

FCC/DOJ
JUL 08 1998

EXHIBIT 3

Test Report

Test Report

TTEMC-F98104

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

Model : 1200 CP
Project Name : S6E10

FCC ID : HWFA4CIS

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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File Number : ATM-G98353
Report Number : TTEMC-F98104
Date of Test : Jun. 10/16, 1998
Date of Report : Jun. 19, 1998

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TEST REPORT CERTIFICATION

(Class II Permissive Change)

Applicant : Mustek Systems Inc.
Manufacturer : Mustek Systems Inc.
FCC ID : HWFA4CIS
EUT Description : Scanner
(A) MODEL NO. : 1200 CP
(B) PROJECT NAME : S6E10
(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 : Jun. 10/16, 1998Prepared by : Julie Hsu
(JULIE HSU)Test Engineer : Allen Wang
(ALLEN WANG)Approve & Authorized Signer : Jackie Deng 6/29/98
(JACKIE DENG)

Tokyo-FOY6

1. GENERAL INFORMATION

1.1. Description of Equipment Under Test (EUT)

Description	:	Scanner (EPP Interface)
Model Number	:	1200 CP
Project Name	:	S6E10
FCC ID	:	HWFA4CIS
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 #1	:	HiTRON M/N HES10B-12010-0-S, S/N 0002 Input : 100-120V ~ , 0.27-0.23A, 60/50Hz Output : 12V/1A, MAX 12W Cable : Non-Shielded, Undetachable, 1.1m Bonded a ferrite core
Power Adapter #2	:	TOUCH M/N SP9715C-A, S/N R00981900027 Input : 100-120V ~ , 0.6A, 50-60Hz Output : 12Vdc, 1A Cable : Non-Shielded, Undetachable, 1.75m Bonded a ferrite core
Data Cable	:	Shielded, Detachable, 1.5m Bonded two ferrite cores
Date of Test	:	Jun. 10/16, 1998

Remark : This EUT is a modified version of original FCC ID HWFA4CIS.

The difference are :

- (1) to re-layout the Main Board
- (2) to add a Power Adapter (TOUCH, M/N SP9715C-A)
- (3) to change the CIS Resolution from 300dpi to 600dpi

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	:	Non-Shielded, Detachable, 2.3m

1.2.2. MONITOR

Model Number	:	PM36A
Serial Number	:	W70204674A
FCC ID	:	LLW9ZB1564
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	:	BTC-5139
Serial Number	:	73B304245
FCC ID	:	E5XKBM111
Manufacturer	:	Behavior Tech Computer Corp.
Data Cable	:	Shielded, Undetachable, 1.2m

1.2.4. PRINTER

Model Number	:	2225C
Serial Number	:	2526S40437
FCC ID	:	BS46XU2225C
Manufacturer	:	Hewlett Packard
Power Cord	:	Non-Shielded, Undetachable, 1.8m
Data Cable	:	Shielded, Detachable, 1.2m

1.2.5. MODEM # 1

Model Number	:	1414
Serial Number	:	950098201
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	:	1414
Serial Number	:	970024519
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. MOUSE

Model Number	:	M-S34
Serial Number	:	LZA65200685
FCC ID	:	DZL210472
Manufacturer	:	Logitech
Data Cable	:	Non-Shielded, Undetachable, 1.9m

1.3. Description of Test Facility

Site Description (No. 1 Open Site)	:	Oct. 21, 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

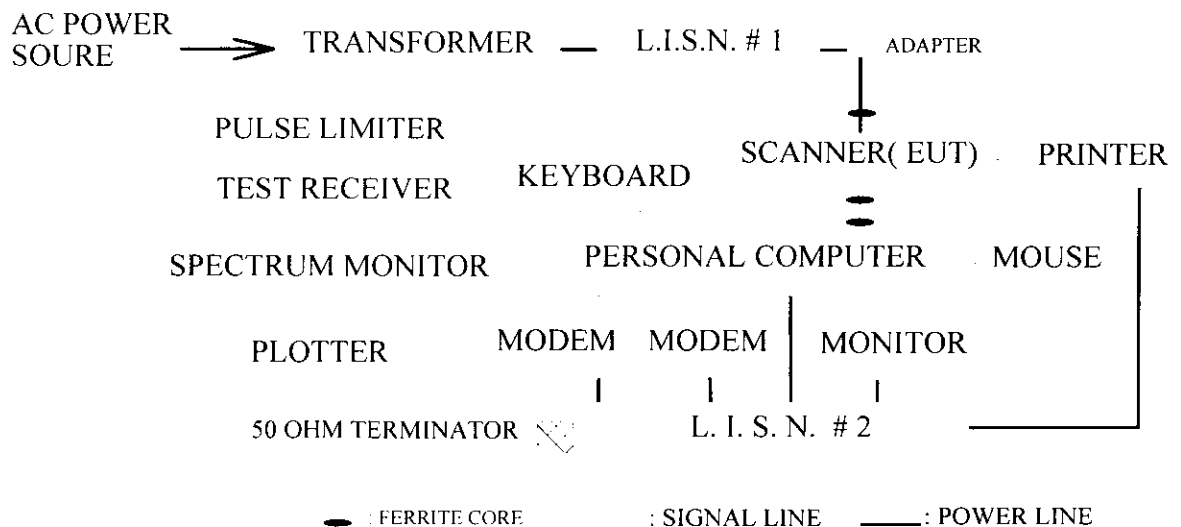
2. POWERLINE CONDUCTED TEST

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)

