



# EMC

## TEST REPORT

REPORT NO. : F87051104  
MODEL NO. : A3P800A, S3P800A  
DATE OF TEST : May 12, 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.

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**1. CERTIFICATION**

Issue Date: May 26, 1998

Product : MOUSE  
Trade Name : DEXIN  
Model No. : A3P800A, S3P800A  
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 May 12, 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: Alan Chang , DATE: 5/26/98  
( Alan Chang )

CHECKED BY: Sharon Hsiung , DATE: 5/26/98  
( Sharon Hsiung )

APPROVED BY: Mike Su , DATE: 5/26/98  
( Mike Su )

**ADVANCE DATA TECHNOLOGY CORPORATION****NVLAP<sup>®</sup>**

Accredited Laboratory



## 2. GENERAL INFORMATION

### 2.1 GENERAL DESCRIPTION OF EUT

Product	:	MOUSE
Model No.	:	A3P800A, S3P800A
Power Supply Type	:	DC (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 location of button:

- Model: A3P800A
- Model: S3P800A

Both the above models are tested individually and their data are recorded in this report.

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	ADI	PD-959	Doc approved	Shielded Signal (1.2m) Nonshielded Power (1.8m)
3	KEYBOARD	FORWARD	FDA-104GA	F4ZDA-104G	Shielded signal (1.4m)
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	8594E	3441A01439	Sept. 8, 1998
HP Preamplifier	8447D	2944A08485	Oct. 28, 1998
ROHDE & SCHWARZ TEST RECEIVER	ESMI	839013/007 839379/002	Aug. 22, 1998
SCHWARZBECK Tunable Dipole Antenna	VHA 9103 UHA 9105	E101051 E101055	Nov. 28, 1998
CHASE BiLOG Antenna	CBL6112A	2221	Aug. 19, 1998
EMCO Turn Table	1060	1115	N/A
SHOSHIN Tower	AP-4701	A6Y005	N/A
Open Field Test Site	Site 5	ADT-R05	Aug. 18, 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	ESH3	893495/006	July 23, 1998
ROHDE & SCHWARZ Spectrum Monitor	EZM	893787/013	July 24, 1998
ROHDE & SCHWARZ Artificial Mains Network	ESH3-Z5	839135/006	Aug. 1, 1998
EMCO-L.I.S.N. Shielded Room	3825/2 Site 2	9204-1964 ADT-C02	July 22, 1998 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.



