APPLICATION FOR CERTIFICATION
On Behalf of
CAN TECHNOLOGY CO., LTD.

Mouse

Model : (1)ACE-900(2)ACE-800(3)ACE-700(4)ACE-600

FCC ID: IZI35967800

Prepared for : CAN TECHNOLOGY CO., LTD.
No. 827, Sec. 1, Jung Hua Rd., Jung Li City,
Taoyuan, Taiwan.

Prepared By : Taiwan Tokin EMC Eng. Corp.
No. 53-11, Tin-Fu Tsun, Lin-Kou,
Taipei Hsien, Taiwan, R.O.C.

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File Number	:	ATM-G901141
Report Number	:	TTEMC-F01153
Date of Test	:	Nov. 09 ~ 13, 2001
Date of Report	:	Nov. 16, 2001

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TEST REPORT CERTIFICATION

Applicant	:	CAN TECHNOLOGY CO., LTD.
Manufacturer	:	PRESIDENT COMPUTER TECH CO., LTD.
EUT Description	:	Mouse
FCC ID	:	IZI35967800

(A) MODEL NO. : (1)ACE-900(2)ACE-800
(3)ACE-700(4)ACE-600

(B) SERIAL NO. : N/A

(C) POWER SUPPLY : DC 5V

Measurement Procedure Used :
FCC RULES AND CISPR 22 (DOCKET NO. 92-152, SEP. 1993) AND
FCC / ANSI C63.4-1992
(FCC Part 15/2001 and CISPR 22/1997+A1/2000)

The device described above was tested by TAIWAN TOKIN EMC ENG. CORP. to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the CISPR 22 Class B limits both radiated and conducted emissions.
The measurement results are contained in this test report and TAIWAN TOKIN EMC ENG. CORP. is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Taiwan Tokin EMC Eng. corp.

Date of Test : Nov. 09 ~ 13, 2001

Prepared by : Tina Huang NOV. 22, 2001
(TINA HUANG)

Test Engineer : Ben Cheng 11/22 2001
(BEN CHENG)

Approve & Authorized Signer : 11/22/01
(JACKIE DENG)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Mouse
Model Number	:	(1)ACE-900(2)ACE-800 (3)ACE-700(4)ACE-600 Above all models have the same circuits & PCB the difference of each model is in appearance.
FCC ID	:	IZI35967800
Applicant	:	CAN TECHNOLOGY CO., LTD. No. 827, Sec. 1, Jung Hua Rd., Jung Li City, Taoyuan, Taiwan.
Manufacturer	:	PRESIDENT COMPUTER TECH CO., LTD. NO. 4th Building Guang Sheng Industry Zone, Nan Ping, Zhuhai City, Guang Dong, China
Data Cable	:	Non-Shielded, Undetachable, 1.5m
Date of Receipt of Sample	:	Nov. 08, 2001
Date of Test	:	Nov. 09 ~ 13, 2001

1.2. Tested Supporting System Details

1.2.1. PERSONAL COMPUTER

Mother Board	:	ASUS, M/N P5A FCC ID. By DoC
CPU	:	AMD K6-2 266MHz
Case	:	Enlight, M/N EN7105C
S.P.S.	:	SPI, M/N FSP250-61GT S/N W13562612
Floppy Drive 3.5”	:	Mitsumi, M/N D353M3
Hard Disk Drive	:	Seagate, M/N ST34321A S/N VTH97300
VGA Card	:	Dataexpert, M/N CP765V2, S/N E700492315 FCC ID LUT-CP765
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.2. MONITOR

Model Number	:	PM36B
Serial Number	:	W821111454
FCC ID	:	IIBTC1
Manufacturer	:	Funai Electric Company of Taiwan
Data Cable	:	Shielded, Undetachable, 1.2m
Power Cord	:	Non-Shielded, Detachable, 1.5m

1.2.3. KEYBOARD

Model Number	:	5121
Serial Number	:	J83300806
FCC ID	:	E5XKBM104M10UC
Manufacturer	:	Behavior Tech Computer Corp.
Data Cable	:	Shielded, Undetachable, 1.0m