Model Number	:	1200 CP
Project Name	:	S6E10
FCC ID	:	HWFA4CIS
Manufacturer	:	Mustek Systems Inc.
Power Adapter #1	:	HiTRON M/N HES10B-12010-0-S, S/N 0002 Input : 100-120V ~ , 0.27-0.23A, 60/50Hz Output : 12V/1A, MAX 12W Cable : Non-Shielded, Undetachable, 1.1m Bonded a ferrite core
Power Adapter #2	:	TOUCH M/N SP9715C-A, S/N R00981900027 Input : 100-120V ~ , 0.6A, 50-60Hz Output : 12Vdc, 1A Cable : Non-Shielded, Undetachable, 1.75m Bonded a ferrite core
Data Cable	:	Shielded, Detachable, 1.5m 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 450KHz to 30MHz was checked.

EUT with two kinds of Power Adapter were done on conducted measured and 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.

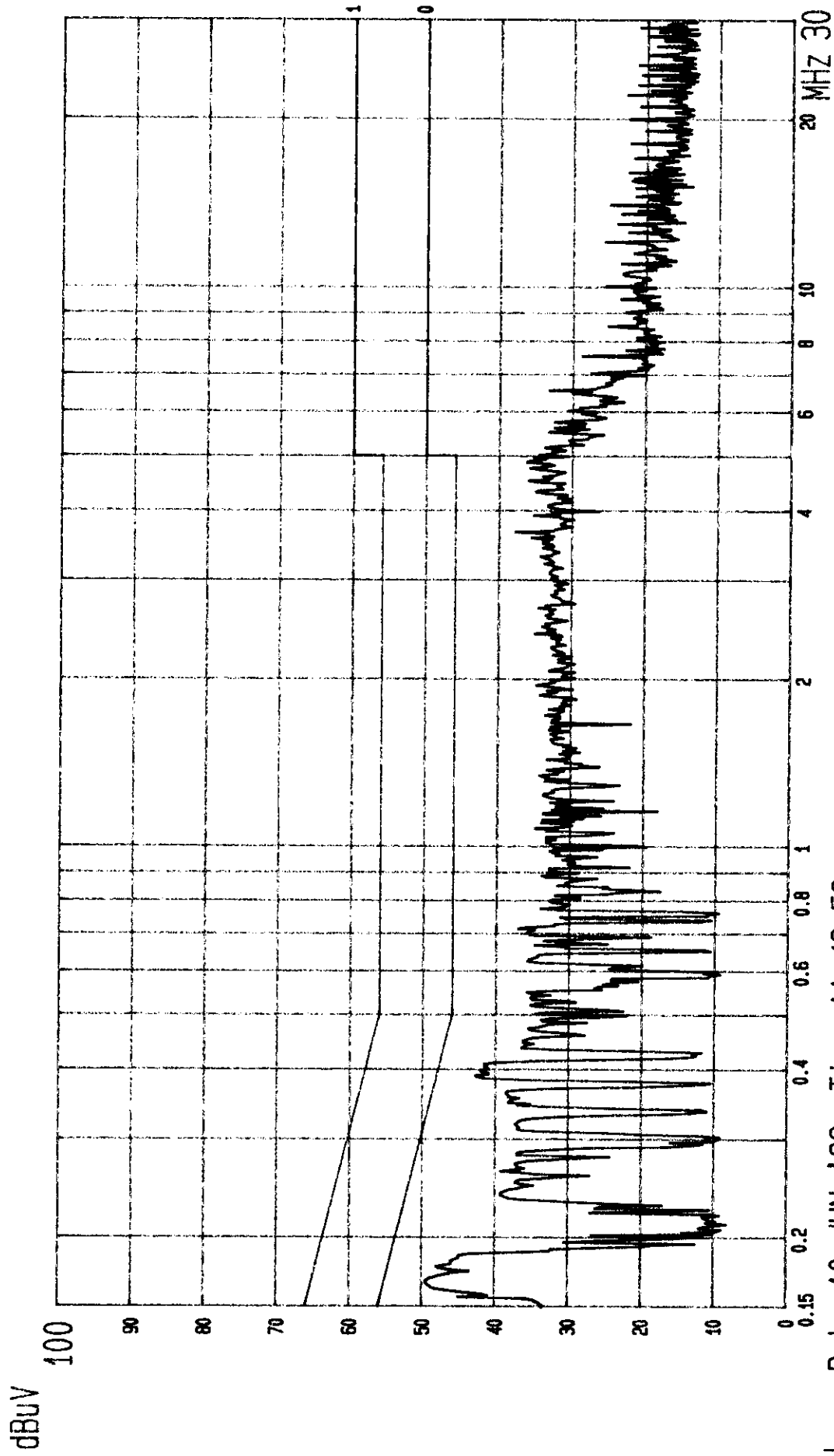
Date of Test : Jun. 10, 1998 Temperature : 26.1 °C