## 4.2 TEST DATA OF CONDUCTED EMISSION (A)

EUT: **MOUSE**MODEL: **A3P800A**

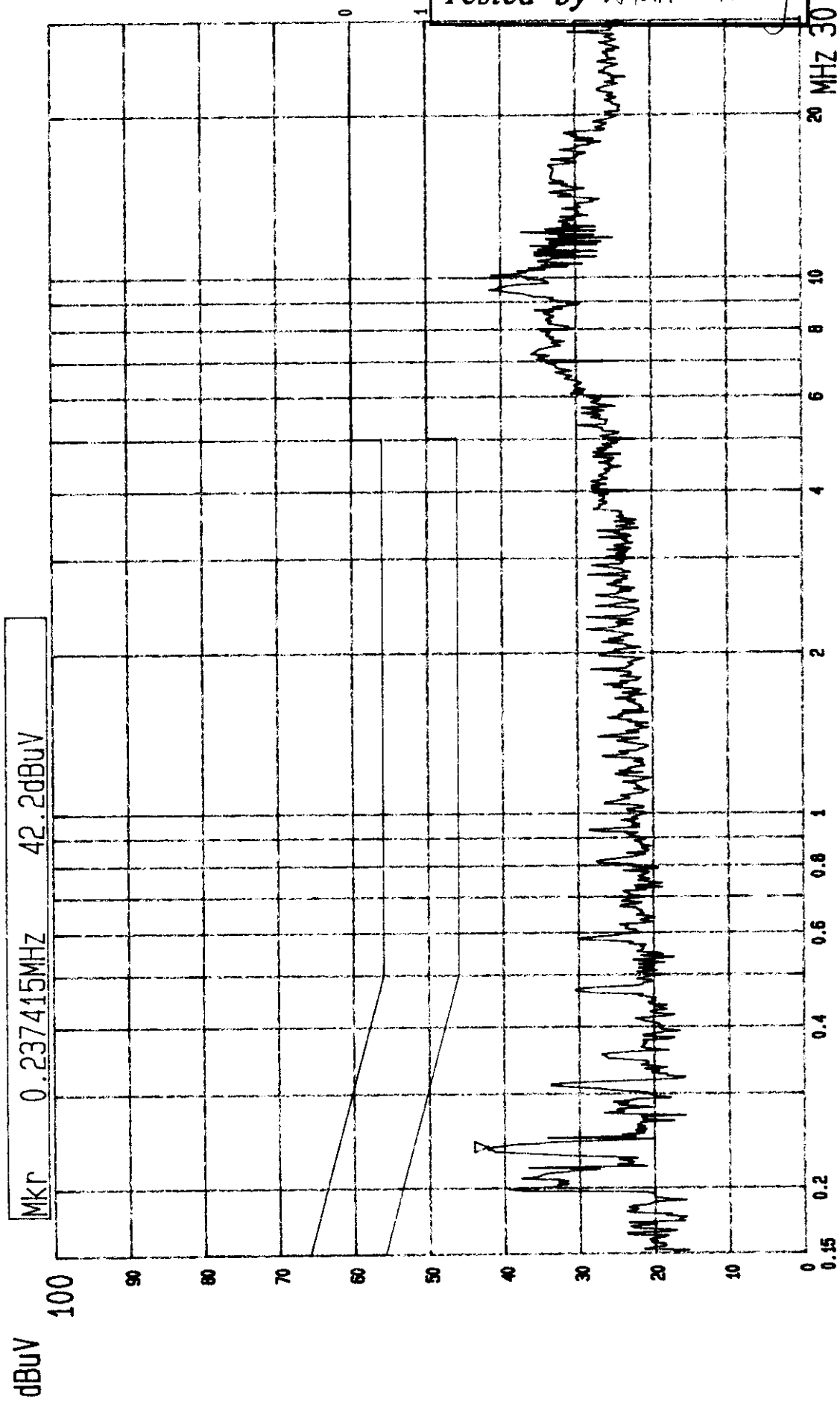
6 dB Bandwidth: 10 kHz

TEST PERSONNEL: *Alan Chang*

Freq. [MHz]	L Level		N Level		Limit		Margin [dB (μV)]			
	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.179	43.80	-	37.50	-	64.51	54.51	-20.7	-	-27.0	-
0.229	41.60	-	41.30	-	62.48	52.48	-20.9	-	-21.2	-
3.009	23.00	-	21.20	-	56.00	46.00	-33.0	-	-34.8	-
3.820	25.80	-	21.70	-	56.00	46.00	-30.2	-	-34.3	-
7.169	31.80	-	31.50	-	60.00	50.00	-28.2	-	-28.5	-
9.582	37.20	-	36.80	-	60.00	50.00	-22.8	-	-23.2	-

- 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.





