

EXHIBIT 4
RFI/EMI TEST REPORT



EMC

TEST REPORT

REPORT NO. : F87100201
MODEL NO. : S3CW800A, S2CW800A
DATE OF TEST : Oct. 2, 1998

PREPARED FOR : DEXIN CORP.

ADDRESS : 20F, 37, SEC. 2, SAN-MING RD.,
PAN-CHIAO CITY, TAIPEI HSIEN, TAIWAN

PREPARED BY: ADVANCE DATA TECHNOLOGY CORPORATION



Accredited Laboratory

12F, NO.1, SEC.4, NAN-KING EAST RD.,
TAIPEI, TAIWAN, R.O.C.

This test report consists of 13 pages in total. It may be duplicated completely for legal use with the allowance of the applicant. It shall not be reproduced except in full, without the written approval of our laboratory. It should not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. government. The test result in the report only applies to the tested sample.



TABLE OF CONTENTS

1. CERTIFICATION	3
2. GENERAL INFORMATION	4
2.1 GENERAL DESCRIPTION OF EUT	4
2.2 DESCRIPTION OF SUPPORT UNITS	5
2.3 TEST METHODOLOGY AND CONFIGURATION	5
3. TEST INSTRUMENTS	6
3.1 TEST INSTRUMENTS (EMISSION)	6
3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION	7
4. TEST RESULTS (EMISSION)	8
4.1 RADIO DISTURBANCE	8
4.2 EUT OPERATION CONDITION	8
4.3 TEST DATA OF CONDUCTED EMISSION	9
4.4 TEST DATA OF RADIATED EMISSION	10
5. PHOTOGRAPHS OF THE TEST CONFIGURATION WITH MINIMUM MARGIN	12



1.

CERTIFICATION

Issue Date: Oct. 6, 1998

Product : MOUSE
Trade Name : DEXIN
Model No. : S3CW800A, S2CW800A
Applicant : DEXIN CORP.
Standard : FCC Part 15, Subpart B, Class B
ANSI C63.4-1992
CISPR 22:1993+A1: 1995+A2: 1996

We hereby certify that one sample of the designation has been tested in our facility on Oct. 2, 1998. The test record, data evaluation and Equipment Under Test (EUT) configurations represent herein are true and accurate representation of the measurements of the sample's EMC characteristics under the conditions herein specified.

The test results show that the EUT as described in this report is in compliance with the Class B limits of conducted and radiated emission of applicable standards.

TESTED BY: John Liao, DATE: 10/6/98
(John Liao)

CHECKED BY: Ariel Hsieh, DATE: 10/6/98
(Ariel Hsieh)

APPROVED BY: Mike Su, DATE: 10/6/98
(Mike Su)

ADVANCE DATA TECHNOLOGY CORPORATION**NVLAP[®]**

Accredited Laboratory



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	MOUSE
Model No.	:	S3CW800A, S2CW800A
Power Supply Type	:	DC 5V (from PC)
Data Cable	:	Shielded (1.5m)

Note: The EUT has two model names, which are identical to each other in all aspects except for the following:

- Model: S3CW800A, 3 key, with Micro Switch function.
- Model: S2CW800A, 2 key, without Micro Switch function.

From the above models, model S3CW800A was selected as the representative during the test and therefore only its data is recorded in this report.

The EUT can be connected to either PS/2 port or COM port. During pretest, the worst emission levels were found while the EUT was connected to COM port and therefore this mode is used in the final test.

For more detailed features description, please refer to manufacturer's specification or User's Manual.



2.2 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 are used to form representative test configuration during the tests.

No.	Product	Brand	Model No.	FCC ID	I/O Cable
1	PERSONAL COMPUTER	HP	VL SERIES 4 5/100	B94VECTRA500T	Nonshielded Power (1.8m)
2	MONITOR	ADI	PV-448	BR8PV-448	Shielded Signal (1.5m) Nonshielded Power (1.8m)
3	KEYBOARD	FORWARD	FDA-104GA	F4ZDA-104G	Shielded Signal (1.4m)
4	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.1m) Nonshielded Power (1.9m)
5	MODEM	ACEEX	1414	IFAXDM1414	Shielded signal (1.2m) Nonshielded Power (1.9m)
6	VGA CARD	GORDIA	CP765	LUT-CP765	N/A

2.3 TEST METHODOLOGY AND CONFIGURATION

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4: 1992. Radiated testing was performed at an antenna to EUT distance of 3/10 m on an open area test site.

Please refer to the photos of test configuration in Item 5.



