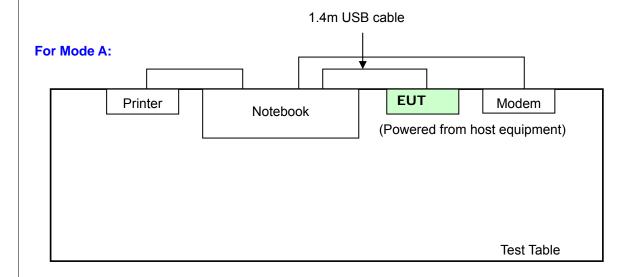
# 3.2 DESCRIPTION OF TEST MODES

78 channels are provided to this EUT:

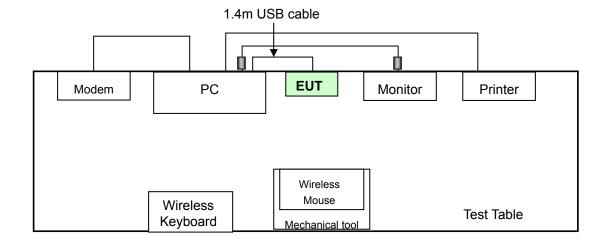
Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460		
19	2421	39	2441	59	2461		



# 3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



## For Mode B:





# 3.2.2TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL:

EUT configure		Applic	able to		Description
mode	PLC	RE<1G	RE≥1G	ВМ	Docomption .
Α	<b>√</b>	√	√	$\checkmark$	Transmission mode (FCC Part 15, Subpart C)
В	V	√	-	-	Transmission mode (FCC Part 15, Subpart B)

Where PLC: Power Line Conducted Emission

RE<1G RE: Radiated Emission below 1GHz

RE≥1G: Radiated Emission above 1GHz

APCM: Bandedge Measurement

### **POWER LINE CONDUCTED EMISSION TEST:**

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

EUT configure mode	Available Channel	Tested Channel	Modulation Type
Α	0 to 77	77	GFSK
В	0 to 77	77	GFSK

### **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.

EUT configure mode	Available Channel	Tested Channel	Modulation Type
Α	0 to 77	77	GFSK
В	0 to 77	0, 38, 77	GFSK

# **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.

EUT configure mode	Available Channel	Tested Channel	Modulation Type
A	0 to 77	0, 38, 77	GFSK



# **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.

EUT configure mode	Available Channel	Tested Channel	Modulation Type
Α	0 to 77	0, 77	GFSK



# 3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C. (15.249)

FCC Part 15, Subpart B, Class B

ANSI C63.4-2003

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

# 3.4 DESCRIPTION OF SUPPORT UNITS

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

#### For Mode A:

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID	
1	NOTEBOOK	DELL	PP05L	20375526736	FCC DoC Approved	
'	COMPUTER	DELE	1 1 00L	20373320730	TOO DOO Apploved	
2	PRINTER	EPSON	LQ-300+	DCGY017054	FCC DoC Approved	
3	MODEM	ACEEX	1414	980020520	IFAXDM1414	

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A
2	1.8m braid shielded wire, terminated with DB25 and Centronics connector via metallic
	frame, w/o core
2	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame,
3	w/o core.

**NOTE:** All power cords of the above support units are non shielded (1.8m).



## For Mode B:

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID	
4	PERSONAL		dv7200MT	SGH72102NW	F00 D - 0 A	
Į	COMPUTER	HP	dx7300MT	3GH/2102NW	FCC DoC Approved	
2	MONITOR	ADI CM100		020058T102001	FCC DoC Approved	
	WONTOR	ADI	CIVITOO	75	PCC DOC Approved	
3	MODEM	ACEEX	1414	980020501	IFAXDM1414	
4	PRINTER	EPSON	LQ-300+	DCGY017089	FCC DoC Approved	
5	WIRELESS	Chicony	KG-0609	N/A	E8HKG-0609	
5	KEYBOARD	Critcorty	KG-0609	IN/A	E0UKG-0009	
6	WIRELESS	Chicony	MG-0570T	N/A	E8HMG-0570T	
0	MOUSE	Critcorty	IVIG-03701	IN/A		

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, with two
	cores
3	1.2 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame,
3	w/o core.
4	1.8m braid shielded wire, terminated with DB25 and Centronics connector via metallic
4	frame, w/o core
5	N/A
6	N/A

**NOTE:** 1. All power cords of the above support units are non-shielded (1.8m).

2. The support units 5-6 were provided by client.



# 4. TEST TYPES AND RESULTS

# 4.1 CONDUCTED EMISSION MEASUREMENT

# 4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTE	D 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.
- All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