EUT : Scanner Humidity : 70 %

Test Mode : with HiTRON Power Adapter

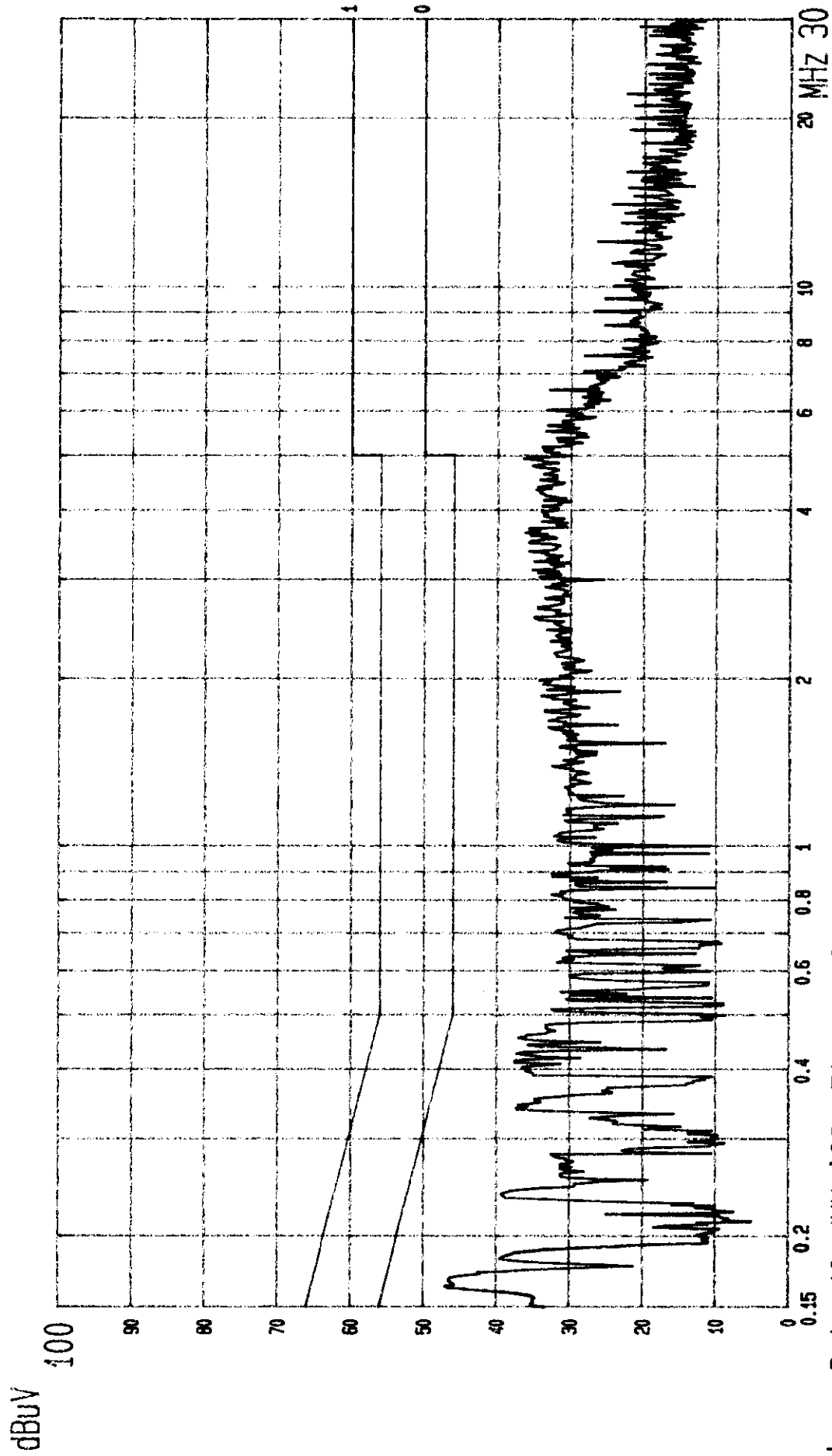
Frequency MHz	Factor dB	Measurement (dBUV)				Reading (dBUV)				Limits (dBUV)	
		Phase A Neutral		Phase B Line		Phase A Neutral		Phase B Line			
		Q.P.	Average	Q.P.	Average	Q.P.	Average	Q.P.	Average		
0.1564	0.4	48.3	46.6	46.8	44.2	48.7	47.0	47.2	44.6	65.6	55.6 ¹
0.3440	0.4	*	*	36.8	33.9	*	*	37.2	34.3	59.0	49.0 ²
0.3930	0.4	40.1	36.8	*	*	40.5	37.2	*	*	57.9	47.9 ²
0.4536	0.5	*	*	36.5	32.2	*	*	37.0	32.7	56.7	46.7
0.7138	0.5	37.0	35.2	*	*	37.5	35.7	*	*	56.0	46.0
1.9766	0.5	*	*	34.0	30.2	*	*	34.5	30.7	56.0	46.0
2.4102	0.5	34.0	32.2	*	*	34.5	32.7	*	*	56.0	46.0
3.6246	0.5	*	*	35.2	31.3	*	*	35.7	31.8	56.0	46.0
3.6468	0.5	35.8	30.3	*	*	36.3	30.8	*	*	56.0	46.0
4.8652	0.8	35.1	29.8	*	*	35.9	30.6	*	*	56.0	46.0
4.9230	0.8	*	*	35.5	30.2	*	*	36.3	31.0	56.0	46.0

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



--- Date 10.JUN.'98 Time 11:46:52
MUSTEK
EUT: SCANNER
LINE: VA.
MEMO: W/HITRON ADAPTOR

M/N: 1200CP (PEAK VALUE)
TAIWAN TOKIN EMC.ENG.CORP.



