



FCC TEST REPORT

CATEGORY: Outdoor Mobile End Product
PRODUCT NAME: **Labtec Wireless Desktop Edge (Mouse)**
FCC ID.: 03L-PT-03-MN
FILING TYPE: Certification
BRAND NAME: Paten
MODEL NAME: **M-RAL98**

APPLICANT: **Paten Wireless Technology Inc.**
8F, No.407, Zui Kuang, Rd., Nei-Hu, Taipei 114,
Taiwan, R.O.C.
MANUFACTURER: The same as Applicant.

ISSUED BY: **SPORTON INTERNATIONAL INC.**
6F, No. 106, Sec. 1, Hsin Tai Wu Rd., His Chih, Taipei Hsien,
Taiwan, R.O.C.

Statements:

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

Certificate or Test Report could not be used by the applicant to claim the product endorsement by CNLA, NVLAP or any agency of U.S. government.

The test equipment used to perform the test are calibrated and traceable to NML/ROC or NIST/USA.

Alex Chen
Manager



Lab Code: 200079-0

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History of this test report

☒ No additional attachment.

☐ Additional attachment were issued as following record:

Attachment No.	Issue Date	Description



1. GENERAL DESCRIPTION OF EQUIPMENT UNDER TEST

1.1. General Description

Items	Description
Sample Type	Labtec Wireless Desktop Edge (Mouse)
Date of Testing	Jan. 13, 2004

1.2. Technical Features

Items	Description
Modulation	FSK
Number of Channels	1
Operating Frequency Band	27.045MHz
Type of Antenna (Gain)	Loop Antenna
Function Type	Transmitter
Power Rating (DC/AC , Voltage)	3 VDC



2. TEST CONFIGURATION OF THE EQUIPMENT UNDER TEST

2.1. Description of the Test

- a) The used peripherals as well as the configuration fulfill the requirements of ANSI C63.4:2001. The configuration is operated in a manner which tends to maximize its emission characteristics in a typical application.
- b) 3 meters measurement distance was used in this test.

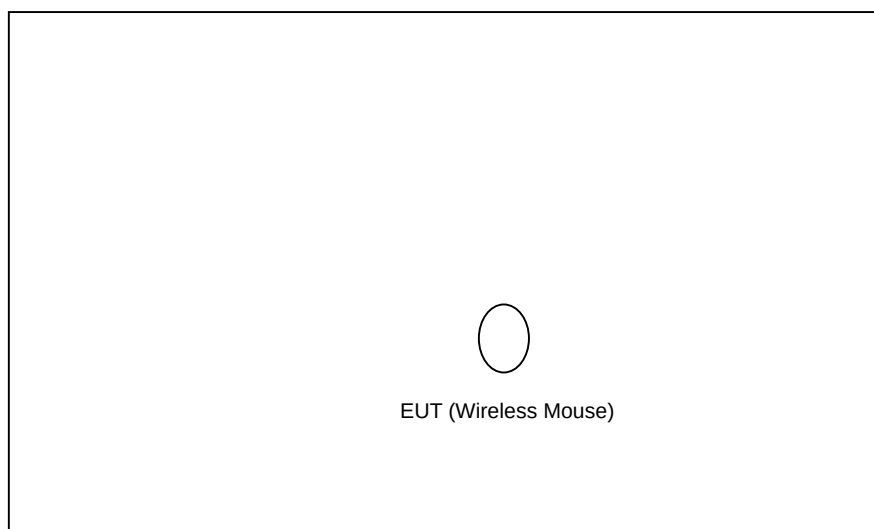
2.2. Frequency Range Investigated

- a) Radiated emission test: from 30 MHz to 1000MHz.

2.3. Details of the Supporting Units

The EUT was tested alone. No support device is needed for testing.

