

EXHIBIT 4

Test Report

Test Report

TTEMC-F98065

APPLICATION FOR CERTIFICATION
Class II Permissive Change
On Behalf of
Mustek Systems Inc.
Scanner

Model : (1)1200 LP (2)12000 LP (3)9636 LP
Project Name : A4S II 600 LP (C6E12L)

FCC ID : HWFA4SII

Prepared for : Mustek Systems Inc.
No. 25, R&D Road II, Science-
Based Industrial Park, Hsinchu,
Taiwan, R.O.C.

Prepared By : Taiwan Tokin EMC Eng. Corp.
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TEST REPORT VERIFICATION

(Class II Permissive Change)

Applicant : Mustek Systems Inc.
Manufacturer : Mustek Systems Inc.
FCC ID : HWFA4SII
EUT Description : Scanner
(A) MODEL NO. : (1)1200 LP (2)12000 LP (3)9636 LP
(B) PROJECT NAME : A4S II 600 LP (C6E12L)
(C) SERIAL NO. : N/A
(D) POWER SUPPLY : AC 120V/60Hz

Measurement Procedure Used :

FCC RULES AND CISPR 22 (DOCKET NO. 92-152, SEP. 1993) AND
FCC / ANSI C63.4-1992

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. TAIWAN TOKIN EMC ENG. CORP. recommends that this data can be submitted for FCC certification purposes if a 3dB margin below CISPR limits is obtained. 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 : Apr. 22/23, 1998

Prepared by : Julie Hsu
(JULIE HSU)

Test Engineer : Allen Wang
(ALLEN WANG)

Approve & Authorized Signer : Jackie Deng 5/4/98
(JACKIE DENG)

1. GENERAL INFORMATION

1.1. Description of Equipment Under Test (EUT)

Description	:	Scanner
Model Number	:	(1)1200 LP (2)12000 LP (3)9636 LP
		Above models are identical, except for packing style difference.
Project Name	:	A4S II 600 LP (C6E12L)
FCC ID	:	HWFA4SII
Applicant	:	Mustek Systems Inc.
		No. 25, R&D Road II, Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.
Manufacturer	:	Mustek Systems Inc.
		No. 25, R&D Road II, Science-Based Industrial Park, Hsinchu, Taiwan, R.O.C.
Power Adapter	:	YHI, M/N YC-1015-15 Input : 100V-120V~, 60Hz, 0.4VA Output : +15Vdc/1A Cable : Nonshielded, Undetachable, 1.5m Bonded a ferrite core
Data Cable	:	Shielded, Detachable, 1.2m Bonded two ferrite cores
Date of Test	:	Apr. 22/23, 1998

Remark : This EUT is a modified version of original FCC ID HWFA4SII. The difference are :

- (1) to change the appearance size
- (2) to change the cable length from 1.5m into 1.2m
- (3) to change the Scan Area from A4 into Legal size
- (4) main board re-layout.

1.2. Details of Support Simulator

1.2.1. PERSONAL COMPUTER

Model Number	:	D3136A
Serial Number	:	3414S00120
FCC ID	:	HCJVECTRA486-XX
Manufacturer	:	SCI System Inc.
Brand	:	Hewlett Packard
Switching Power Supply	:	Delta Electronics,Inc. M/N DPS-100TB-1, S/N 3572-066321
Floppy Driver 3.5"	:	Hewlett Packard, M/N D2035-600011 S/N B460217330
Hard Disk Driver	:	Quantum, M/N MV54A011 S/N 9731101B
Disk Ctrl Card	:	Within Mother Board
Serial/Parallel Card	:	Within Mother Board
Video Card	:	Within Mother Board
Power Cord	:	Nonshielded, Detachable, 2.3m

1.2.2. MONITOR

Model Number	:	PM36A
Serial Number	:	W70205140A
FCC ID	:	LLW9ZB1564
Manufacturer	:	Funai Electric Company of Taiwan
Data Cable	:	Shielded, Undetachable, 1.2m
Power Cord	:	Nonshielded, Detachable, 1.5m

1.2.3. KEYBOARD

Model Number	:	BTC-5139
Serial Number	:	12A481052
FCC ID	:	E5XKBM111
Manufacturer	:	Behavior Tech Computer Corp.
Data Cable	:	Shielded, Undetachable, 1.2m