1.2.4. PRINTER

Model Number	:	2225C+
Serial Number	:	3007S68643
FCC ID	:	DSI6XU2225
Manufacturer	:	Hewlett Packard
Power Adapter	:	Hewlett Packard, M/N 82241A Non-Shielded, Undetachable, 2.0m
Data Cable	:	Shielded, Detachable, 1.2m

1.2.5. MODEM #1

Model Number	:	DM-1414
Serial Number	:	980034389
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.6. MODEM #2

Model Number	:	DM-1414
Serial Number	:	980034388
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.7. USB MOUSE #1

Model Number	:	CREUBB
Serial Number	:	N/A
FCC ID	:	NHM-CREUBE
BSMI ID No.	:	3872F083
Manufacturer	:	CRE Technology Co., Ltd.
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.8. USB MOUSE #2

Model Number	:	CREUBB
Serial Number	:	N/A
FCC ID	:	NHM-CREUBE
BSMI ID No.	:	3872F083
Manufacturer	:	CRE Technology Co., Ltd.
Data Cable	:	Shielded, Undetachable, 1.8m

1.3. Test Facility

Site Description (No. 5 Open Site)	:	Jan. 29, 2001 Re-File on Federal Communication Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, U.S.A. Registration Number: 90992
Name of Firm	:	Taiwan Tokin EMC Eng. Corp.
Site Location	:	No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei Hsien, Taiwan, R.O.C.
NVLAP Lab Code	:	200077-0

2. POWERLINE CONDUCTED TEST

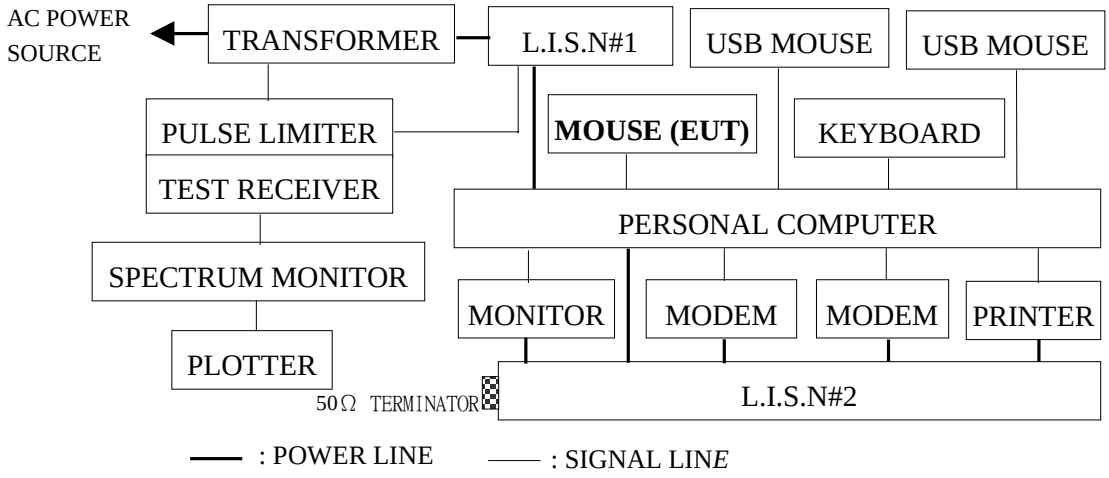
2.1. Test Equipment

The following test equipments are used during the power line conducted tests：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESH3	880647/035	Jun. 28, 01’	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-881-13	Apr. 25, 01’	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-855-9	Apr. 25, 01’	1 Year
4.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	002	Jul. 07, 01’	1 Year

2.2. Block Diagram of Test Setup

2.2.1. Block Diagram of connection between EUT and simulators



2.3. Powerline Conducted Emission Limit (CISPR 22 CLASS B)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150KHz ~ 500KHz	66 ~ 56 dB	56 ~ 46 dB
500KHz ~ 5MHz	56 dB	46 dB
5MHz ~ 30MHz	60 dB	50 dB

2.4. EUT's Configuration during Compliance Measurement

The following equipments were installed on RF LINE VOLTAGE measurement to meet the Commission requirement and operating in a manner which tended to maximize its emission characteristics in a normal application.