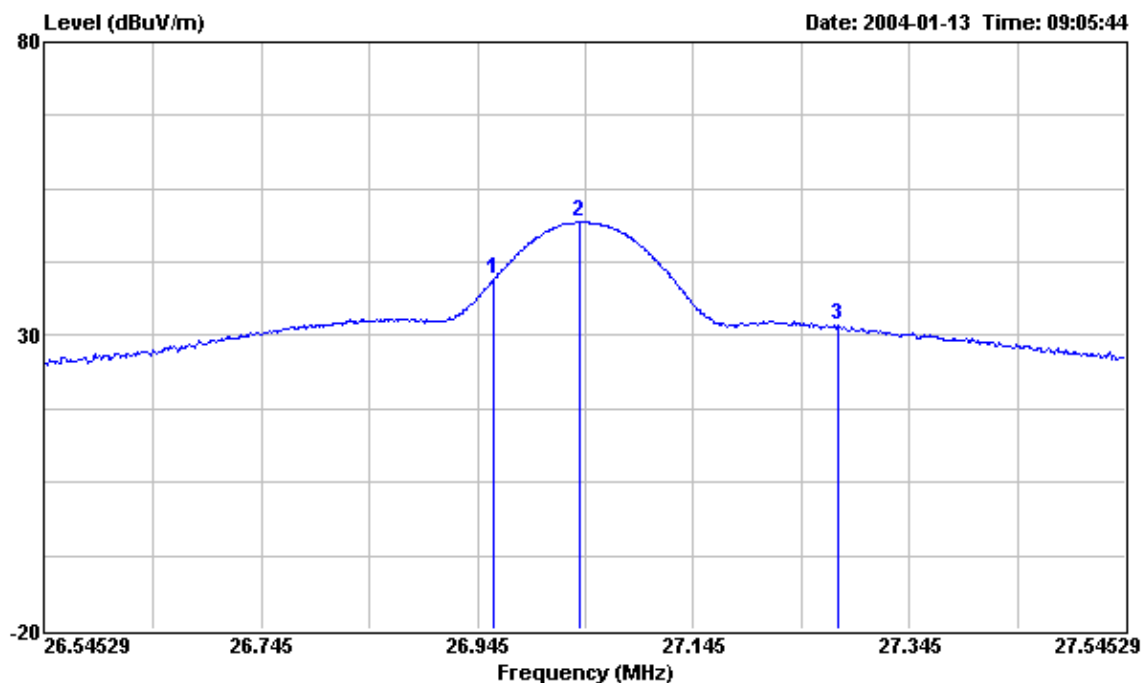
2.4. Connection Diagram of Test System





2.5. Band edge compliance plot per 15.227(b).

Horizontal



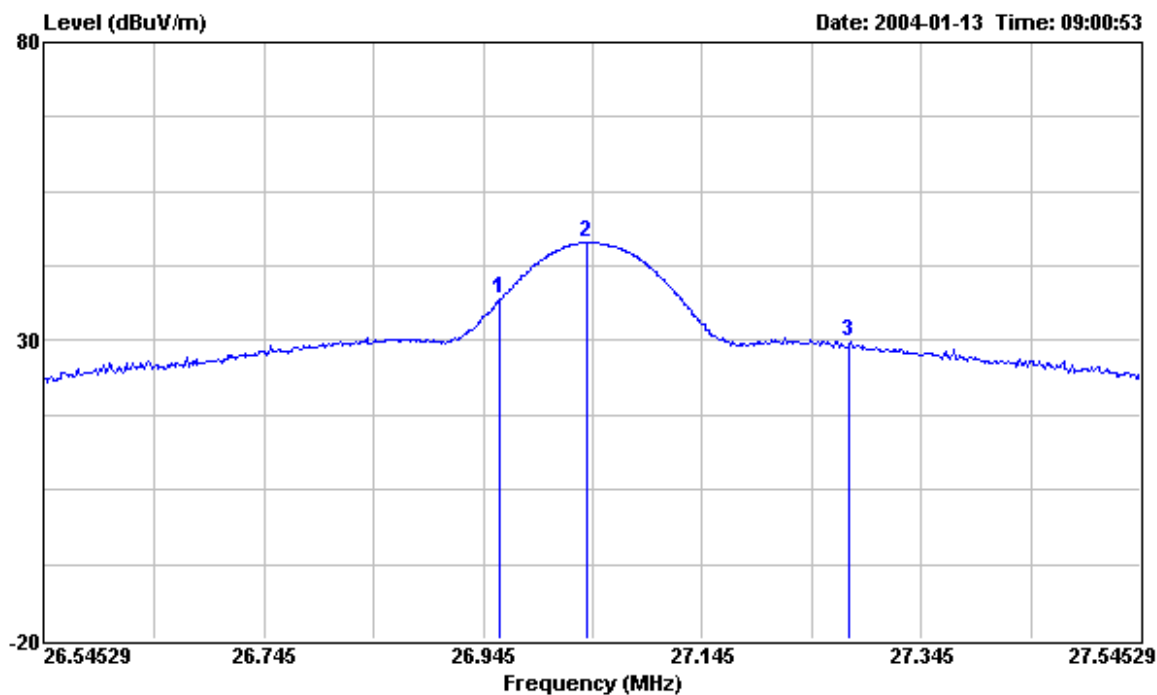
RBW:120KHz,VBW:300KHz

Conformation of the fundamental frequency

Frequency	Over	Limit	Read	Probe	Calbe	Preamp	
Level	Limit	Line	Level	Factor	Loss	Factor	
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)	
26.960	39.57	-29.97	69.54	51.92	14.84	0.87	28.06
27.040	49.33	-30.67	80.00	61.69	14.83	0.87	28.06
27.280	31.67	-37.87	69.54	44.06	14.80	0.87	28.06



Vertical



RBW:120KHz,VBW:300KHz

Conformation of the fundamental frequency

Frequency	Over	Limit	Read	Probe	Calbe	Preamp
Level	Limit	Line	Level	Factor	Loss	Factor
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV)	(dB)	(dB)
26.960	36.98	-32.56	69.54	49.33	14.84	0.87
27.040	46.52	-33.48	80.00	58.88	14.83	0.87
27.280	29.69	-39.85	69.54	42.08	14.80	0.87



3. TEST SOFTWARE

The EUT is programed in continue transmit mode.



4. TEST LOCATION AND STANDARDS

4.1. Test Location

Test Location : Sporton Hwa Ya Testing Building

Address : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao
Yuan Hsien, Taiwan, R.O.C.

Tel: +886 3 327 3456 Fax: +886 3 318 0055

Test Site No. : 03CH03-HY

4.2. Test Standards

Here is the list of the standards followed in this test report.

ANSI C63.4-2001

47 CFR Part 15 Subpart C (Section 15.227)



5. Conducted Emission Measurement

The power supply of the EUT is from battery.

So the conducted powerline test is not applicable to the EUT.