--- Date 12.MAY.'98 Time 19:38:04  
CISPR 22 CLASS B CONDUCTION TEST (PEAK VALUE)  
MODEL: A3P800A  
ADT CORP.  
LISN: N



### 4.3 TEST DATA OF CONDUCTED EMISSION (B)

EUT: MOUSE

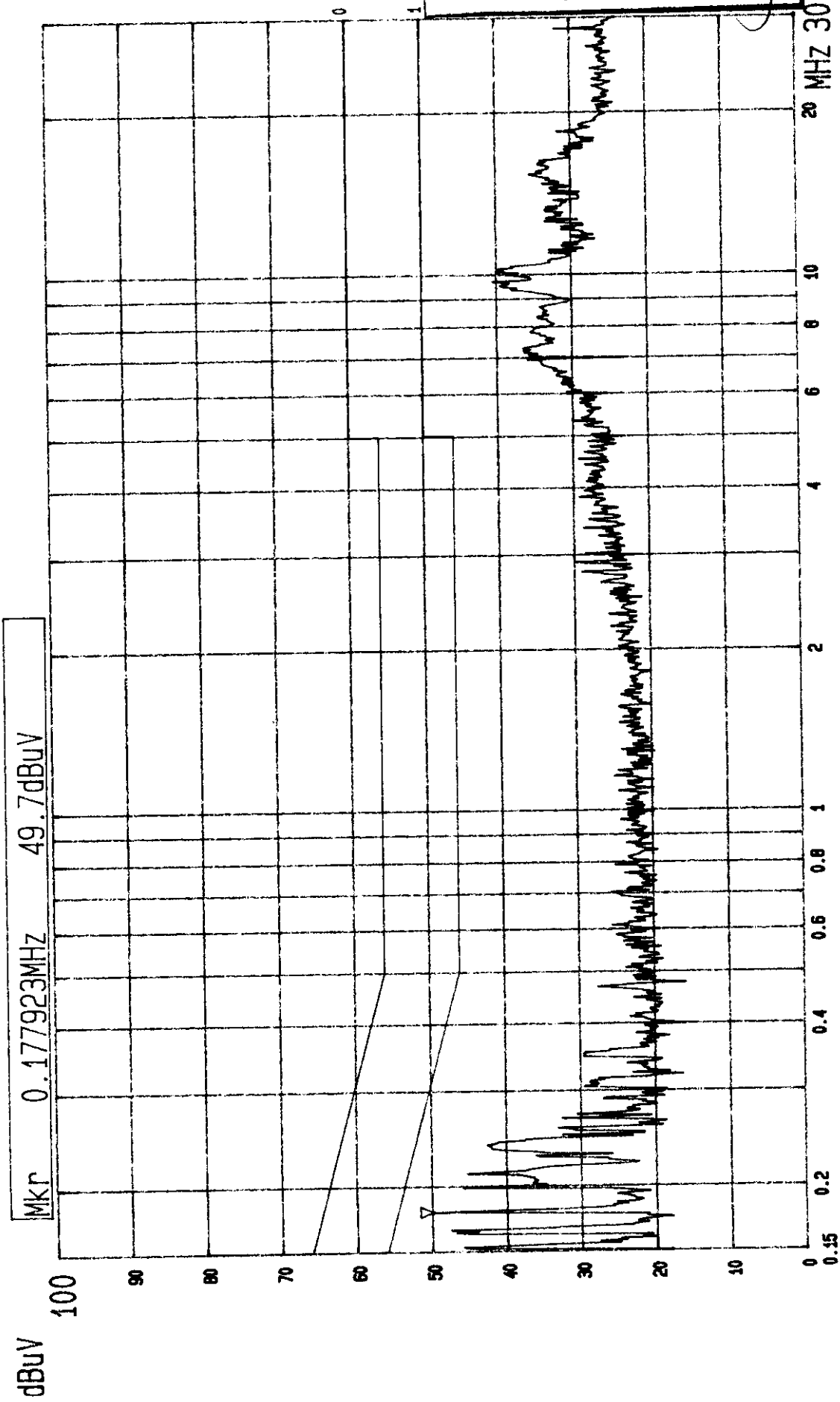
MODEL: S3P800A

6 dB Bandwidth: 10 kHz

TEST PERSONNEL: Alan Chang

Freq. [MHz]	L Level		N Level		Limit		Margin [dB (μV)]			
	[dB (μV)]		[dB (μV)]		[dB (μV)]		L		N	
	QP	AV	QP	AV	QP	AV	QP	AV	QP	AV
0.229	41.60	-	41.30	-	62.48	52.48	-20.9	-	-21.2	-
0.300	32.20	-	32.90	-	60.23	50.23	-28.0	-	-27.3	-
0.604	19.50	-	19.30	-	56.00	46.00	-36.5	-	-36.7	-
4.007	21.50	-	21.40	-	56.00	46.00	-34.5	-	-34.6	-
6.732	30.30	-	30.60	-	60.00	50.00	-29.7	-	-29.4	-
9.708	35.40	-	33.90	-	60.00	50.00	-24.6	-	-26.1	-