1.2.4. PRINTER

Model Number	:	2225C+
Serial Number	:	3121S96627
FCC ID	:	DSI6XU2225
Manufacturer	:	Hewlett Packard
Power Adapter	:	Hewlett Packard, M/N 82241A
Power Cord	:	Nonshielded, Undetachable, 2.0m
Data Cable	:	Shielded, Detachable, 1.2m

1.2.5. MODEM # 1

Model Number	:	1414
Serial Number	:	950110299
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Nonshielded, Undetachable, 1.8m

1.2.6. MODEM # 2

Model Number	:	1414
Serial Number	:	950110300
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Nonshielded, Undetachable, 1.8m

1.2.7. MOUSE

Model Number	:	M-S34
Serial Number	:	LZA71066455
FCC ID	:	DZL210472
Manufacturer	:	Logitech
Data Cable	:	Nonshielded, Undetachable, 1.9m

1.3. Description of Test Facility

Site Description (No. 2 Open Site)	:	Jul. 15, 1996 Re-file on Federal Communication Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, U.S.A.
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 Code	:	200077-0

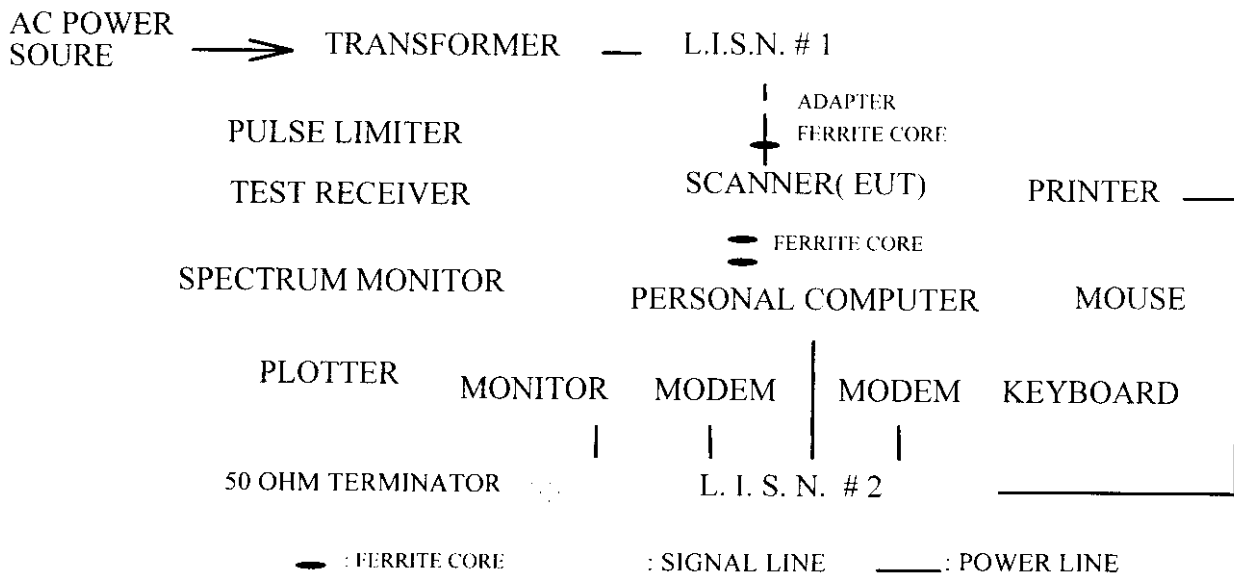
2. POWERLINE CONDUCTED TEST

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	893044/015	Aug.01, 97'	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-855-9	Apr.14, 98'	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-881-13	Apr.14, 98'	1 Year

2.2. Block Diagram of Test Setup



2.3. Conducted Powerline 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	50dB

2.4. EUT Configuration on 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. Scanner (EUT)

Description	:	Scanner
Model Number	:	(1)1200 LP (2)12000 LP (3)9636 LP
Project Name	:	A4S II 600 LP (C6E12L)
FCC ID	:	HWFA4SII
Manufacturer	:	Mustek Systems Inc.
Power Adapter	:	YHI, M/N YC-1015-15 Input : 100V-120V~, 60Hz, 0.4VA Output : +15Vdc/1A Cable : Nonshielded, Undetachable, 1.5m Bonded a ferrite core
Data Cable	:	Shielded, Detachable, 1.2m Bonded two ferrite cores

2.4.2. Support Simulators : 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. Turn on the power of all equipments.
- 2.5.3. Setup the personal computer to drive the EUT through the Mustek's scanner software driver.
- 2.5.4. Data was communicated between host personal computer and Scanner (EUT) through printer port.
- 2.5.5. Personal computer displayed the test software and scanning image by windows to monitor.
- 2.5.6. The other peripheral devices were drove and operated in turn during all testing.