6. Test of Radiated Emission

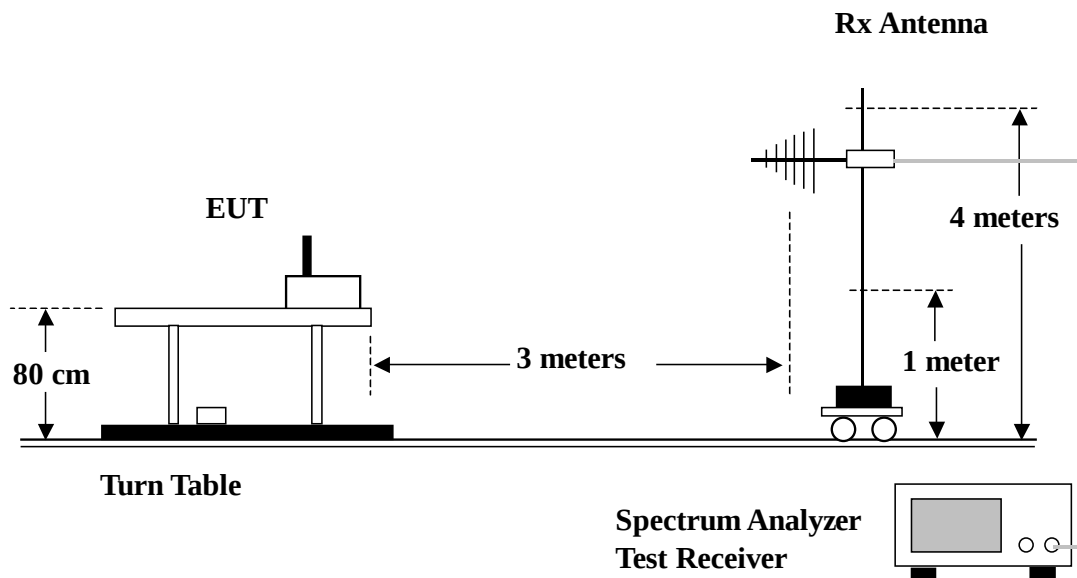
6.1.1. Measuring Instruments

Please reference item 1~8 in chapter 7 for the instruments used for testing.

6.1.2. Test Procedures

- a) Configure the EUT according to ANSI C63.4.
- b) The EUT was placed on the top of the turn table 0.8 meter above ground.
- c) The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turn table.
- d) Power on the EUT and all the supporting units.
- e) The turn table was rotated 360 degrees to determine the position of the highest radiation.
- f) The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emission field strength of both horizontal and vertical polarization.
- g) For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turn table was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- h) Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- i) If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

6.1.3. Test Setup Layout





6.1.4. Test Results and Limit

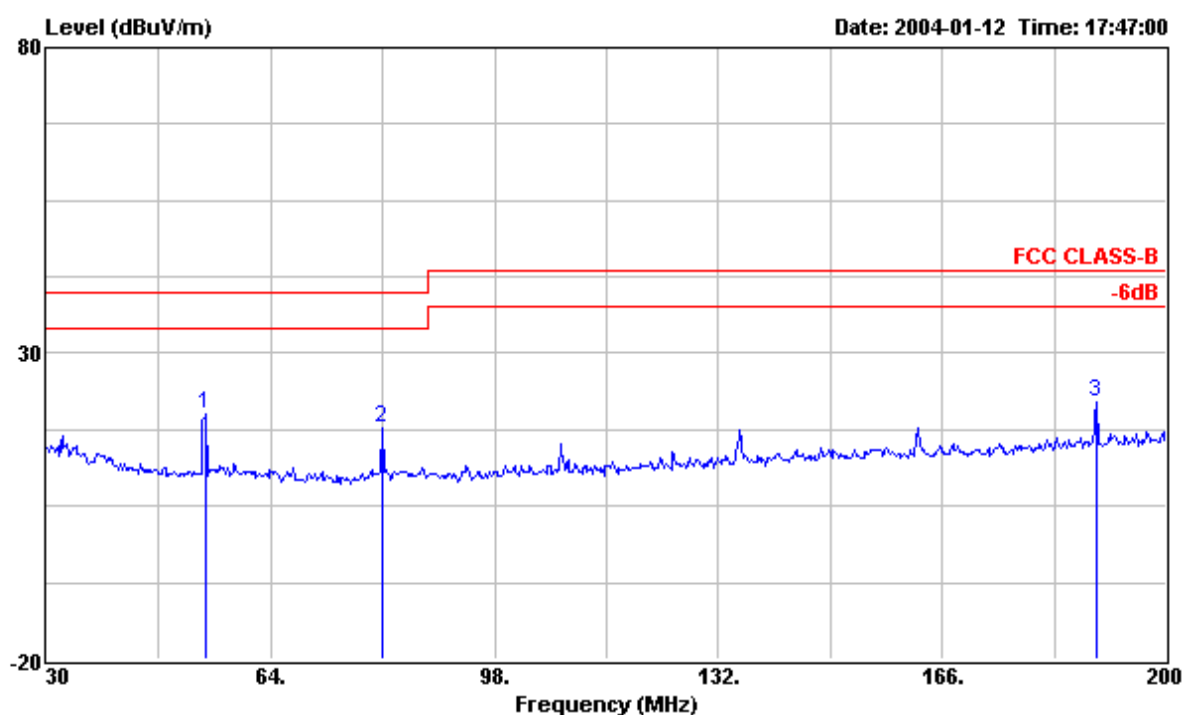
Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