# 4.1.2 TEST INSTRUMENTS

#### For Mode A

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESCS 30	838251/021	Nov. 23, 2007
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	100218	Nov. 21, 2007
LISN With Adapter (for EUT)	AD10	C10Ada-001	Nov. 21, 2007
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	100219	Nov. 08, 2008
ROHDE & SCHWARZ Artificial Mains Network (for peripherals)	ESH3-Z5	894785/020	Jun. 27, 2008
Software	ADT_Cond_V7.3.5	NA	NA
Software	ADT_ISN_V7.3.5	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C10.01	Mar. 01, 2008
SUHNER Terminator (For ROHDE & SCHWARZ LISN)	65BNC-5001	E1-010773	Feb. 11, 2008

**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. The test was performed in ADT Shielded Room No. 10.
- 3. The VCCI Site Registration No. C-1852.



## For Mode B

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ Test Receiver	ESHS30	828109/007	Jun. 25, 2008
ROHDE & SCHWARZ Artificial Mains Network (for EUT)	ESH3-Z5	839135/006	Jul. 17, 2008
LISN With Adapter (for EUT)	AD10	C02Ada-001	Jul. 17, 2008
EMCO-L.I.S.N. (for peripheral)	3825/2	9204-1964	May 09, 2008
Software	ADT_Cond_V7.3. 5	NA	NA
Software	ADT_ISN_V7.3.5	NA	NA
RF cable (JYEBAO)	5D-FB	Cable-C02.01	Jan, 09, 2008
LYNICS Terminator (For EMCO LISN)	11593A	E1-01-298	Jan. 16, 2008
LYNICS Terminator (For EMCO LISN)	11593A	E1-01-299	Jan. 16, 2008

- 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. The test was performed in ADT Shielded Room No. 2.
  - 3. The VCCI Site Registration No. C-240.



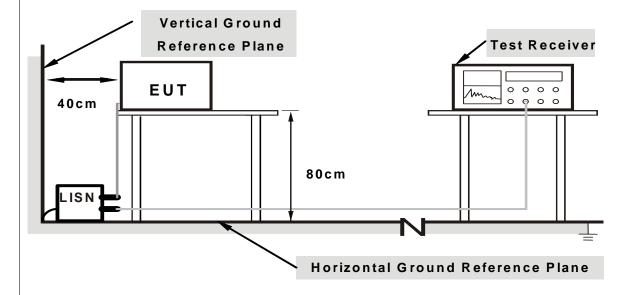
# **4.1.3 TEST PROCEDURES**

- 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 under (Limit 20dB) were not recorded.

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) are 80 cm from EUT and at least 80 from other units and other metal planes

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



# 4.1.6 EUT OPERATING CONDITIONS

#### For Mode A:

- a. Connected the EUT to a notebook system placed on a testing table.
- b. The notebook system ran a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- c. The notebook system sent "H" messages to its screen.
- d. The notebook system sent "H" messages to printer and the printer prints them out
- e. The notebook system sent "H" messages to modem.
- f. Repeated c ~ e.

#### For Mode B:

- a. Connected the EUT to a PC placed on a testing table.
- b. Checked if the EUT and the wireless keyboard & wireless mouse were set at the same channel.
- c. The PC ran a test program (provided by manufacturer) to enable EUT under transmission/receiving condition continuously at specific channel frequency.
- d. A mechanical tool designed for help the wireless mouse, was turned on the working mode function. (for wireless mouse)
- e. The PC sent "H" messages to monitor and displayed "H" patterns on its screen.
- f. The PC sent "H" messages to printer and the printer prints them out
- g. The PC sent "H" messages to modem.
- h. Repeated d ~ g.



# 4.1.7 TEST RESULTS

# CONDUCTED WORST CASE DATA MODE A FOR TRANSMISSION MODE (FCC PART 15, SUBPART C)

MODULATION TYPE	GFSK	CHANNEL	77
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 1006hPa	PHASE	Line 1
TEST MODE	А	TESTED BY	Jamison Chan

	Freq.	Corr.	Readin	g Value		sion vel	Lir	nit	Mar	gin
No		Factor	[dB (	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	B)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	0.20	46.73	-	46.93	-	66.00	56.00	-19.07	-
2	0.228	0.20	47.19	1	47.39	•	62.52	52.52	-15.13	•
3	0.338	0.20	33.72	-	33.92	-	59.26	49.26	-25.34	-
4	1.367	0.40	25.12	-	25.52	-	56.00	46.00	-30.48	-
5	2.043	0.40	23.85	-	24.25	-	56.00	46.00	-31.75	-
6	11.543	0.82	29.48	-	30.30	-	60.00	50.00	-29.70	-

- 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.