2.4.1. Mouse (EUT)

Model Number	:	(1)ACE-900(2)ACE-800 (3)ACE-700(4)ACE-600
Serial Number	:	N/A
FCC ID	:	IZI35967800
Manufacturer	:	PRESIDENT COMPUTER TECH CO., LTD
Electrical Rating	:	DC 5V
Data Cable	:	Non-Shielded, Undetachable, 1.5m

2.4.2. Supporting System : As in Section 1.2

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown on 2.2.

2.5.2. Turned on the power of all equipment.

2.5.3. Personal computer reads data from disk.

2.5.4. Setup the personal computer to drive the mouse (EUT) through the EMI self-test program by windows.

2.5.5. Personal computer running the self-test program "HWIN" and sent "H" character to monitor, then the screen of monitor displayed and fills with "H" pattern.

2.5.6. The other peripheral devices were drove and operated in turn during all testing.

2.5.7. Repeat above procedure from 2.5.3. to 2.5.6.

2.6. Test Procedure

The EUT was connect to PC, then the PC's power was connected to the power mains through a line impedance stabilization network (L.I.S.N. #1) and the other peripheral devices power cord were connected to the power mains through a line impedance stabilization network (L.I.S.N. #2). This provided a 50ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.).
Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to FCC ANSI C63.4-1992 on conducted measurement.

The bandwidth of the R&S Test Receiver ESH3 was set at 10KHz.
The frequency range from 150KHz to 30MHz was checked.

EUT linked to PC and with test voltage of AC 120V/60Hz were done during conducted measurement and all the test results are listed in section 2.7.

2.7. Test Results

PASSED. All the test results are listed in the following pages.

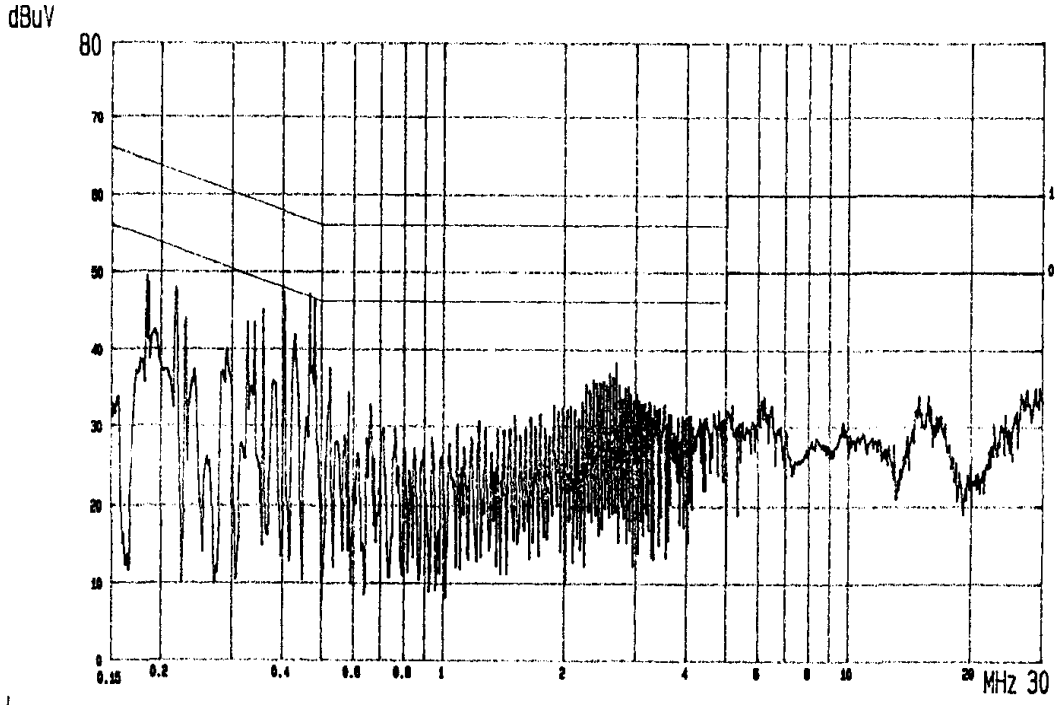
Data of Test： Nov. 09, 2001 Temperature： 22℃