--- Date 10. JUN. '98 Time 11:50:52
MUSTEK
EUT: SCANNER
LINE: VB.
MEMO: W/HITRON ADAPTOR

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

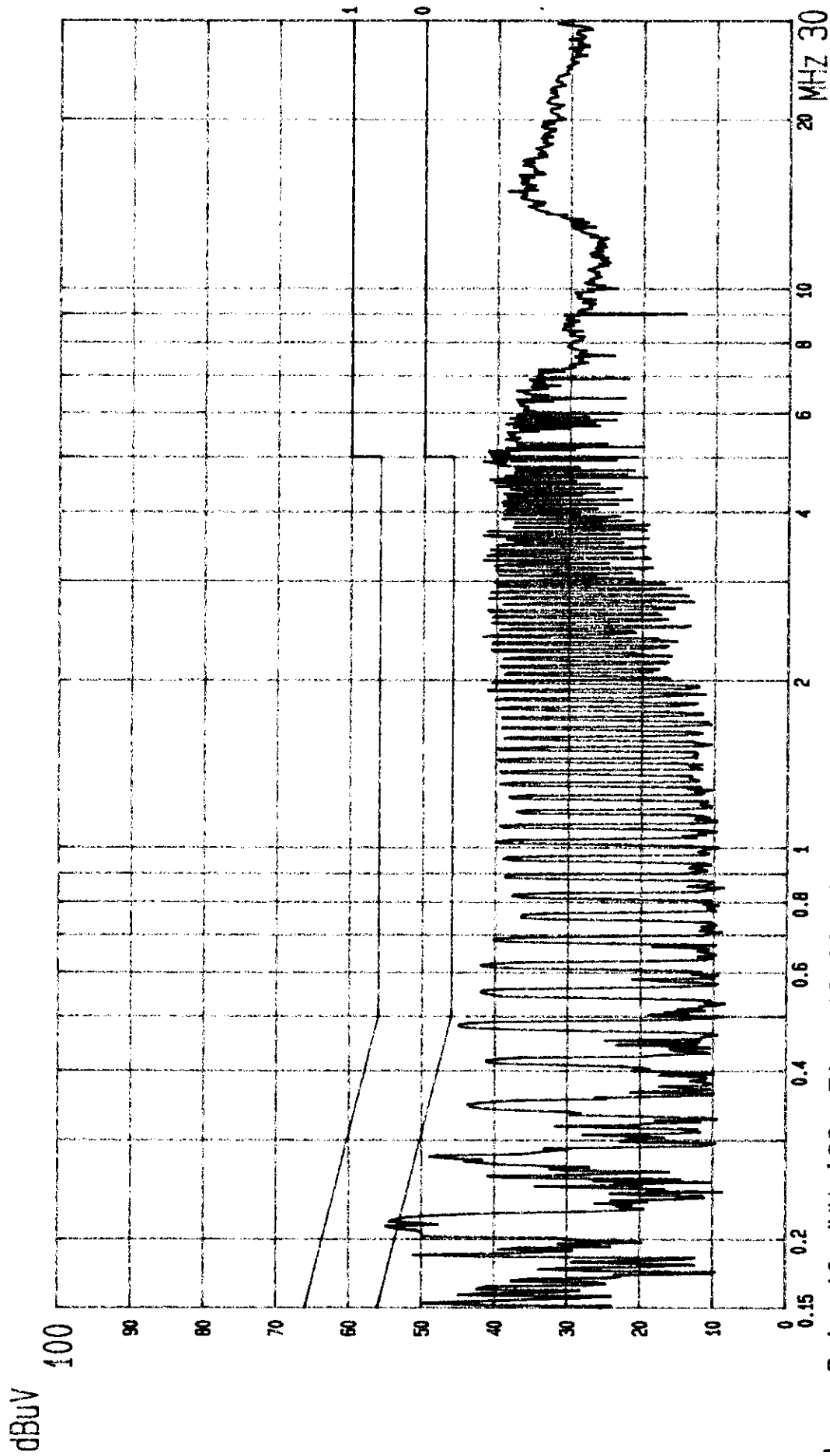
Date of Test : Jun. 10, 1998 Temperature : 26.1 °C