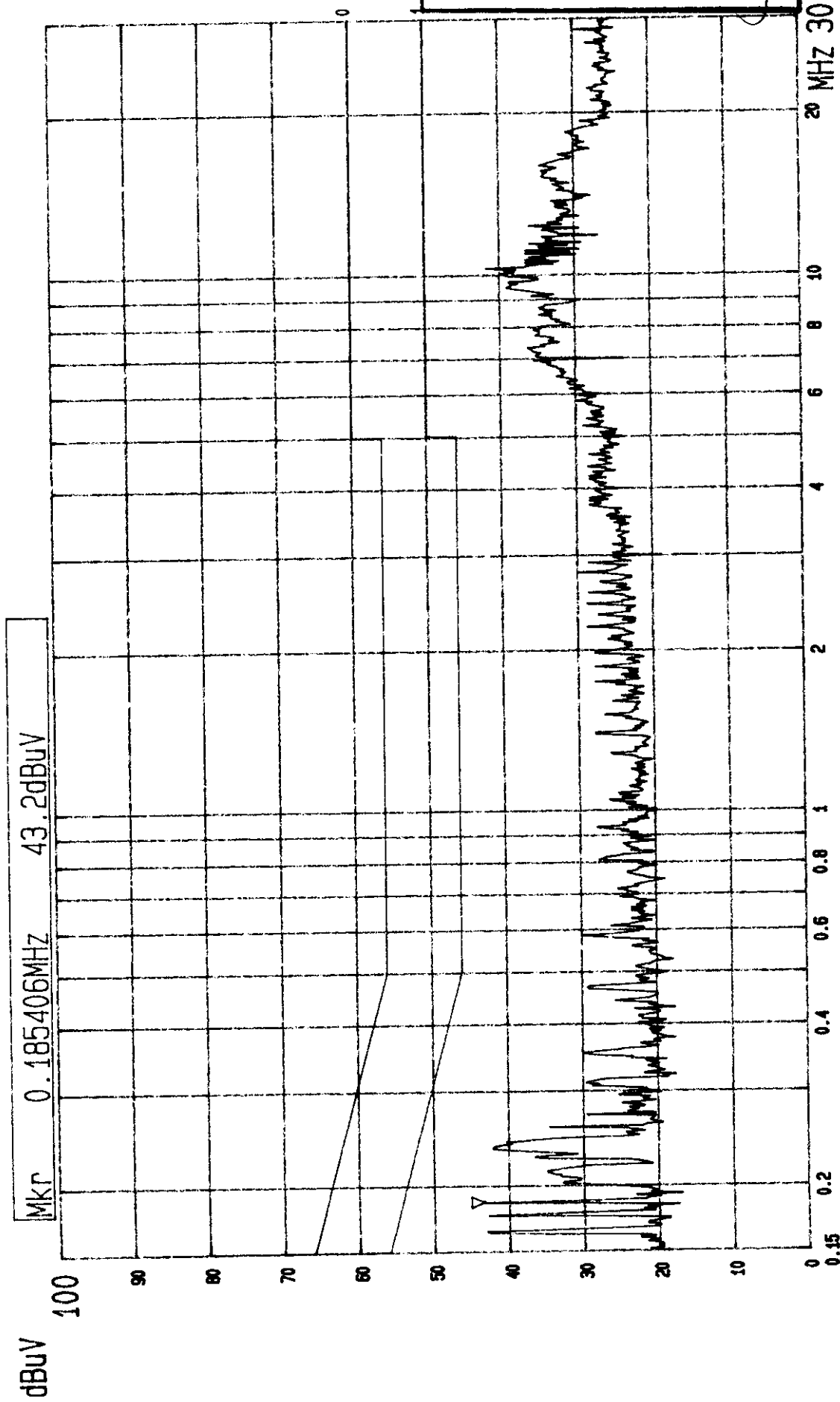
- Remarks:
1. "\*": Undetectable
  2. Q.P. and AV. are abbreviations of quasi-peak and average individually.
  3. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
  4. The emission level of other frequencies were very low against the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