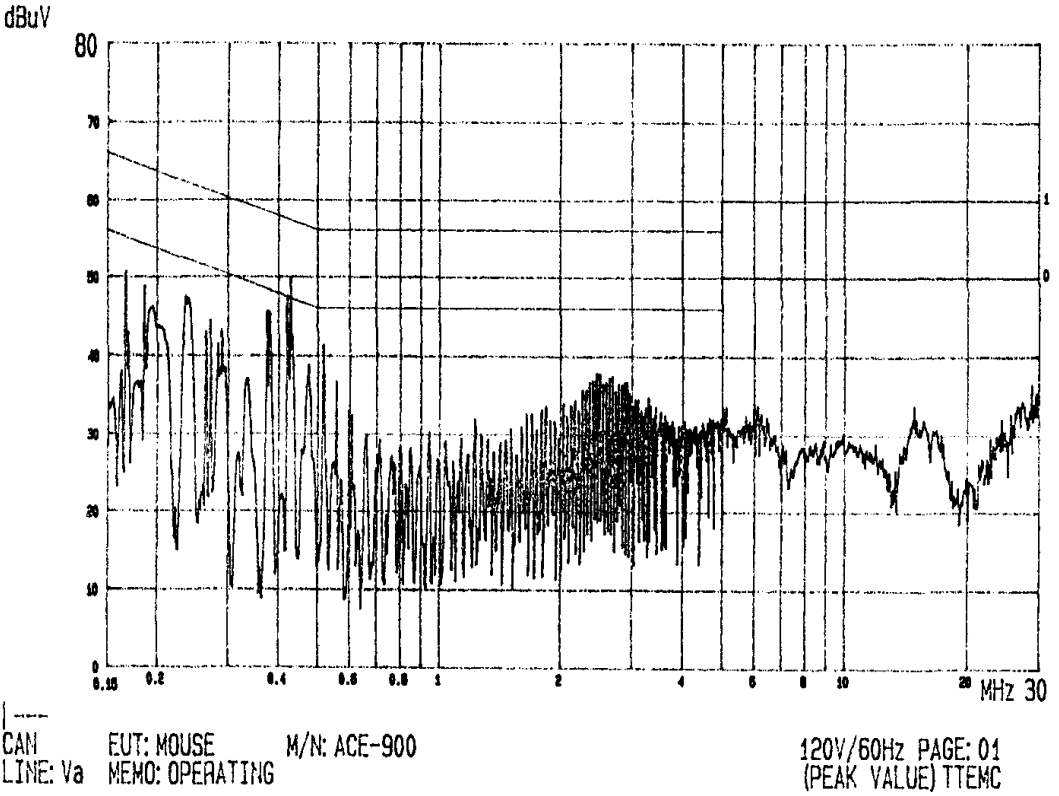
EUT： Mouse Humidity： 56%

Frequency MHz	Factor dB	Reading(dBμV)		Measurement (dBμV)		Limits (dBμV)	
		Phase A Neutral					
		Q.P.	Average	Q.P.	Average	Q.P.	Average
0.1707	0.4	51.0	*	51.4	0.4	64.9	54.9
0.2360	0.4	47.0	*	47.4	*	62.2	52.2
0.4225	0.5	45.0	38.8	45.5	*	56.0	46.0
0.5707	0.5	34.0	*	34.5	*	56.0	46.0
1.0343	0.5	27.0	*	27.5	*	56.0	46.0
1.4048	0.5	29.4	*	29.9	*	56.0	46.0

Frequency MHz	Factor dB	Reading(dBμV)		Measurement (dBμV)		Limits (dBμV)	
		Phase B Line					
		Q.P.	Average	Q.P.	Average	Q.P.	Average
0.1832	0.4	49.4	*	49.8	0.4	64.3	54.3
0.2402	0.4	37.2	*	37.6	*	62.0	52.0
0.5674	0.5	28.8	*	29.3	*	56.0	46.0
0.9868	0.5	26.2	*	26.7	*	56.0	46.0
1.4048	0.5	29.4	*	29.9	*	56.0	46.0
2.0237	0.5	32.2	*	32.7	*	56.0	46.0