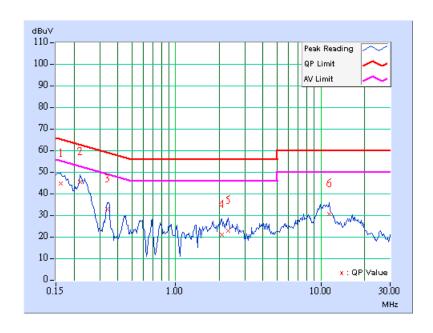




MODULATION TYPE	GFSK	CHANNEL	77
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 1006hPa	PHASE	Line 2
TEST MODE	A	TESTED BY	Jamison Chan

	Freq.	Corr.	Readin	g Value		ssion vel	Lir	nit	Mar	gin
No		Factor	[dB (	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	3)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.162	0.20	44.15	-	44.35	-	65.38	55.38	-21.03	-
2	0.220	0.20	45.04	-	45.24	-	62.81	52.81	-17.57	-
3	0.338	0.20	32.29	-	32.49	-	59.26	49.26	-26.77	-
4	2.086	0.30	20.71	-	21.01	-	56.00	46.00	-34.99	-
5	2.313	0.32	22.45	-	22.77	-	56.00	46.00	-33.23	-
6	11.434	0.59	30.02	-	30.61	-	60.00	50.00	-29.39	-

- 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.



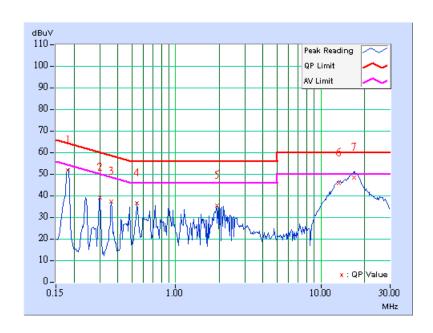


## MODE B FOR TRANSMISSION MODE (FCC PART 15, SUBPART B)

MODULATION TYPE	GFSK	CHANNEL	77
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 55 RH, 1006hPa	PHASE	Line 1
TEST MODE	В	TESTED BY	ED. Lin

	Freq.	Corr.	Readin	g Value		sion vel	Lir	nit	Mar	gin
No		Factor	[dB	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	В)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.182	0.20	50.09	-	50.29	-	64.38	54.38	-14.09	-
2	0.300	0.22	37.58	-	37.80	-	60.24	50.24	-22.45	_
3	0.360	0.22	35.64	-	35.86	-	58.72	48.72	-22.86	-
4	0.543	0.23	35.19	-	35.42	1	56.00	46.00	-20.58	-
5	1.931	0.38	33.96	-	34.34	-	56.00	46.00	-21.66	-
6	13.334	1.46	44.17	-	45.63	-	60.00	50.00	-14.37	-
7	17.015	1.58	47.05	-	48.63	-	60.00	50.00	-11.37	-

- 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.

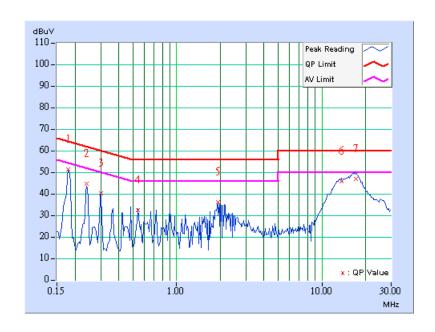




MODULATION TYPE	GFSK	CHANNEL	77
INPUT POWER (SYSTEM)	120Vac, 60 Hz	6dB BANDWIDTH	9 kHz
ENVIRONMENTAL CONDITIONS	22deg. C, 55 RH, 1006hPa	PHASE	Line 2
TEST MODE	В	TESTED BY	ED. Lin

	Freq.	Corr.	Readin	g Value		sion vel	Lir	nit	Mar	gin
No		Factor	[dB (	(uV)]	[dB	(uV)]	[dB	(uV)]	(dl	В)
	[MHz]	(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.180	0.10	49.77	-	49.87	Ī	64.49	54.49	-14.62	-
2	0.240	0.11	43.08	-	43.19	-	62.08	52.08	-18.90	-
3	0.301	0.12	38.63	-	38.75	-	60.23	50.23	-21.48	-
4	0.543	0.13	31.13	-	31.26	-	56.00	46.00	-24.74	-
5	1.931	0.28	34.87	-	35.15	-	56.00	46.00	-20.85	-
6	13.637	1.29	44.22	-	45.51	ı	60.00	50.00	-14.49	-
7	17.200	1.56	45.62	-	47.18	-	60.00	50.00	-12.82	-

- 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

## (For Mode A)

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

	<u> </u>					
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.