3. TEST INSTRUMENTS

3.1 TEST INSTRUMENTS (EMISSION)

RADIATED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated until
HP Spectrum Analyzer	8590L	3544A00941	Dec. 14, 1998
HP Pre-Amplifier	8447D	2944A08312	March 14, 1999
R&S Receiver	ESVS10	844594/010	Sept. 24, 1999
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE BILOG Antenna	CBL6111A	1500	Sept. 4, 1999
EMCO Turn Table	1060-04	1196	N/A
EMCO Tower	1051	1264	N/A
Open Field Test Site	Site 1	ADT-R01	Aug. 28, 1999

Note: 1. The measurement uncertainty is less than +/- 3dB, which is calculated as per NAMA's 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.

CONDUCTED EMISSION MEASUREMENT

Description & Manufacturer	Model No.	Serial No.	Calibrated Until
ROHDE & SCHWARZ Test Receiver	ESH3	893495/006	July 15, 1999
ROHDE & SCHWARZ Spectrum Monitor	EZM	893787/013	July 16, 1999
ROHDE & SCHWARZ Artificial Mains Network	ESH3-Z5	839135/006	July 14, 1999
EMCO-L.I.S.N.	3825/2	9204-1964	July 14, 1999
Shielded Room	Site 2	ADT-C02	N/A

Note: 1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per NAMA's 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.



3.2 LIMITS OF CONDUCTED AND RADIATED EMISSION

LIMIT OF RADIATED EMISSION OF CISPR 22

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

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

FREQUENCY (MHz)	Class A (at 10m)		Class B (at 3m)	
	uV/m	dBuV/m	uV/m	dBuV/m
Above 1000	300	49.5	500	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.

LIMIT OF CONDUCTED EMISSION OF CISPR 22

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 - 0.5	79	66	66 - 56	56 - 46
0.50 - 5.0	73	60	56	46
5.0 - 30.0	73	60	60	50

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

(2) The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz

(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.



4. TEST RESULTS (EMISSION)

4.1 RADIO DISTURBANCE

Frequency Range : 0.15 - 30 MHz (Conducted Emission)
30 - 1000 MHz (Radiated Emission)
Input Voltage : 120 Vac, 60 Hz
Temperature : 25 °C
Humidity : 54 %
Atmospheric Pressure : 996 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -14.4 dB at 0.229 MHz Minimum passing margin of radiated emission: -3.4 dB at 596.83 MHz

4.2 EUT OPERATION CONDITION

1. Turn on the power of all equipment.
2. PC runs a test program to enable all functions.
3. PC reads and writes messages from FDD and HDD.
4. PC sends "H" messages to monitor and monitor displays "H" patterns
5. on screen.
6. PC sends "H" messages to modem.
7. PC sends "H" messages to printer, and the printer prints them on paper.
8. Repeat steps 3-8.