ADT CORP.  
LISN: L

(PEAK VALUE)

--- Date 12.MAY.'98 Time 18:54:25  
CISPR 22 CLASS B CONDUCTION TEST  
MODEL: S3P800A



ADT CORP.  
LISN: N

(PEAK VALUE)

--- Date 12.MAY.'98 Time 18:56:02  
CISPR 22 CLASS B CONDUCTION TEST  
MODEL: S3P800A



#### 4.4 TEST DATA OF RADIATED EMISSION (A)

EUT: **MOUSE**MODEL: **A3P800A**

ANTENNA: CHASE BILOG CBL 6112A

POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL:

*Alan Chang*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
57.26	8.7	12.4	21.1	30.0	-8.9
85.91	9.8	9.0	18.8	30.0	-11.2
114.53	14.9	5.3	20.2	30.0	-9.8
157.50	12.6	8.0	20.6	30.0	-9.4
186.15	12.2	9.9	22.1	30.0	-7.9
200.45	13.0	9.5	22.5	30.0	-7.5
208.18	13.5	3.7	17.2	30.0	-12.8
214.75	14.0	6.5	20.5	30.0	-9.5

- 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 (A)

EUT: **MOUSE**MODEL: **A3P800A**

ANTENNA: CHASE BILOG CBL 6112A

POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL: *Alan Chang*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
55.94	8.6	13.0	21.6	30.0	-8.4
114.55	12.6	6.8	19.4	30.0	-10.6
186.13	12.1	5.7	17.8	30.0	-12.2
200.48	13.7	7.8	21.5	30.0	-8.5
207.40	14.1	5.3	19.4	30.0	-10.6
214.73	14.5	6.8	21.3	30.0	-8.7
223.80	15.0	7.7	22.7	30.0	-7.3

- 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.



#### 4.5 TEST DATA OF RADIATED EMISSION (B)

EUT: MOUSE

MODEL: S3P800A

ANTENNA: CHASE BILOG CBL 6112A

POLARITY: Horizontal

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL:

Alan Chang

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
47.13	11.7	10.3	22.0	30.0	-8.0
57.30	8.7	11.0	19.7	30.0	-10.3
71.10	7.8	8.4	16.2	30.0	-13.8
85.92	9.8	10.0	19.8	30.0	-10.2
112.55	14.6	8.3	22.9	30.0	-7.1
137.55	14.4	8.3	22.7	30.0	-7.3
168.88	12.2	6.8	19.0	30.0	-11.0
214.78	14.0	5.2	19.2	30.0	-10.8

- 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 (B)

EUT: **MOUSE**MODEL: **S3P800A**

ANTENNA: CHASE BILOG CBL 6112A

POLARITY: Vertical

DETECTOR FUNCTION: Quasi-peak

6 dB BANDWIDTH: 120 kHz

FREQUENCY RANGE: 30-1000 MHz

MEASURED DISTANCE: 10 M

TEST PERSONNEL: *Alan Chang*

Frequency (MHz)	Correction Factor (dB/m)	Reading Data (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
47.02	11.0	11.7	22.7	30.0	-7.3
60.42	7.9	14.7	22.6	30.0	-7.4
73.72	7.8	14.3	22.1	30.0	-7.9
112.47	12.4	10.0	22.4	30.0	-7.6
168.05	12.3	8.1	20.4	30.0	-9.6
201.12	13.7	8.1	21.8	30.0	-8.2
214.75	14.5	5.3	19.8	30.0	-10.2
223.75	15.0	8.9	23.9	30.0	-6.1

- 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.