Remark： 1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss
3. Measurement = Factor + Reading
4. “*” Above Q.P. values have met both limits, it’s not necessary to measure with average detector.


dBuV
80
70
60
50
40
30
20
10
0
0.15
0.2
0.4
0.6
0.8
1
2
4
6
8
10
20
MHz
30
CAN
LINE: Vb
EUT: MOUSE
MEMO: OPERATING
M/N: ACE-900
120V/60Hz PAGE: 02
(PEAK VALUE) TTEMC


dBuV
80
70
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40
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10
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6
8
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20
MHz
30
CAN
LINE: Va
EUT: MOUSE
MEMO: OPERATING
M/N: ACE-900
120V/60Hz PAGE: 01
(PEAK VALUE) TTEMC

3. RADIATED EMISSION TEST

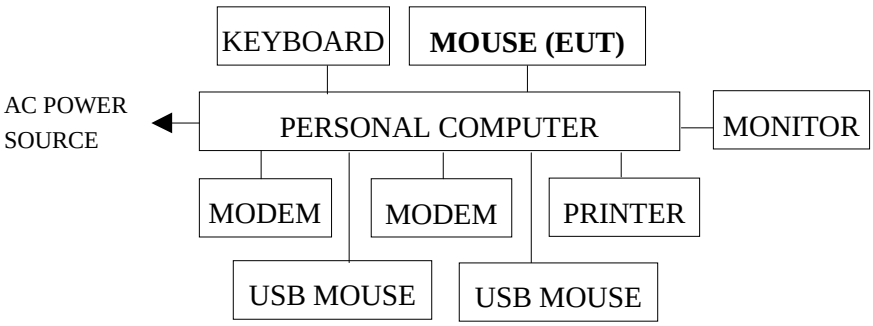
3.1. Test Equipment

The following test equipments are used during the radiated emission tests：

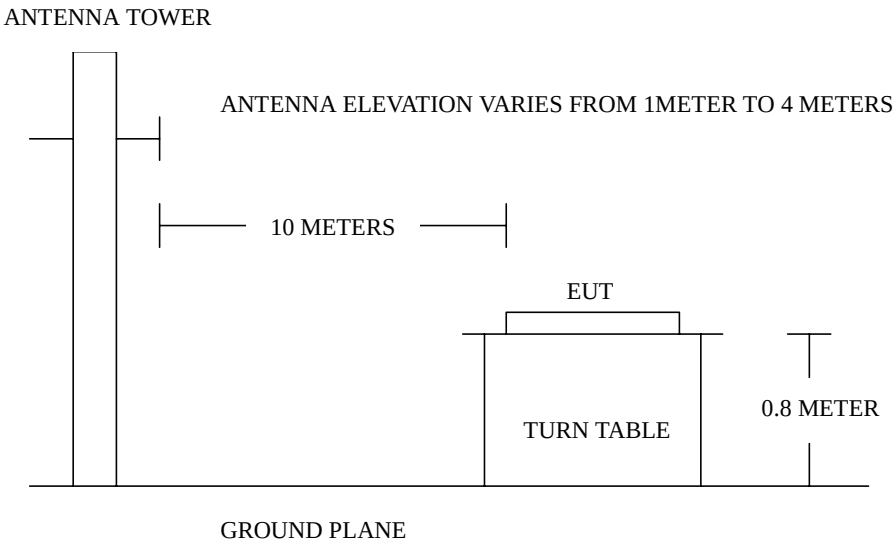
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8595E	3829A03778	Aug. 17, 01’	1 Year
2.	Test Receiver	R&S	ESVS10	849231/017	Dec. 01, 00’	1 Year
3.	Biconical Antenna	Chase	VBA6106A	1227	Apr. 16, 01’	1 Year
4.	Log Periodic Antenna	Chase	UPA6109	1061	Apr. 16, 01’	1 Year

3.2. Block Diagram of Test Setup

3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Open Field Test Site Setup Diagram



3.3. Radiation Limit (CISPR 22)

All emanations from a class B computing devices or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

FREQUENCY (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dBuV/m)
30 ~ 230	10	30
230 ~ 1000	10	37

Note： (1) The tighter limit shall apply at the edge between two frequency bands.
(2) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the E.U.T..