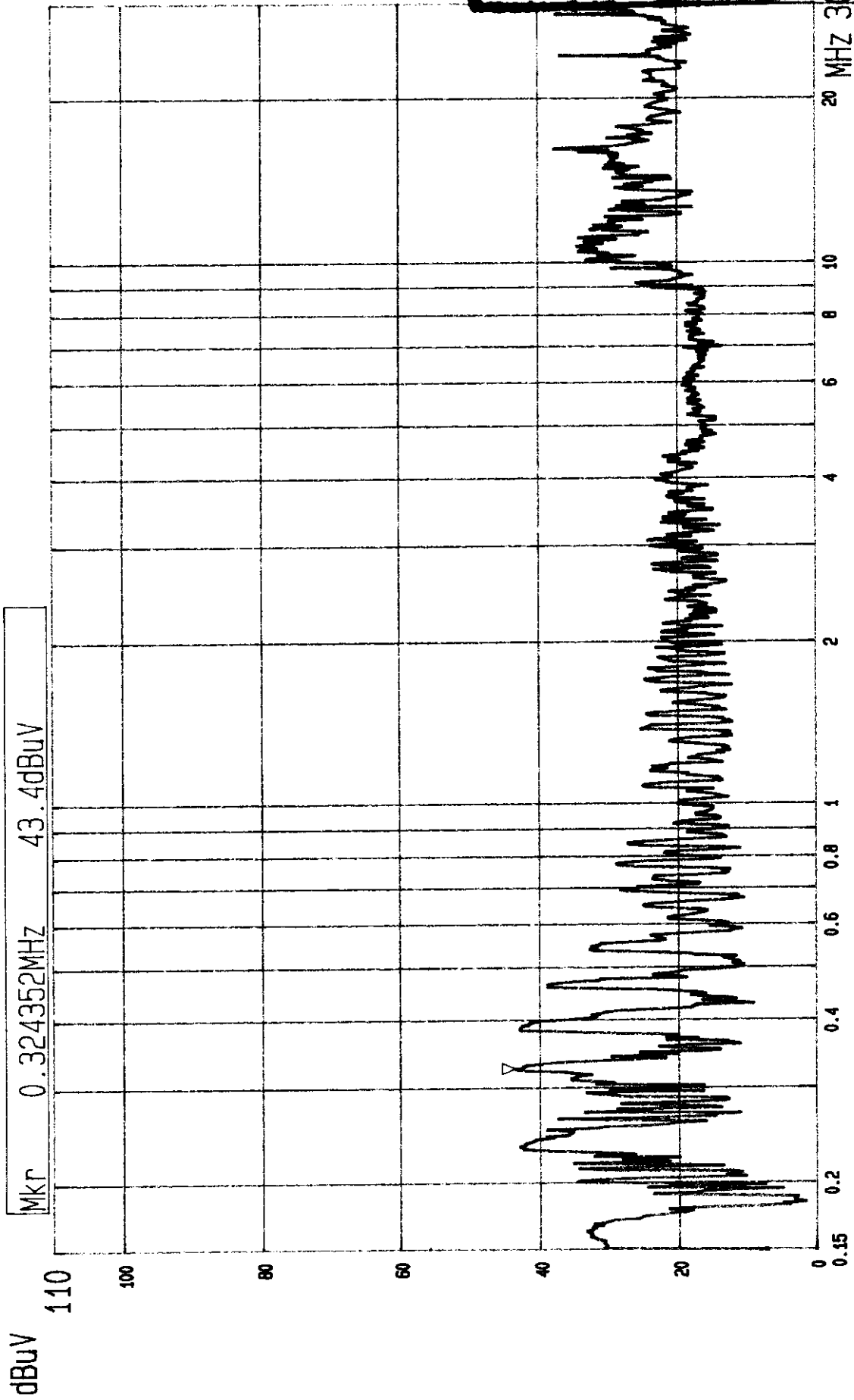


4.3 TEST DATA OF CONDUCTED EMISSION

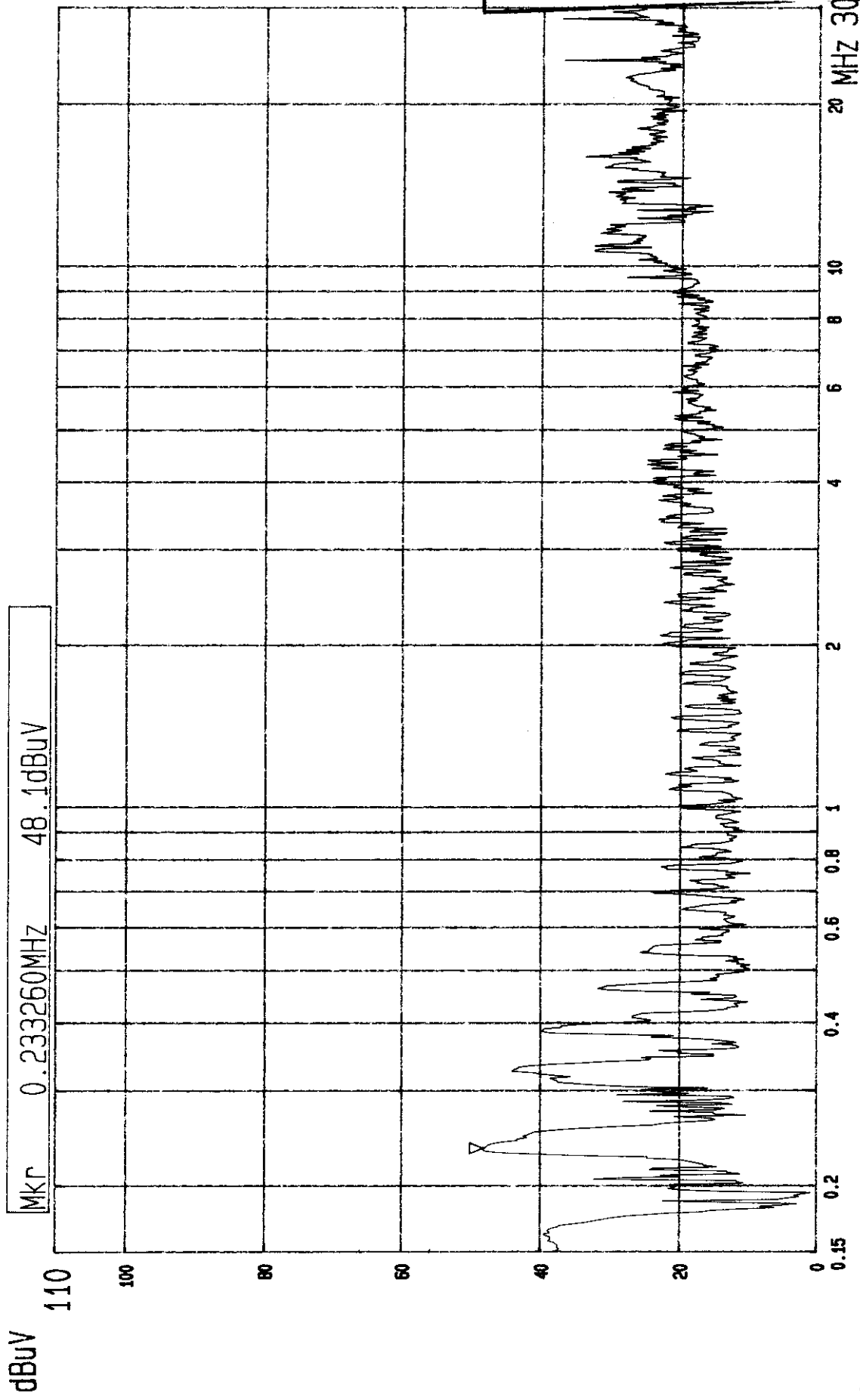
EUT: MOUSEMODEL: S3CW800A6 dB Bandwidth: 10 kHzTEST PERSONNEL: John Liao