EUT : Scanner Humidity : 70 %

Test Mode : with TOUCH Power Adapter

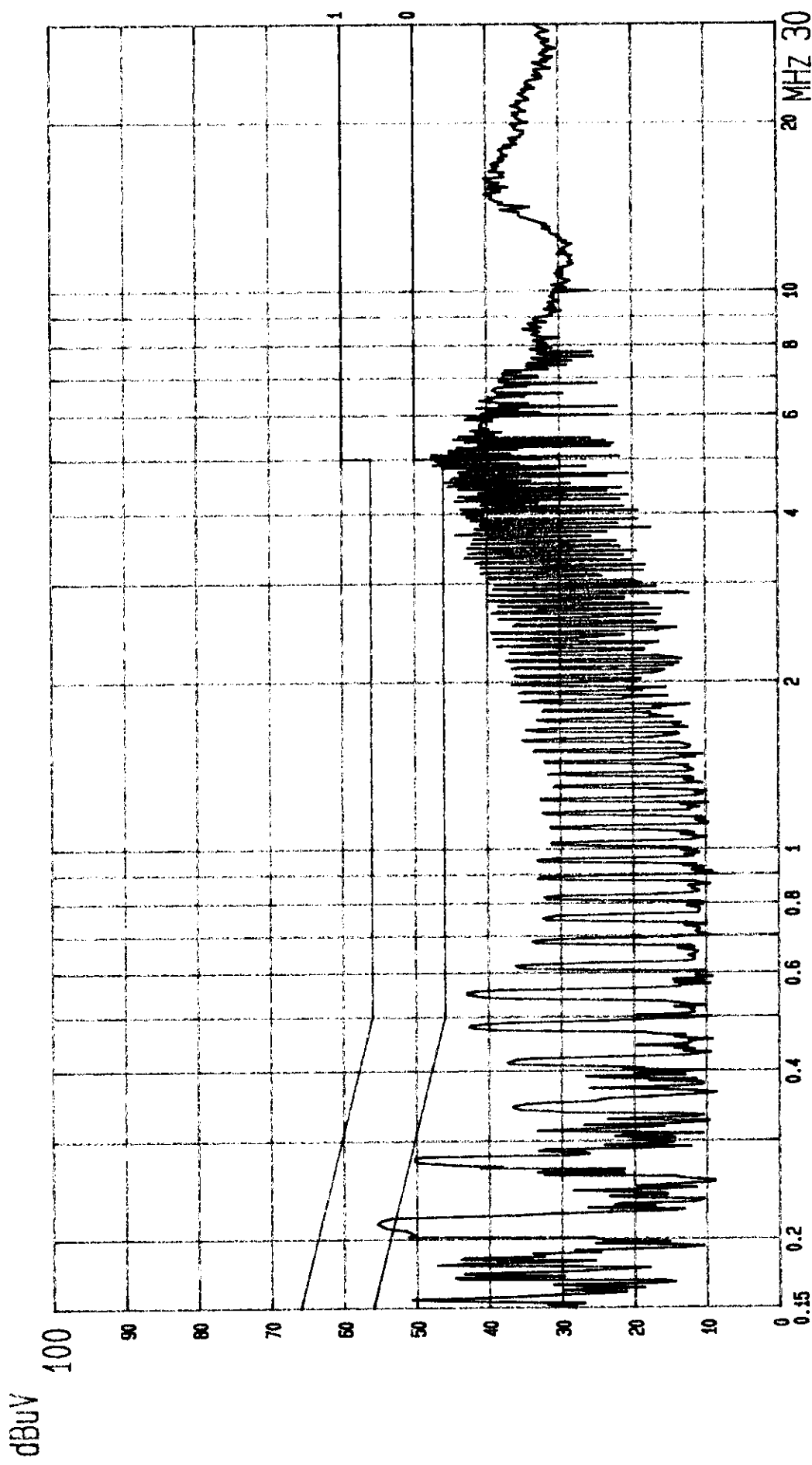
Frequency MHz	Factor dB	Measurement (dBuV)				Reading (dBuV)				Limits (dBuV)	
		Phase A Neutral		Phase B Line		Phase A Neutral		Phase B Line			
		Q.P.	Average	Q.P.	Average	Q.P.	Average	Q.P.	Average	Q.P.	Average
0.2038	0.4	53.2	43.4	52.3	42.8	53.6	43.8	52.7	43.2	63.4	53.4
0.2714	0.4	46.3	39.7	48.2	37.5	46.7	40.1	48.6	37.9	61.0	51.0
0.4756	0.5	44.0	43.0	*	*	44.5	43.5	*	*	56.4	46.4
0.5433	0.5	*	*	42.3	38.8	*	*	42.8	39.3	56.0	46.0
1.9080	0.5	40.2	36.4	*	*	40.7	36.9	*	*	56.0	46.0
3.2601	0.5	41.0	37.8	*	*	41.5	38.3	*	*	56.0	46.0
4.4805	0.8	*	*	43.4	41.8	*	*	44.2	42.6	56.0	46.0
4.8864	0.8	*	*	45.2	40.2	*	*	46.0	41.0	56.0	46.0
4.8932	0.8	40.8	37.9	*	*	41.6	38.7	*	*	56.0	46.0
5.0921	0.8	*	*	45.8	41.3	*	*	46.6	42.1	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 10. JUN. '98 Time 12:00:48
MUSTEK
EUT: SCANNER
LINE: VA. MEMO: W/TOUCH ADAPTOR

M/N: 1200CP (PEAK VALUE) TAIWAN TOKIN EMC.ENG.CORP.
PAGE: 004.



--- Date 10. JUN. '98 Time 11:55:13
MUSTEK
EUT: SCANNER
MEMO: W/TOUCH ADAPTOR
LINE: VB.

M/N: 1200CP (PEAK VALUE) TAIWAN TOKIN EMC.ENG.CORP.
PAGE: 003.