3.4. EUT's Configuration during Compliance Measurement

The configuration of EUT and its simulators were the same as those used in conducted measurement. Please refer to 2.4.

3.5. Operating Condition of EUT

Same as conducted measurement which was listed in 2.5. except the test set up replaced by section 3.2.

3.6. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 10 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) and dipole antenna are used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4-1992 on radiated measurement.

The bandwidth of the R&S Test Receiver ESVS10 was set at 120KHz.

The frequency range from 30MHz to 1000MHz is checked.

EUT linked to PC and with test voltage of AC 120V/60Hz were done on radiated measurement and all the test results are listed in section 3.8.

3.7. Test Results

PASSED. Please refer to the following pages.

3.8. Radiated Emission Measurement Results

All the emissions not report below are too low against the CISPR 22 Class B limit.

Date of Test： Nov. 13, 2001 Temperature： 23℃

EUT： Mouse Humidity： 52%

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBuV	Emission Level Horizontal dBuV/m	Limits dBuV/m	Margin dB
	45.403	19.47	1.37	- 0.94	19.90	30.00	10.10
	85.981	17.60	2.01	- 1.14	18.47	30.00	11.53
	102.373	20.26	2.20	- 1.90	20.56	30.00	9.44
*	**192.046**	**22.93**	**3.22**	**- 1.48**	**24.67**	**30.00**	**5.33**
	232.704	24.18	3.43	- 1.22	26.39	37.00	10.61
	265.623	24.83	3.83	- 1.21	27.45	37.00	9.55
	357.399	15.29	4.53	2.18	22.00	37.00	15.00
	439.114	16.80	5.17	1.95	23.92	37.00	13.08
	512.640	18.53	5.42	0.98	24.93	37.00	12.07
	569.947	20.90	5.79	- 0.37	26.32	37.00	10.68
	635.473	20.95	6.30	0.31	27.56	37.00	9.44
	692.822	21.94	6.73	- 0.81	27.86	37.00	9.14

Remark： 1. All reading are Quasi-Peak values.

2. The worst emission is detected at 192.046MHz with corrected signal level of 24.67dBuV/m (limit is 30dBuV) when the antenna is at horizontal polarization and is at 4m high and the turn table is at 240°.

3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test： Nov. 13, 2001 Temperature： 23℃

EUT： Mouse Humidity： 52%

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBuV	Emission Level Vertical dBuV/m	Limits dBuV/m	Margin dB
	45.602	17.58	1.37	2.21	21.16	30.00	8.84
	78.603	15.14	1.92	1.53	18.59	30.00	11.41
	112.147	17.74	2.30	1.37	21.41	30.00	8.59
	169.025	22.86	2.87	- 2.61	23.12	30.00	6.88
*	**226.401**	**21.97**	**3.28**	**- 1.44**	**23.81**	**30.00**	**6.19**
	267.449	22.91	3.83	1.05	27.79	37.00	9.21
	316.432	15.74	4.26	1.18	21.18	37.00	15.82
	381.961	17.42	4.81	1.18	23.41	37.00	13.59
	463.869	19.96	5.31	- 0.17	25.10	37.00	11.90
	512.916	19.52	5.42	- 0.15	24.79	37.00	12.21
	562.034	22.01	5.85	0.62	28.48	37.00	8.52
	684.366	22.05	6.71	0.36	29.12	37.00	7.88

Remark： 1. All reading are Quasi-Peak values.

2. The worst emission is detected at 226.401MHz with corrected signal level of 23.81dBuV/m (limit is 30dBuV) when the antenna is at vertical polarization and is at 1m high and the turn table is at 45°.

3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

4. DEVIATION TO TEST SPECIFICATIONS

【NONE】