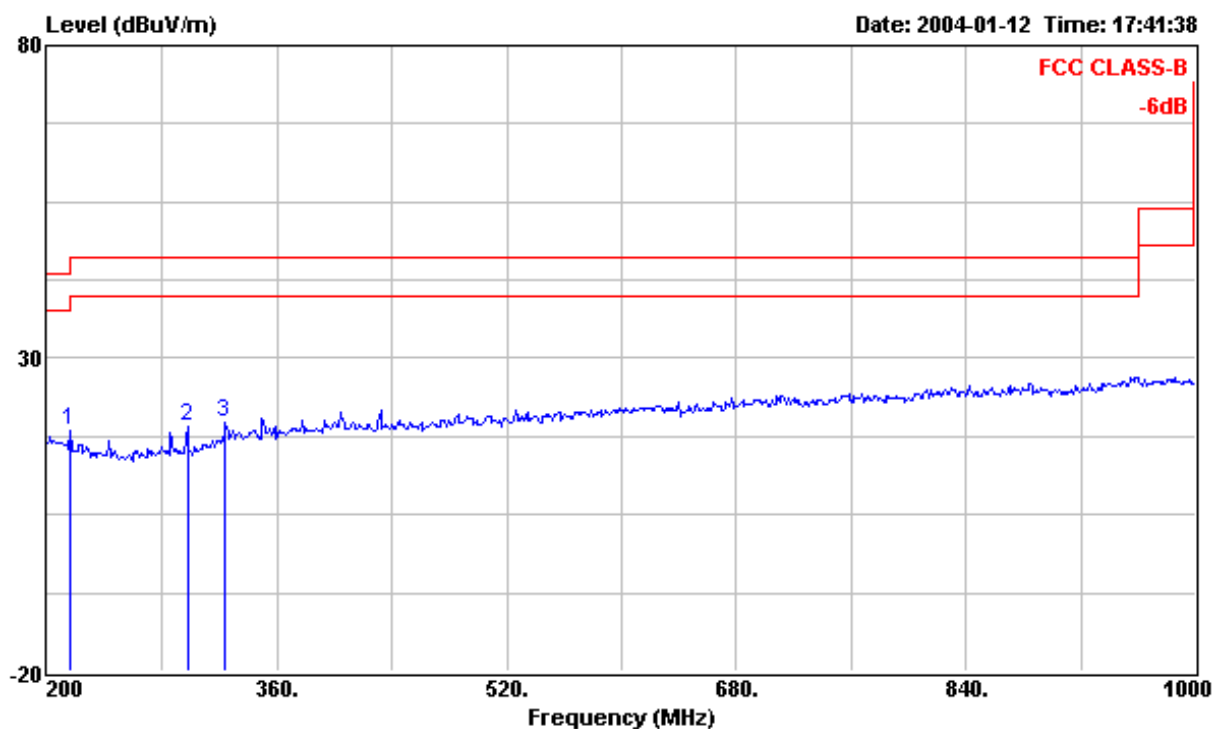
Corrected Reading: Probe Factor + Cable Loss + Read Level - Preamp Factor = Level

Test Mode	TX	Temperature	26deg. C	Tested By	Steve Chen
Freq. Range	30MHz~1GHz	Humidity	64		