3. RADIATED EMISSION TEST

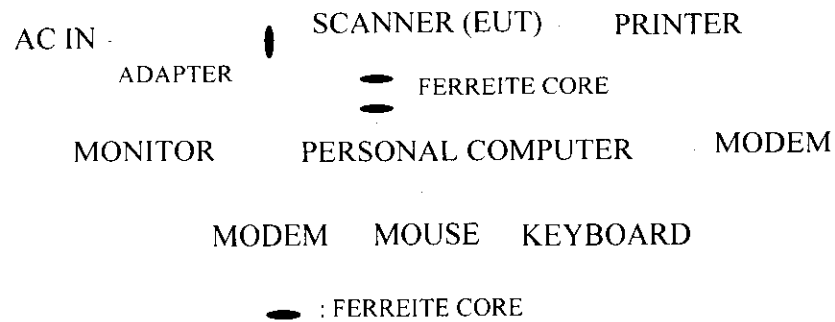
3.1. Test Equipment

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	879691/036	Jul.19, 97'	1 Year
2.	Broadband Antenna	Schwarzbeck	BBA 9106	A1L	Jan.08, 98'	1 Year
3.	Broadband Antenna	Schwarzbeck	UHALP 9108 A	0138	Jan.08, 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.

EUT with two kinds of Power Adapter were done on radiated measured and all the test results are listed in section 3.7.

3.7. Radiated Emission Noise Measurement Results

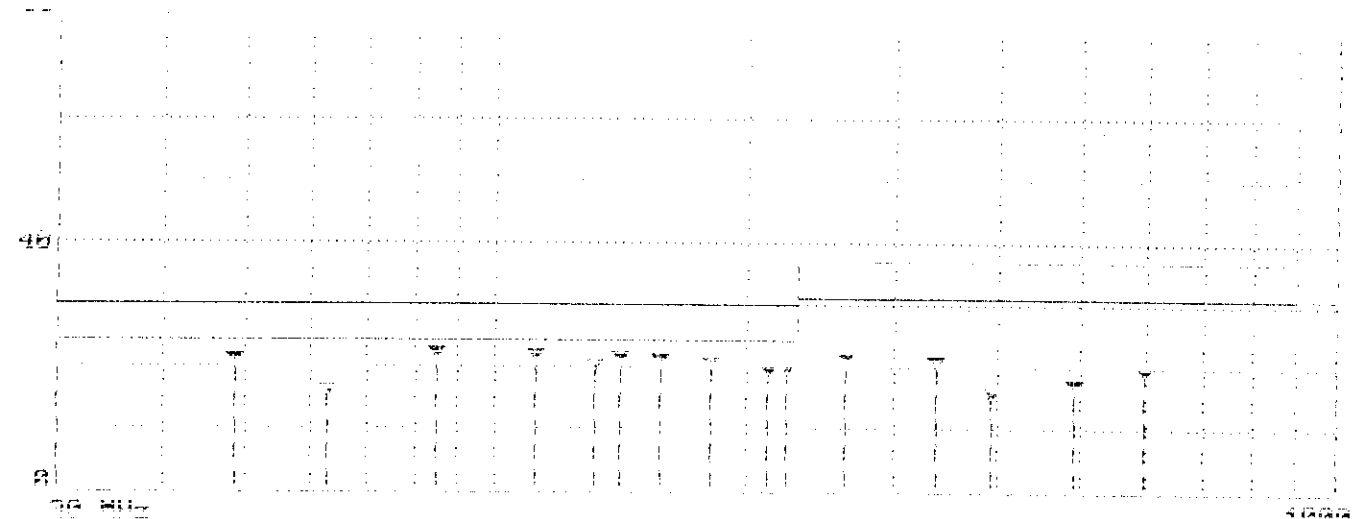
The frequency spectrum from 30 MHz to 1000 MHz is investigated. All the emissions not reported below are too low against the CISPR 22 CLASS B limit.

Date of Test : Jun. 16, 1998 Temperature : 30 °C
 EUT : Scanner Humidity : 71 %
 Test Mode : with HiTRON Power Adapter

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level	
			Horizontal dBuV	Horizontal dBuV/m	Limits dBuV/m	Margin dBuV/m
48.752	17.32	1.19	1.70	20.21	30.00	9.79
62.825	12.54	1.39	1.30	15.23	30.00	14.77
* 84.941	14.03	1.65	5.70	21.38	30.00	8.62
111.896	18.48	1.98	0.40	20.86	30.00	9.14
131.120	20.11	2.19	- 3.00	19.30	30.00	10.70
141.181	20.72	2.33	- 2.30	20.75	30.00	9.25
157.263	21.09	2.59	- 3.30	20.38	30.00	9.62
181.383	21.50	3.05	- 4.80	19.75	30.00	10.25
211.557	22.53	3.86	- 7.60	18.79	30.00	11.21
223.632	22.52	4.21	- 7.80	18.93	30.00	11.07
261.860	24.04	4.53	- 7.80	20.77	37.00	16.23
337.391	14.25	4.25	1.60	20.10	37.00	16.90
391.745	15.59	4.50	- 5.10	14.99	37.00	22.01
492.318	17.13	4.96	- 6.00	16.09	37.00	20.91
596.944	18.50	5.58	- 5.40	18.68	37.00	18.32