## (For Mode B)

## FOR FREQUENCY BELOW 1000 MHz

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 10m)	
FREQUENCT (WITZ)	dBuV/m	dBuV/m	
30 – 230	40	30	
230 - 1000	47	37	

Note: The limit for radiated test was performed according to CISPR 22: 1997, which was specified in FCC PART 15B 15.109(g). Also the limits of ICES-003: 2004 and CISPR 22: 1997 are same.

# LIMIT OF RADIATED EMISSION OF FCC PART 15, SUBPART B FOR FREQUENCY ABOVE 1000 MHz

FREQUENCY (MHz)	Class A (dBu	V/m) (at 3m)	Class B (dBuV/m) (at 3m)		
FREQUENCT (WITZ)	PEAK	AVERAGE	PEAK	AVERAGE	
Above 1000	80.0	60.0	74.0	54.0	

Note: (1) The lower limit shall apply at the transition frequencies.

- (2) Emission level  $(dBuV/m) = 20 \log Emission level (uV/m)$ .
- (3) All emanation from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

# FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
	5 <sup>th</sup> harmonic of the highest
Above 1000	frequency or 40 GHz, whichever is lower



# **4.2.2 TEST INSTRUMENTS**

## (For Mode A)

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
HP Preamplifier	8447D	2432A03504	May 09, 2008
HP Preamplifier	8449B	3008A01201	Oct. 01, 2008
HP Preamplifier	8449B	3008A01292	Aug. 05, 2008
ROHDE & SCHWARZ TEST RECEIVER	ESCI	100613	Jul. 19, 2008
Schwarzbeck Antenna	VULB 9168	137	Sep. 13, 2008
Schwarzbeck Antenna	VHBA 9123	480	Apr. 18, 2008
EMCO Horn Antenna	3115	6714	Oct. 18, 2008
EMCO Horn Antenna	3115	9312-4192	Apr. 19, 2008
ADT. Turn Table	TT100	0306	NA
ADT. Tower	AT100	0306	NA
Software	ADT_Radiated_V 7.6.15	NA	NA
SUHNER RF cable	SF104-26.5	CABLE-CH6-17m-01	Nov. 04, 2008
ROHDE & SCHWARZ Spectrum Analyzer	FSP 40	100036	Mar. 13, 2008

**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. 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 Chamber No. 6.
- 4. The Industry Canada Reference No. IC 3789-6.



# (For Mode B)

# Frequency Range 30MHz-1GHz

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
ROHDE & SCHWARZ TEST RECEIVER	ESVS 10	840241/010	Sep. 02, 2008
Schaffner BILOG Antenna	CBL6111C	2728	May 31, 2008
CT Turn Table	TT100	CT-080	NA
CT Tower	AT100	CT-080	NA
Software	ADT_Radiated_V7.6. 15	NA	NA
ANRITSU RF Switches	MP59B	6100259081	Sep. 16, 2008
WOKEN RF cable	8D	CABLE-ST3-01	Sep. 16, 2008

**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. The test was performed in ADT Open Site No. 3.
- 3. The VCCI Site Registration No. is R-269.

# Frequency Range 1GHz-40GHz

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Agilent Spectrum	8564EC	4208A00659	Jun. 04, 2008
Agilent Preamplifier	8449B	3008A01201	Oct. 01, 2008
Agilent Preamplifier	8449B	3008A01292	Aug. 05, 2008
MITEQ Preamplifier	AMF-6F-260400-33- 8P	892164	May 14, 2008
Schwarzbeck Horn Antenna	BBHA-9170	BBHA9170190	May 14, 2008
Schwarzbeck Horn Antenna	BBHA-9170	D130	May 22, 2008
CT Turn Table	TT100	CT-080	NA
CT Tower	AT100	CT-080	NA
Software	ADT_Radiated_V7.6. 15	NA	NA
SUHNER RF cable	SF106-18	PHACAB-1G-40 GHz	Dec. 11, 2007

**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. The test was performed in ADT Open Site No. 3.
- 3. The VCCI Site Registration No. is R-269.



# **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 3 meter semi- anechoic / 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 / 10 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 lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak method or average method as specified and then reported in data sheet.

### NOTE:

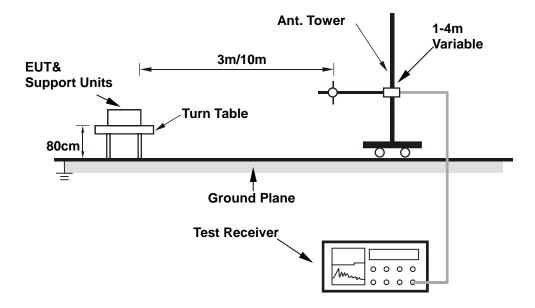
- 1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz for Average detection (AV) at frequency above 1GHz.
- 3. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the interference-receiving antenna.