2.6. Test Procedure

The EUT 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 50 ohm 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 simulators of the interface cables should be manipulated according to FCC ANSI C63.4-1992 on conducted measurement.

The bandwidth of the field strength meter (R & S Test Receiver ESH3) was set at 10KHz.

The frequency range from 150KHz to 30MHz was checked.

All the test results are listed in section 2.7.

2.7. Line Conducted RF Voltage Measurement Results

The frequency range from 150KHz to 30 MHz was investigated.

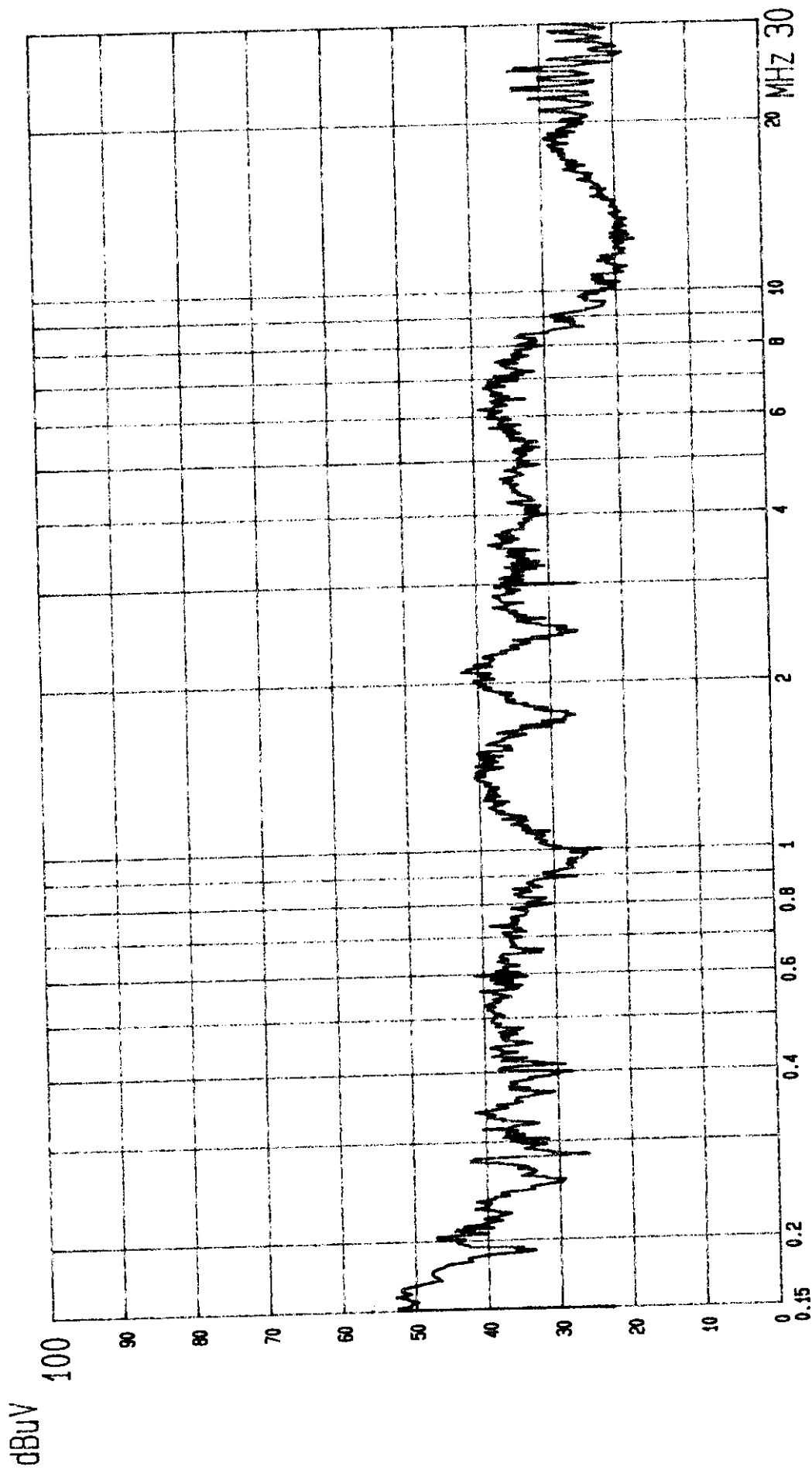
All emissions not reported below are too low against the prescribed limits.