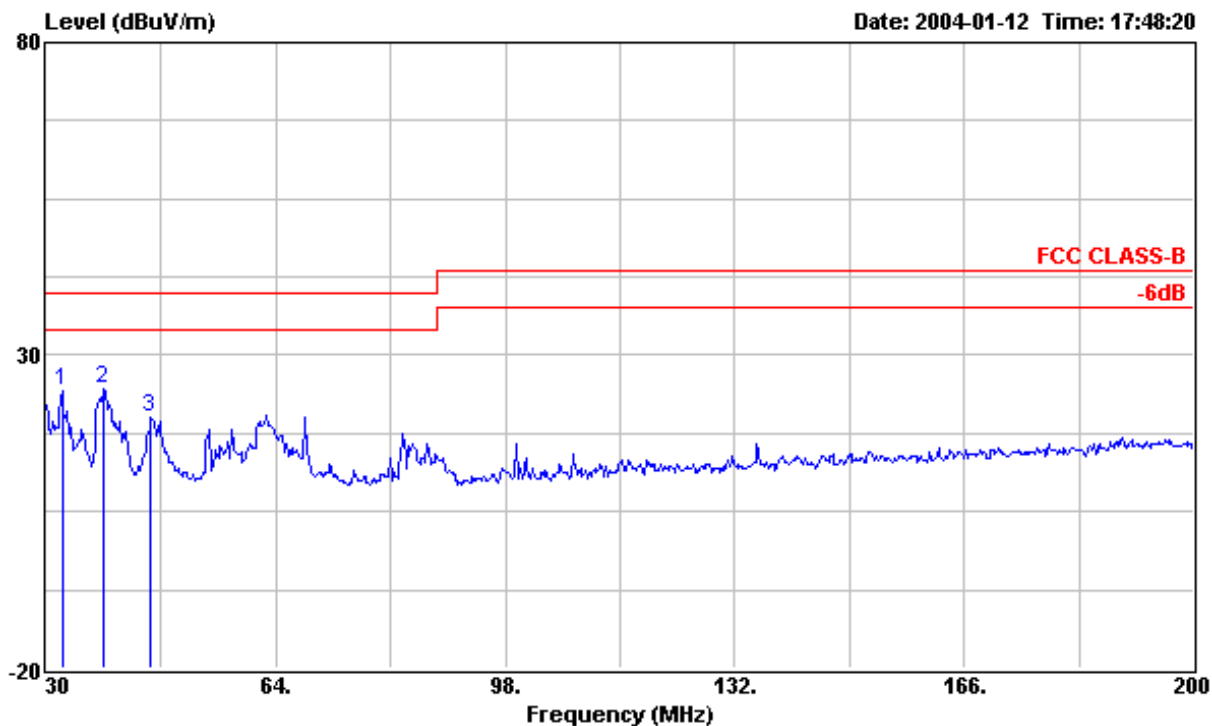
(A) Polarization: Horizontal



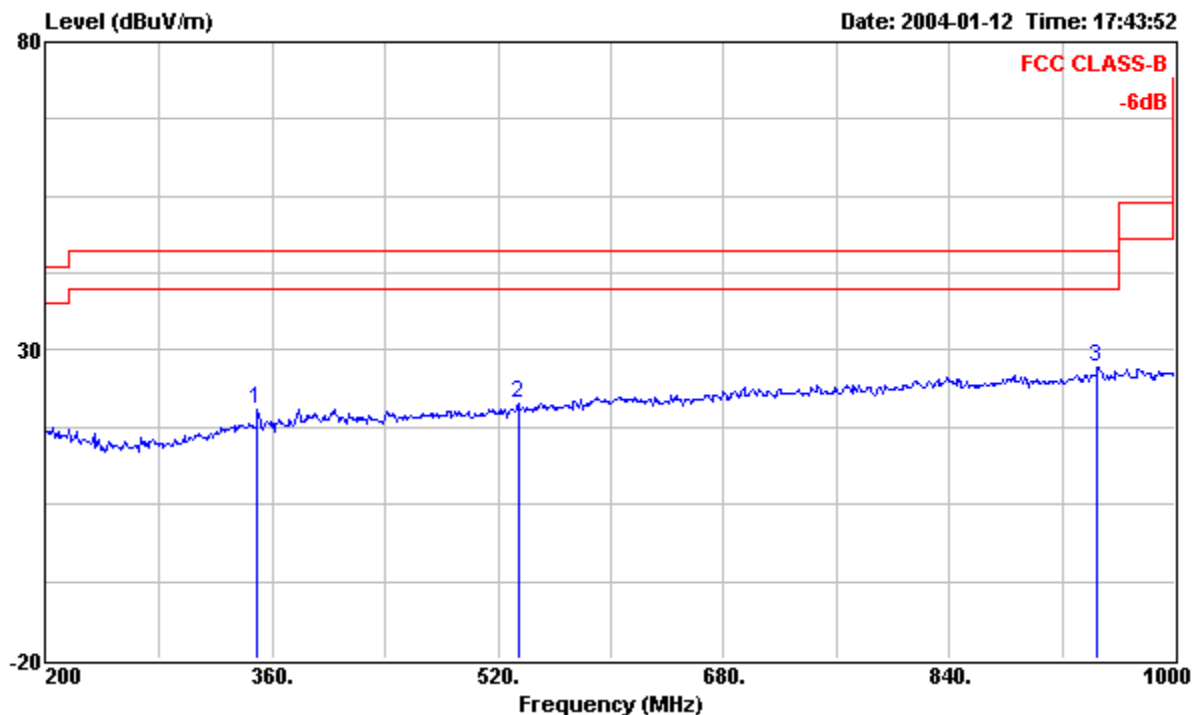
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	54.140	19.95	-20.05	40.00	36.16	10.19	1.59	27.99		---	---
2	80.830	17.70	-22.30	40.00	34.53	9.56	1.55	27.94		---	---
3	189.460	22.17	-21.33	43.50	32.99	14.52	2.38	27.72		---	---



	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	215.200	18.56	-24.94	43.50	29.22	14.42	2.56	27.64		---	---
2	297.600	18.93	-27.07	46.00	30.12	13.14	2.98	27.31		---	---
3	324.000	19.70	-26.30	46.00	29.49	14.56	3.07	27.42		---	---

**(B) Polarization: Vertical**

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	32.380	24.18	-15.82	40.00	37.65	13.57	1.00	28.04		---	---
2	38.500	24.53	-15.47	40.00	38.81	12.04	1.08	27.40		100	132
3	45.470	20.02	-19.98	40.00	36.29	10.57	1.17	28.01		---	---



	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	349.600	20.29	-25.71	46.00	29.32	15.27	3.25	27.55		---	---