- Remark : 1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 84.941MHz with corrected signal level of 21.38dBuV/m (limit is 30dBuV/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at 175.5 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

1000 Hz 06-16-1998 15:11:32



1000 Hz
CISPR CLASS-B 10m, BBA6106B(0616) HORIZONTAL, UHALT9108A(06)
06-16-1998 15:11:32
Page#: 11 File#: MUSTEK.EI 06-16-1998 15:11:32
CISPR CLASS-B 10m, BBA6106B(0616) HORIZONTAL, UHALT9108A(06)
SITE1, R&S ESVP

Page#: 11 File#: MUSTEK.EI 06-16-1998 15:11:32
CISPR CLASS-B 10m, BBA6106B(0616) HORIZONTAL, UHALT9108A(06)
SITE1, R&S ESVP

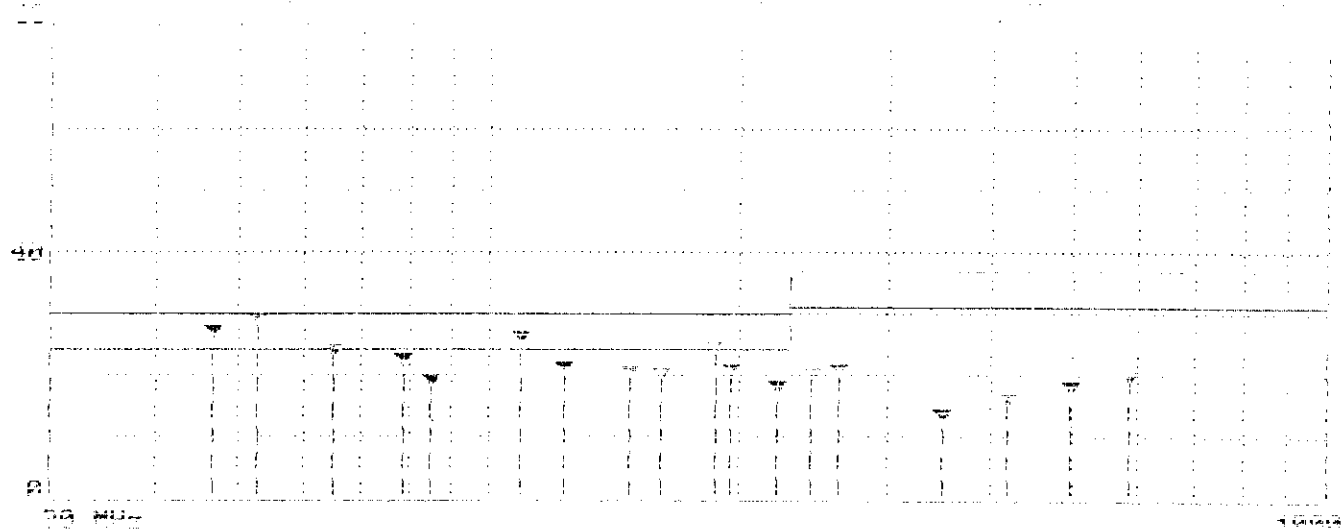
Freq	Level	Over Limit	Limit Line	Reading Level	Probe Factor	Cable Loss	Preamp Factor
MHz	dB	dB	dB	dB	dB	dB	dB
48.752	20.21	-9.79	30.00	1.70	17.32	1.19	0.00
62.825	15.23	-14.77	30.00	1.30	12.54	1.39	0.00
84.941	21.38	-8.62	30.00	5.70	14.03	1.65	0.00
111.896	20.86	-9.14	30.00	0.40	18.48	1.98	0.00
131.120	19.30	-10.70	30.00	-3.00	20.11	2.19	0.00
141.181	20.75	-9.25	30.00	-2.30	20.72	2.33	0.00
157.263	20.38	-9.62	30.00	-3.30	21.09	2.59	0.00
181.383	19.75	-10.25	30.00	-4.80	21.50	3.05	0.00
211.557	18.79	-11.21	30.00	-7.60	22.53	3.86	0.00
223.632	18.93	-11.07	30.00	-7.80	22.52	4.21	0.00
261.860	20.77	-16.23	37.00	-7.80	24.04	4.53	0.00
337.391	20.10	-16.90	37.00	1.60	14.25	4.25	0.00
391.745	14.99	-22.01	37.00	-5.10	15.59	4.50	0.00
492.318	16.09	-20.91	37.00	-6.00	17.13	4.96	0.00
596.944	18.68	-18.32	37.00	-5.40	18.50	5.58	0.00

Date of Test : Jun. 16, 1998 Temperature : 30 °C
 EUT : Scanner Humidity : 71 %
 Test Mode : with HiTRON Power Adapter