Date of Test : Apr. 22, 1998 Temperature : 25 °C

EUT : Scanner Humidity : 60 %

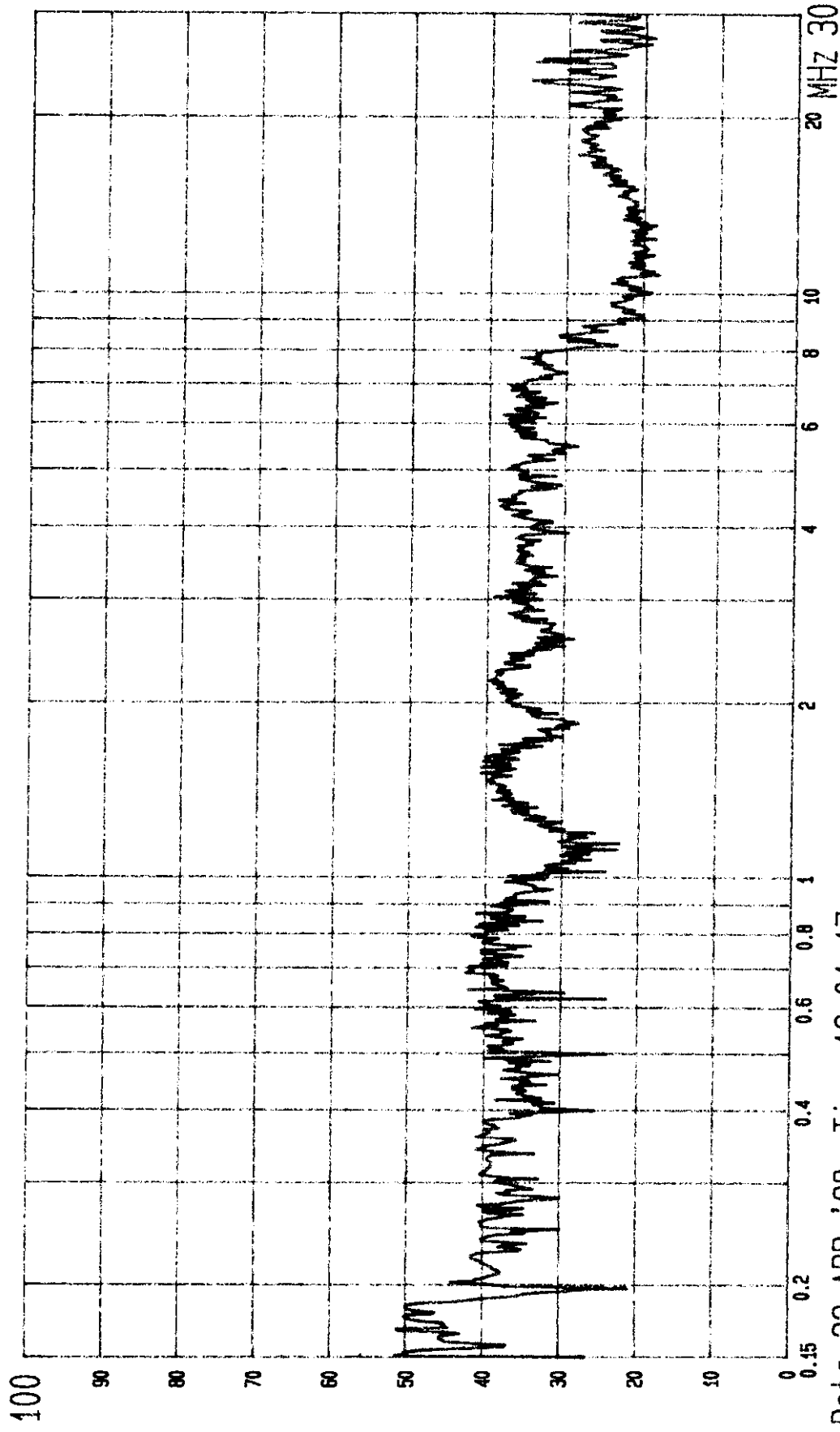
Frequency MHz	Factor dB	Measurement (dBUV)				Reading (dBUV)				Limits (dBUV)	
		Phase A Neutral		Phase B Line		Phase A Neutral		Phase B Line			
		Q.P.	Average	Q.P.	Average	Q.P.	Average	Q.P.	Average	Q.P.	Average
0.1500	0.4	49.3	34.8	*	*	49.7	35.2	*	*	66.0	56.0
0.1590	0.4	*	*	50.1	36.8	*	*	50.5	37.2	65.5	55.5
0.2047	0.3	*	*	46.8	25.2	*	*	47.1	25.5	63.4	53.4
0.3339	0.3	38.2	21.2	*	*	38.5	21.5	*	*	59.3	49.3
0.6001	0.2	39.2	24.8	*	*	39.4	25.0	*	*	56.0	46.0
0.6837	0.2	*	*	40.8	26.8	*	*	41.0	27.0	56.0	46.0
1.3953	0.2	38.1	26.6	*	*	38.3	26.8	*	*	56.0	46.0
1.5120	0.2	*	*	40.2	23.5	*	*	40.4	23.7	56.0	46.0
2.1299	0.2	36.0	26.9	*	*	36.2	27.1	*	*	56.0	46.0
3.0402	0.2	*	*	37.2	21.8	*	*	37.4	22.0	56.0	46.0
6.1932	0.3	*	*	36.2	21.2	*	*	36.5	21.5	60.0	50.0
6.2250	0.3	38.7	23.4	*	*	39.0	23.7	*	*	60.0	50.0

