FCC ID: NIYS3R800A

EMC

TEST REPORT

REPORT NO. : F87032510
MODEL NO. : S3R800A
DATE OF TEST : April 4, 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

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

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1. CERTIFICATION

Issue Date: May 6, 1998

Product	:	MOUSE
Trade Name	:	DEXIN
Model No.	:	S3R800A
Applicant	:	DEXIN CORP.
Standard	:	FCC Part 15, Subpart B, Class B ANSI C63.4-1992 CISPR 22:1993+A1+A2

We hereby certify that one sample of the designation has been tested in our facility on April 4, 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: 5/6/98
(John Liao)

CHECKED BY: Sharon Hsiung , DATE: 5/6/98
(Sharon Hsiung)

APPROVED BY: Mike Su , DATE: 5/6/98
(Mike Su)

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product	:	MOUSE
Model No.	:	S3R800A
Power Supply Type	:	DC (from PC)
Data Cable	:	Shielded (1.5m)

Note: 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	D4579A	Doc approved	Nonshielded Power (1.8m)
2	MONITOR	ACER	DSV3365	JVP7134T	Shielded Signal (1.5m) Nonshielded Power (1.8m)
3	KEYBOARD	TATUNG	FDA-102A	F4Z4K3FDA-102A	Shielded signal (2.0m)
4	PRINTER	HP	2225C+	DSI6XU2225	Shielded Signal (1.2m) Nonshielded Power (1.8m)
5	MODEM	DATATRONICS	1200CK	E2O5OV1200CK	Shielded signal (1.2m) Nonshielded Power (1.8m)

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 3m and 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	3544A01042	May 5, 1998
HP Preamplifier	8447D	2944A08313	March 24, 1998
HP Preamplifier	8347A	3307A01088	Sept. 4, 1998
ROHDE & SCHWARZ TEST RECEIVER	ESVS 30	841977/008	Oct. 5, 1998
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE BiLOG Antenna	CBL6111A	1647	Aug. 2, 1998
EMCO Turn Table	1016	1722	N/A
EMCO Tower	1051	1263	N/A
Open Field Test Site	Site 4	ADT-R04	Aug. 1, 1998

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	ESHS30	828765/002	July 31, 1998
ROHDE & SCHWARZ Artificial Mains Network	ESH2-Z5	828075/003	July 28, 1998
EMCO-L.I.S.N.	3825/2	90031627	July 28, 1998
Shielded Room	Site 5	ADT-C05	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) dBuV/m	Class B (at 10m) 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 - 2000 MHz (Radiated Emission)
Input Voltage	:	120 Vac, 60 Hz
Temperature	:	25 ℃
Humidity	:	67 %
Atmospheric Pressure	:	1060 mbar

TEST RESULT	Remarks
PASS	Minimum passing margin of conducted emission: -15.9 dB at 0.168 MHz Minimum passing margin of radiated emission: -3.1 dB at 93.99 MHz

4.1.1 EUT OPERATION CONDITION

1. Turn on the power of all equipments.
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 (EUT) and monitor displays "H" patterns on screen.
5. PC sends "H" messages to modem.
6. PC sends "H" messages to printer, and the printer prints them on paper.
7. Repeat steps 3-7.

4.2 TEST DATA OF CONDUCTED EMISSION

EUT: **MOUSE** MODEL: **S3R800A**

6 dB Bandwidth: 10 kHz

TEST 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
0.168	46.90	-	49.10	-	65.04	55.04	-18.1	-	-15.9	-
0.231	42.80	-	41.90	-	62.41	52.41	-19.6	-	-20.5	-
0.693	23.30	-	21.80	-	56.00	46.00	-32.7	-	-34.2	-
2.304	27.10	-	24.10	-	56.00	46.00	-28.9	-	-31.9	-
11.999	34.70	-	39.50	-	60.00	50.00	-25.3	-	-20.5	-
28.635	31.30	-	31.70	-	60.00	50.00	-28.7	-	-28.3	-

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 level of other frequencies were very low against the limit.
5. Margin value = Emission level - Limit value.

4.3 TEST DATA OF RADIATED EMISSION

EUT: **MOUSE** MODEL: **S3R800A**

ANTENNA: CHASE BILOG CBL 6111A POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak 6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

TEST PERSONNEL: John Liao

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
93.99	10.6	15.7	26.3	30.0	-3.7
114.54	13.8	9.5	23.3	30.0	-6.7
182.80	11.2	10.0	21.2	30.0	-8.8
186.14	11.3	6.8	18.1	30.0	-11.9
192.25	11.4	7.9	19.3	30.0	-10.7
199.42	11.6	14.5	26.1	30.0	-3.9
220.49	12.7	3.9	16.6	30.0	-13.4
232.66	13.3	16.3	29.6	37.0	-7.4
599.98	22.4	8.0	30.4	37.0	-6.6

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.

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TEST DATA OF RADIATED EMISSION

EUT: **MOUSE** MODEL: **S3R800A**

ANTENNA: CHASE BILOG CBL 6111A POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak 6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz MEASURED DISTANCE: 10 M

TEST PERSONNEL: John Liao

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
36.88	17.5	8.9	26.4	30.0	-3.6
39.33	16.0	9.9	25.9	30.0	-4.1
40.57	15.1	10.1	25.2	30.0	-4.8
54.01	8.5	14.9	23.4	30.0	-6.6
93.99	8.8	18.1	26.9	30.0	-3.1
182.79	10.9	11.1	22.0	30.0	-8.0
220.09	13.0	9.3	22.3	30.0	-7.7
232.66	14.2	17.7	31.9	37.0	-5.1

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.