## 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

## For Mode A:

Set the EUT under transmission condition continuously at specific channel frequency.

## For Mode B:

Same as item 4.1.6.



# 4.2.7 TEST RESULTS

# RADIATED WORST CASE DATA: BELOW 1GHz MODE A FOR TRANSMISSION MODE (FCC PART 15, SUBPART C)

MODULATION TYPE	GFSK	CHANNEL	77
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 1006hPa	DETECTOR FUNCTION	Quasi-Peak
TEST MODE	А	TESTED BY	Jun Wu

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M									
No.	Freq. (MHz)	Emission Level	Limit (dBuV/m)	Margin (dB)	Antenna Height	Table Angle	Raw Value	Correction Factor		
	(IVII 12)	(dBuV/m)	(ubuv/iii) (ub)		(m)	(Degree)	(dBuV)	(dB/m)		
1	465.431	31.81 QP	46.00	-14.19	1.26 H	346	10.61	21.20		
2	500.421	32.18 QP	46.00	-13.82	1.24 H	238	9.86	22.32		
3	601.503	32.12 QP	46.00	-13.88	1.20 H	226	7.59	24.53		
4	667.595	31.26 QP	46.00	-14.74	1.15 H	13	5.83	25.43		
5	733.687	34.64 QP	46.00	-11.36	1.13 H	268	7.86	26.78		
6	797.836	31.67 QP	46.00	-14.33	1.05 H	289	3.49	28.18		

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M									
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction		
No.	(MHz)	Level	(dBuV/m)	(dB)	Height	Angle	Value	Factor		
	(IVITZ)	(dBuV/m)	(ubu v/III)	(ub)	(m)	(Degree)	(dBuV)	(dB/m)		
1	129.138	31.03 QP	43.50	-12.47	1.00 V	232	17.83	13.20		
2	500.421	31.19 QP	46.00	-14.81	1.00 V	322	8.87	22.32		
3	568.457	31.42 QP	46.00	-14.58	1.05 V	313	7.58	23.84		
4	735.631	36.25 QP	46.00	-9.75	1.16 V	181	9.43	26.82		
5	797.836	31.31 QP	46.00	-14.69	1.21 V	175	3.13	28.18		
6	931.964	32.33 QP	46.00	-13.67	1.32 V	304	2.89	29.44		

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



# MODE A FOR TRANSMISSION MODE (FCC PART 15, SUBPART B)

MODULATION TYPE	GFSK	CHANNEL	0
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 68% RH, 1006hPa	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
TEST MODE	В	TESTED BY	ED. Lin

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M									
No.	Freq.	Emission Level	Limit	Margin	Antenna Height	Table Angle	Raw Value	Correction Factor		
	(MHz) (dBuV/m) (dBuV/m)	n) (dB)	(m)	(Degree)	(dBuV)	(dB/m)				
1	60.00	19.16 QP	30.00	-10.84	4.00 H	262	12.85	6.31		
2	113.22	20.21 QP	30.00	-9.79	4.00 H	126	8.17	12.04		
3	135.24	21.01 QP	30.00	-8.99	4.00 H	299	8.49	12.52		
4	158.25	19.89 QP	30.00	-10.11	4.00 H	255	6.96	12.93		
5	191.90	22.33 QP	30.00	-7.67	4.00 H	115	11.03	11.30		
6	229.01	20.12 QP	30.00	-9.88	4.00 H	158	6.04	14.08		

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 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	72.00	20.12 QP	30.00	-9.88	1.00 V	181	12.72	7.40		
2	115.33	24.41 QP	30.00	-5.59	1.00 V	149	12.16	12.25		
3	128.00	24.98 QP	30.00	-5.02	1.00 V	214	12.37	12.61		
4	135.00	22.82 QP	30.00	-7.18	1.00 V	156	10.30	12.52		
5	150.01	19.47 QP	30.00	-10.53	1.00 V	119	6.55	12.92		
6	192.11	22.12 QP	30.00	-7.88	1.00 V	187	10.81	11.31		

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



MODULATION TYPE	GFSK	CHANNEL	38
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 68% RH, 1006hPa	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
TEST MODE	В	TESTED BY	ED. Lin

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M									
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction		
No.	(MHz)	Level	(dBuV/m)	(dB)	Height	Angle	Value	Factor		
	(IVITZ)	(dBuV/m)	(GDGV/III)	(ub)	(m)	(Degree)	(dBuV)	(dB/m)		
1	60.01	20.26 QP	30.00	-9.74	4.00 H	217	13.95	6.31		
2	113.26	20.14 QP	30.00	-9.86	4.00 H	107	8.09	12.05		
3	135.23	20.84 QP	30.00	-9.16	4.00 H	312	8.32	12.52		
4	158.26	20.17 QP	30.00	-9.83	4.00 H	224	7.24	12.93		
5	191.89	23.02 QP	30.00	-6.98	4.00 H	102	11.72	11.30		
6	229.00	20.14 QP	30.00	-9.86	4.00 H	157	6.06	14.08		