- Remark :
1. All readings are Quasi-Peak and Average values.
 2. Factor = Insertion Loss + Cable Loss
 3. "*" means the emission level undetectable.



--- Date 22.APR.'98 Time 11:51:31
MUSTEK EUT: SCANNER
LINE: VA.
M/N: 1200LP/12000LP/9636LP PAGE: 001.
(PEAK VALUE) TAIWAN TOKIN EMC.ENG.CORP.

dBuV



--- Date 22.APR.'98 Time 12:01:17

MUSTEK EUT: SCANNER

LINE: VB.

M/N: 1200LP/12000LP/9636LP PAGE: 002.
(PEAK VALUE) TAIWAN TOKIN EMC.ENG.CORP.

3. RADIATED EMISSION TEST

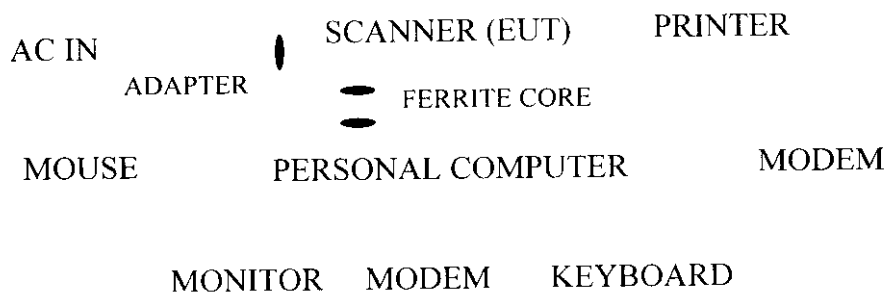
3.1. Test Equipment

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

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde&Schwarz	ESVP	893202/001	Aug.04, 97'	1 Year
2.	Broadband Antenna	CHASE	VBA6106A	1240	Jan.14, 98'	1 Year
3.	Broadband Antenna	Schwarzbeck	UHALP 9108-A	0139	Jan.14, 98'	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

ANTENNA TOWER

ANTENNA ELEVATION VARIES FROM 1METER TO 4 METER

10 METERS

EUT

0.8
METER

TURN TABLE

GROUND PLANE

3.3. Radiation Limit (CISPR 22 CLASS B)

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

Remark : (1) The tighter limit applies 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 device or system.