2	534.400	21.49	-24.51	46.00	28.42	17.64	4.16	28.73		---	---
3	944.800	27.38	-18.62	46.00	28.36	21.76	5.51	28.25		---	---

6.1.5. Photographs of Radiated Emission Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW



REAR VIEW





7. List of Measuring Equipments Used

Items	Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz~1GHz 3m	Jun. 14, 2003	Radiation (03CH02-HY)
2	Spectrum Analyzer	R&S	FSP7	838858/013	9KHz – 30GHz	Jan. 30, 2004	Radiation (03CH02-HY)
3	Receiver	SCHAFFNER	SCR 3501	416	9 KHz –1GHz	Feb. 19, 2003	Radiation (03CH02-HY)
4	Amplifier	ADVANTEST	BB525C	CH300001	9KHz – 3GHz	Nov. 14, 2003	Radiation (03CH02-HY)
5	Bilog Antenna	SCHAFFNER	CBL61128	2723	30MHz –2GHz	Dec. 03, 2003	Radiation (03CH02-HY)
6	Turn Table	HD	DS 420	420/649/00	0 ~ 360 degree	N/A	Radiation (03CH02-HY)
7	Antenna Mast	HD	MA 240	240/559/00	1 m - 4 m	N/A	Radiation (03CH02-HY)
8	RF Cable-R03m	Jye Bao	RG142	CB020	30MHz~1GHz	Dec. 02, 2003	Radiation (03CH02-HY)

※ Calibration Interval of instruments listed above is one year.