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M									
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction		
No.		Level	-	_	Height	Angle	Value	Factor		
	(MHz)	(dBuV/m)	(dBuV/m) (dB)		(m)	(Degree)	(dBuV)	(dB/m)		
1	72.01	19.87 QP	30.00	-10.13	1.00 V	178	12.47	7.40		
2	115.34	24.08 QP	30.00	-5.92	1.00 V	153	11.83	12.25		
3	128.01	25.02 QP	30.00	-4.98	1.00 V	207	12.41	12.61		
4	135.00	22.97 QP	30.00	-7.03	1.00 V	151	10.45	12.52		
5	150.00	20.28 QP	30.00	-9.72	1.00 V	148	7.37	12.92		
6	192.11	22.06 QP	30.00	-7.94	1.00 V	183	10.75	11.31		

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



MODULATION TYPE	GFSK	CHANNEL	77
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	25deg. C, 68% RH, 1006hPa	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak, 120kHz
TEST MODE	В	TESTED BY	ED. Lin

	ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 10 M									
Na	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction		
No.	(MHz)	Level (dBuV/m)	(dBuV/m)	(dB)	Height (m)	Angle (Degree)	Value (dBuV)	Factor (dB/m)		
1	60.01	20.11 QP	30.00	-9.89	4.00 H	282	13.80	6.31		
2	113.25	19.61 QP	30.00	-10.39	4.00 H	118	7.56	12.05		
3	135.25	20.06 QP	30.00	-9.94	4.00 H	308	7.54	12.52		
4	158.27	19.23 QP	30.00	-10.77	4.00 H	246	6.30	12.93		
5	191.87	22.85 QP	30.00	-7.15	4.00 H	89	11.55	11.30		
6	229.02	19.87 QP	30.00	-10.13	4.00 H	148	5.79	14.08		

	ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 10 M									
No.	Freq. (MHz)	Emission Level	Limit (dBuV/m)	Margin	Antenna Height	Table Angle	Raw Value	Correction Factor		
	(IVITZ)	(dBuV/m)	(ubuv/iii)	dBuV/m) (dB)		(Degree)	(dBuV)	(dB/m)		
1	72.01	19.98 QP	30.00	-10.02	1.00 V	174	12.58	7.40		
2	115.35	24.59 QP	30.00	-5.41	1.00 V	141	12.34	12.25		
3	128.00	25.01 QP	30.00	-4.99	1.00 V	226	12.40	12.61		
4	135.02	22.77 QP	30.00	-7.23	1.00 V	147	10.25	12.52		
5	150.01	19.06 QP	30.00	-10.94	1.00 V	107	6.14	12.92		
6	192.14	22.01 QP	30.00	-7.99	1.00 V	193	10.70	11.31		

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



# RADIATED WORST CASE DATA: ABOVE 1GHz MODE A FOR TRANSMISSION MODE (FCC PART 15, SUBPART C)

MODULATION TYPE	GFSK	CHANNEL	0
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	1 ~ 25GHz
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 1006hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TEST MODE	А	TESTED BY	Jun Wu

	AN <sup>°</sup>	TENNA POLA	RITY & TE	EST DIST	ANCE: HO	RIZONTA	L AT 3 M	
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction
No.	(MHz)	Level	(dBuV/m)	(dB)	Height	Angle	Value	Factor
	(IVIITZ)	(dBuV/m)	(ubuv/III)	(ub)	(m)	(Degree)	(dBuV)	(dB/m)
1	2390.000	66.36 PK	74.00	-7.64	1.45 H	65	31.94	34.42
2	2390.000	47.50 AV	54.00	-6.50	1.45 H	65	13.08	34.42
3	*2402.000	98.13 PK	114.00	-15.87	1.45 H	65	63.69	34.44
4	*2402.000	83.36 AV	94.00	-10.64	1.45 H	65	48.92	34.44
5	4804.000	56.41 PK	74.00	-17.59	1.00 H	12	15.02	41.39
6	4804.000	47.34 AV	54.00	-6.66	1.00 H	12	5.95	41.39