Freq.	L Level		N Level		Limit		Margin [dB (μV)]			
[MHz]	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.229	41.60	-	48.10	-	62.47	52.47	-20.9	-	-14.4	-
0.320	41.80	-	43.00	-	59.69	49.69	-17.9	-	-16.7	-
0.383	42.10	-	39.10	-	58.20	48.20	-16.1	-	-19.1	-
0.765	27.30	-	19.60	-	56.00	46.00	-28.7	-	-36.4	-
24.004	33.50	-	33.80	-	60.00	50.00	-26.5	-	-26.2	-
28.633	36.40	-	35.90	-	60.00	50.00	-23.6	-	-24.1	-

- Remarks:
1. "*": Undetectable
 2. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 3. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 4. The emission levels of other frequencies were very low against the limit.
 5. Margin value = Emission level - Limit value.



--- Date 02.OCT '98 Time 14:15:43
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADI CORP
MODE: S3CW800A LISN: L



--- Date 02.OCT '98 Time 14:24:41
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE) ADT CORP
MODE: S3CW800A LISN: N



4.4 TEST DATA OF RADIATED EMISSION

EUT: MOUSEMODEL: S3CW800AANTENNA: CHASE BILOG CBL 6111APOLARITY: HorizontalDETECTOR FUNCTION: Quasi-peak6 dB BANDWIDTH: 120 kHzFREQUENCY RANGE: 30-1000 MHzMEASURED DISTANCE: 10 MTEST PERSONNEL: John Liao

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
66.33	7.4	11.6	19.0	30.0	-11.0
120.02	15.4	6.8	22.2	30.0	-7.8
132.64	15.1	8.9	24.0	30.0	-6.0
166.88	12.6	8.7	21.3	30.0	-8.7
198.95	12.7	10.2	22.9	30.0	-7.1
232.11	15.3	12.1	27.4	37.0	-9.6
596.83	25.7	7.9	33.6	37.0	-3.4

- REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB/m) + Meter Reading (dBuV).
 2. Correction Factor (dB/m) = Ant. Factor (dB/m) + Cable loss (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level - Limit value



TEST DATA OF RADIATED EMISSION

EUT: MOUSEMODEL: S3CW800AANTENNA: CHASE BILOG CBL 6111APOLARITY: VerticalDETECTOR FUNCTION: Quasi-peak6 dB BANDWIDTH: 120 kHzFREQUENCY RANGE: 30-1000 MHzMEASURED DISTANCE: 10 MTEST PERSONNEL: John Liao

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
30.00	20.3	2.3	22.6	30.0	-7.4
66.33	7.6	12.8	20.4	30.0	-9.6
120.02	15.8	5.5	21.3	30.0	-8.7
132.64	15.3	10.0	25.3	30.0	-4.7
198.94	13.3	11.8	25.1	30.0	-4.9
232.10	14.8	9.7	24.5	37.0	-12.5
400.01	21.0	6.3	27.3	37.0	-9.7

- REMARKS:
1. Emission level (dBuV/m) = Correction Factor (dB/m) + Meter Reading (dBuV).
 2. Correction Factor (dB/m) = Ant. Factor (dB/m) + Cable loss (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level - Limit value