3.4. EUT Configuration on 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.

3.6. Test Procedure

The EUT and its simulators were placed on a turn table which is 0.8 meter above ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 10 meters away from the receiving antenna which is mounted on a antenna tower. The antenna moved 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 were 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 were manipulated according to ANSI C63.4-1992 on radiated measurement.

The bandwidth setting on the field strength meter (R&S TEST RECEIVER ESVP) was 120KHz.

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

All the test results are listed in section 3.7.

3.7. Radiated Emission Noise Measurement Results

The frequency spectrum from 30 MHz to 1000 MHz is investigated. All the emissions not reported below are too low against the CISPR 22 CLASS B limit..

Date of Test : Apr. 23, 1998 Temperature : 27 °C
 EUT : Scanner Humidity : 72 %

Frequency MHz	Antenna	Cable	Meter Reading	Emission Level		
	Factor dB/m	Loss dB	Horizontal dBuV	Horizontal dBuV/m	Limits dBuV/m	Margin dBuV/m
36.050	19.25	1.48	- 3.10	17.63	30.00	12.37
48.008	15.51	1.77	5.00	22.28	30.00	7.72
59.991	11.77	2.20	2.80	16.77	30.00	13.23
72.010	11.97	2.28	3.60	17.85	30.00	12.15
120.007	18.74	2.96	- 2.80	18.90	30.00	11.10
132.006	19.91	3.07	- 2.20	20.78	30.00	9.22
* 144.020	19.96	3.40	2.70	26.06	30.00	3.94
192.113	21.51	3.92	0.10	25.53	30.00	4.47
204.127	21.34	4.08	- 0.10	25.32	30.00	4.68
240.088	21.34	4.52	- 2.30	23.56	37.00	13.44
288.130	23.27	4.98	- 3.90	24.35	37.00	12.65
300.684	13.99	4.98	3.20	22.17	37.00	14.83
312.012	13.94	5.37	- 3.40	15.91	37.00	21.09
360.009	14.70	5.81	- 3.50	17.01	37.00	19.99
384.013	15.31	5.92	- 3.10	18.13	37.00	18.87
408.009	15.73	6.11	- 3.90	17.94	37.00	19.06
444.010	16.64	6.32	- 3.70	19.26	37.00	17.74
480.009	16.99	6.71	- 3.60	20.10	37.00	16.90
552.011	17.32	7.28	- 3.60	21.00	37.00	16.00

- Remark :
1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 144.020MHz with corrected signal level of 26.06dBuV/m (limit is 30dBuV/m) when the antenna was at horizontal polarization and was at 2.8m high and the turn table was at 240 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

Date of Test : Apr. 23, 1998 Temperature : 27 °C
 EUT : Scanner Humidity : 72 %

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBuV	Emission Level Vertical dBuV/m	Limits dBuV/m	Margin dBuV/m
45.161	16.14	1.75	4.90	22.79	30.00	7.21
48.243	15.65	1.84	6.60	24.09	30.00	5.91
* 59.991	12.43	2.20	12.60	27.23	30.00	2.77
71.002	12.11	2.28	3.20	17.59	30.00	12.41
114.308	17.85	2.89	3.70	24.44	30.00	5.56
117.001	18.74	2.89	6.00	27.63	30.00	2.37
120.003	19.07	2.96	3.50	25.53	30.00	4.47
125.029	18.77	3.00	3.90	25.67	30.00	4.33
156.005	21.75	3.50	- 0.90	24.35	30.00	5.65
168.006	22.10	3.71	- 0.20	25.61	30.00	4.39
192.034	20.24	3.92	0.40	24.56	30.00	5.44
240.014	21.89	4.51	- 1.30	25.10	37.00	11.90
264.004	22.17	4.89	- 3.70	23.36	37.00	13.64
300.683	14.34	4.98	7.20	26.52	37.00	10.48
337.579	14.99	5.64	- 2.10	18.53	37.00	18.47
359.995	15.35	5.81	- 1.00	20.16	37.00	16.84
384.125	15.43	5.92	- 3.20	18.15	37.00	18.85
420.027	16.07	6.17	- 3.40	18.84	37.00	18.16
456.036	16.36	6.56	- 3.40	19.52	37.00	17.48

- Remark : 1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 59.991MHz with corrected signal level of 27.23dBuV/m (limit is 30dBuV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 100 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna..

4. DEVIATIONS TO TEST SPECIFICATIONS

【 NONE 】