	Α	NTENNA POL	ARITY &	TEST DIS	TANCE: V	ERTICAL	AT 3 M	
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction
No.	(MHz)	Level	(dBuV/m)	(dB)	Height	Angle	Value	Factor
	(IVIITZ)	(dBuV/m)	(dBuV/m) (dE	(ub)	(m)	(Degree)	(dBuV)	(dB/m)
1	2390.000	60.49 PK	74.00	-13.51	1.26 V	132	26.07	34.42
2	2390.000	47.89 AV	54.00	-6.11	1.26 V	132	13.47	34.42
3	*2402.000	91.06 PK	114.00	-22.94	1.26 V	132	56.62	34.44
4	*2402.000	78.18 AV	94.00	-15.82	1.26 V	132	43.74	34.44
5	4804.000	51.14 PK	74.00	-22.86	1.42 V	88	9.75	41.39
6	4804.000	41.08 AV	54.00	-12.92	1.42 V	88	-0.31	41.39

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



MODULATION TYPE	GFSK	CHANNEL	38
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	1 ~ 25GHz
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 1006hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TEST MODE	А	TESTED BY	Jun Wu

	AN <sup>*</sup>	TENNA POLA	RITY & TE	EST DIST	ANCE: HO	RIZONTA	L 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	*2440.000	99.10 PK	114.00	-14.90	1.45 H	60	64.58	34.52
2	*2440.000	84.34 AV	94.00	-9.66	1.45 H	60	49.82	34.52
3	4880.000	54.73 PK	74.00	-19.27	1.24 H	10	13.27	41.47
4	4880.000	45.77 AV	54.00	-8.23	1.24 H	10	4.31	41.47

	Α	NTENNA POL	ARITY &	TEST DIS	TANCE: V	ERTICAL	AT 3 M	
	Freq.	Emission	Limit	Margin	Antenna	Table	Raw	Correction
No.	(MHz)	Level	(dBuV/m)	(dB)	Height	Angle	Value	Factor
	(IVIITZ)	(dBuV/m)	(ubuv/III)	(ub)	(m)	(Degree)	(dBuV)	(dB/m)
1	*2440.000	91.43 PK	114.00	-22.57	1.43 V	211	56.91	34.52
2	*2440.000	80.50 AV	94.00	-13.50	1.43 V	211	45.98	34.52
3	4880.000	51.57 PK	74.00	-22.43	1.21 V	93	10.11	41.47
4	4880.000	39.11 AV	54.00	-14.89	1.21 V	93	-2.35	41.47

### 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)

3The other emission levels were very low against the limit.

- 4. Margin value = Emission level Limit value.
- 5. " \* " : Fundamental frequency



MODULATION TYPE	GFSK	CHANNEL	77
INPUT POWER (SYSTEM)	120Vac, 60 Hz	FREQUENCY RANGE	1 ~ 25GHz
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 1006hPa	DETECTOR FUNCTION	Peak(PK) Average (AV)
TEST MODE	А	TESTED BY	Jun Wu

	AN	TENNA POLA	RITY & TE	EST DIST	ANCE: HC	RIZONTA	L 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	*2479.000	98.34 PK	114.00	-15.66	1.44 H	61	63.83	34.51
2	*2479.000	83.53 AV	94.00	-10.47	1.44 H	61	49.02	34.51
3	2483.500	72.67 PK	74.00	-1.33	1.44 H	61	38.16	34.51
4	2483.500	48.91 AV	54.00	-5.09	1.44 H	61	14.40	34.51
5	4958.000	53.57 PK	74.00	-20.43	1.52 H	357	11.90	41.67
6	4958.000	44.19 AV	54.00	-9.81	1.52 H	357	2.52	41.67

	Α	NTENNA POL	ARITY &	TEST DIS	TANCE: V	ERTICAL	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	*2479.000	90.92 PK	114.00	-23.08	1.40 V	210	56.41	34.51
2	*2479.000	78.30 AV	94.00	-15.70	1.40 V	210	43.79	34.51
3	2483.500	66.53 PK	74.00	-7.47	1.40 V	210	32.02	34.51
4	2483.500	47.72 AV	54.00	-6.28	1.40 V	210	13.21	34.51
5	4958.000	51.66 PK	74.00	-22.34	1.41 V	71	9.99	41.67
6	4958.000	39.40 AV	54.00	-14.60	1.41 V	71	-2.27	41.67

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



# 4.3 BAND EDGES MEASUREMENT

# 4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below –50dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

# 4.3.2 TEST INSTRUMENTS

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
SPECTRUM ANALYZER	FSP 40	100036	Mar. 13, 2008

**NOTE:** 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 both RBW and VBW of spectrum analyzer to 100 kHz and 300 kHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots are attached on the following pages.

## 4.3.4 DEVIATION FROM TEST STANDARD

No deviation

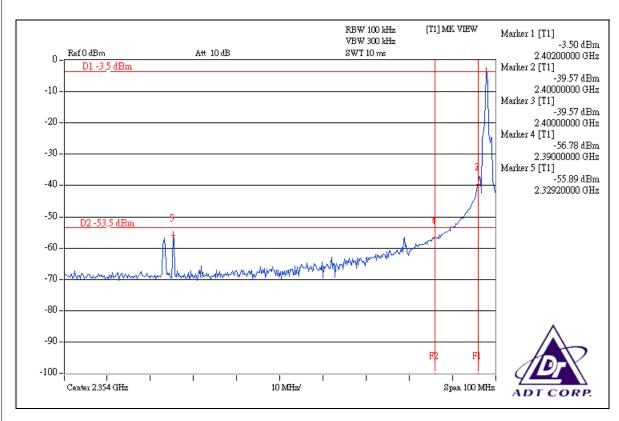
# 4.3.5 EUT OPERATING CONDITION

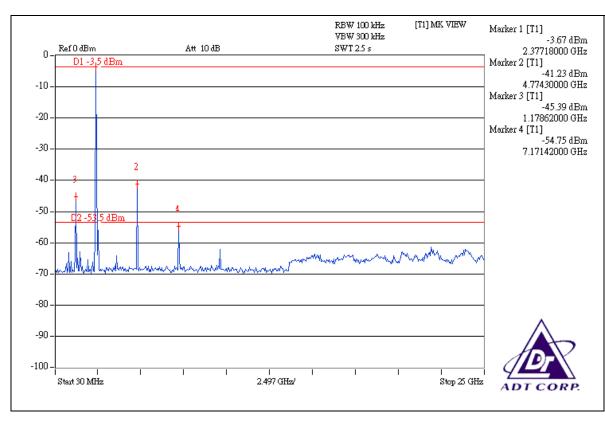
Same as Item 4.2.6

## 4.3.6 TEST RESULTS

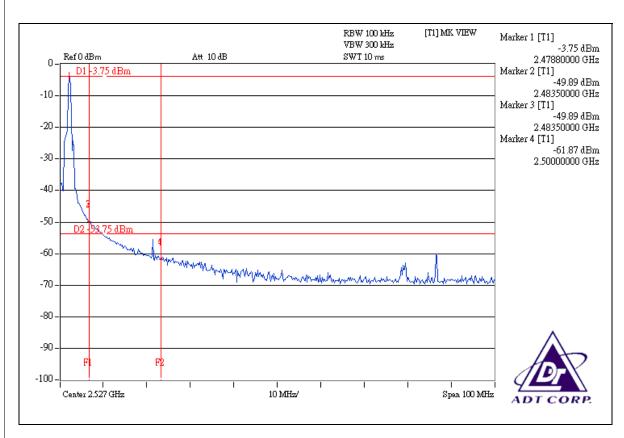
The spectrum plots are attached on the following 4 images. D1 line indicates the highest level, and D2 line indicates the 50dB offset below D1. It shows compliance with the requirement in part 15.249(d).

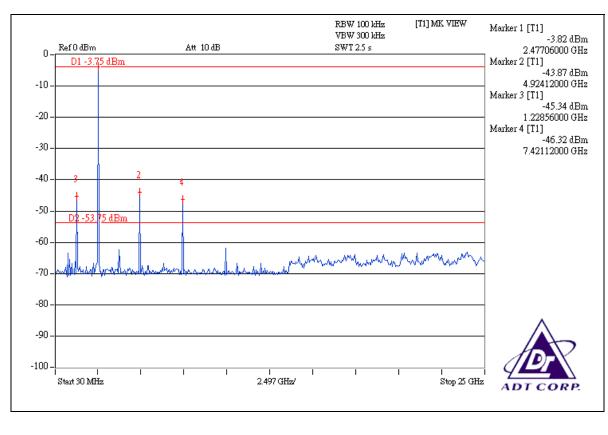














# **5. PHOTOGRAPHS OF THE TEST CONFIGURATION**

Please refer to the attached file (Test Setup Photo).



## 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, UL, A2LA TUV Rheinland

Japan VCCI Norway NEMKO

Canada INDUSTRY CANADA, CSA

**R.O.C.** TAF, BSMI, NCC

Netherlands Telefication

Singapore GOST-ASIA(MOU)
Russia CERTIS(MOU)

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

<u>www.adt.com.tw/index.5/phtml</u>. If you have any comments, please feel free to contact us at the following:

 Linko EMC/RF Lab:
 Hsin Chu EMC/RF Lab:

 Tel: 886-2-26052180
 Tel: 886-3-5935343

 Fax: 886-2-26051924
 Fax: 886-3-5935342

## Hwa Ya EMC/RF/Safety Telecom Lab:

Tel: 886-3-3183232 Fax: 886-3-3185050

Web Site: www.adt.com.tw

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



# 7. APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.