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level		Margin dBuV/m
			Vertical dBuV		Vertical dBuV/m	Limits dBuV/m	
46.741	17.66	1.19	7.30		26.15	30.00	3.85
* 52.764	16.59	1.28	9.90		27.77	30.00	2.23
64.839	13.66	1.41	8.20		23.27	30.00	6.73
78.912	13.10	1.59	7.20		21.89	30.00	8.11
84.944	14.43	1.65	2.20		18.28	30.00	11.72
109.068	17.12	1.96	6.00		25.08	30.00	4.92
123.141	18.22	2.10	- 0.10		20.22	30.00	9.78
147.267	20.67	2.45	- 3.50		19.62	30.00	10.38
161.345	22.04	2.65	- 5.30		19.39	30.00	10.61
187.503	23.34	3.22	- 3.00		23.56	30.00	6.44
195.552	23.91	3.41	- 7.20		20.12	30.00	9.88
221.705	20.60	4.18	- 7.60		17.18	30.00	12.82
243.842	22.40	4.56	- 7.80		19.16	37.00	17.84
261.948	23.34	4.53	- 7.80		20.07	37.00	16.93
349.461	14.96	4.29	- 6.60		12.65	37.00	24.35
417.859	16.73	4.64	- 6.30		15.07	37.00	21.93
496.342	17.83	4.98	- 5.60		17.21	37.00	19.79
584.857	19.51	5.49	- 6.10		18.90	37.00	18.10

- Remark : 1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 52.764MHz with corrected signal level of 27.77dBuV/m (limit is 30dBuV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 202.5 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

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11.10 : CISPR CLASS-B 10m
 231 : GUNTER R&S 123001

Probe: BBA6106B(0616) VERTICAL, UHA19108A(0616)
 Power: 1200mW 50Hz

Display: dBm 500mV 0.1dB 0.1dB 0.1dB 0.1dB 0.1dB 0.1dB
 Test: 1.000000 AMPHIB
 Range: 100.000

Table: 100.000

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 CISPR CLASS-B 10m, BBA6106B(0616) VERTICAL, UHA19108A(0616)
 SITE1, R&S ESVP

	Freq	Level	Over Limit	Limit Line	Reading Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dB	dB	dB	dB	dB	dB	dB
!	46.741	26.15	-3.85	30.00	7.30	17.66	1.19	0.00
!	52.764	27.77	-2.23	30.00	9.90	16.59	1.28	0.00
	64.839	23.27	-6.73	30.00	8.20	13.66	1.41	0.00
	78.912	21.89	-8.11	30.00	7.20	13.10	1.59	0.00
	84.944	18.28	-11.72	30.00	2.20	14.43	1.65	0.00
!	109.068	25.08	-4.92	30.00	6.00	17.12	1.96	0.00
	123.141	20.22	-9.78	30.00	-0.10	18.22	2.10	0.00
	147.267	19.62	-10.38	30.00	-3.50	20.67	2.45	0.00
	161.345	19.39	-10.61	30.00	-5.30	22.04	2.65	0.00
	187.503	23.56	-6.44	30.00	-3.00	23.34	3.22	0.00
	195.552	20.12	-9.88	30.00	-7.20	23.91	3.41	0.00
	221.705	17.18	-12.82	30.00	-7.60	20.60	4.18	0.00
	243.812	19.16	-10.84	37.00	-7.80	22.40	4.56	0.00
	261.948	20.07	-16.93	37.00	-7.80	23.34	4.53	0.00
	349.461	12.65	-24.35	37.00	-6.60	14.96	4.29	0.00
	417.859	15.07	-21.93	37.00	-6.30	16.73	4.64	0.00
	496.342	17.21	-19.79	37.00	-5.60	17.83	4.98	0.00
	584.857	18.90	-18.10	37.00	-6.10	19.51	5.49	0.00

Date of Test : Jun. 16, 1998 Temperature : 30 °C
 EUT : Scanner Humidity : 71 %
 Test Mode : with TOUCH Power Adapter

Frequency MHz	Antenna		Cable		Meter Reading		Emission Level	
	Factor dB/m	Loss dB	Horizontal dBuV	Horizontal dBuV/m	Limits dBuV/m	Margin dBuV/m		
50.760	16.55	1.26	- 0.10	17.71	30.00	12.29		
62.825	12.54	1.39	5.30	19.23	30.00	10.77		
70.870	12.06	1.53	4.20	17.79	30.00	12.21		
* 113.089	18.42	2.01	2.80	23.23	30.00	6.77		
131.184	20.11	2.19	- 2.50	19.80	30.00	10.20		
141.218	20.72	2.33	- 0.90	22.15	30.00	7.85		
155.304	21.00	2.56	- 3.10	20.46	30.00	9.54		
163.348	21.26	2.65	- 3.30	20.61	30.00	9.39		
171.386	21.35	2.87	- 3.60	20.62	30.00	9.38		
195.522	21.84	3.41	- 5.70	19.55	30.00	10.45		
201.548	21.96	3.50	- 4.90	20.56	30.00	9.44		
239.777	23.10	4.48	- 7.70	19.88	37.00	17.12		
263.920	24.00	4.48	- 6.30	22.18	37.00	14.82		
337.385	14.25	4.25	4.10	22.60	37.00	14.40		
391.740	15.59	4.50	- 4.20	15.89	37.00	21.11		
492.330	17.13	4.96	- 5.20	16.89	37.00	20.11		
596.941	18.50	5.58	- 5.00	19.08	37.00	17.92		

- Remark : 1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 113.089MHz with corrected signal level of 23.23dBuV/m (limit is 30dBuV/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at 291 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

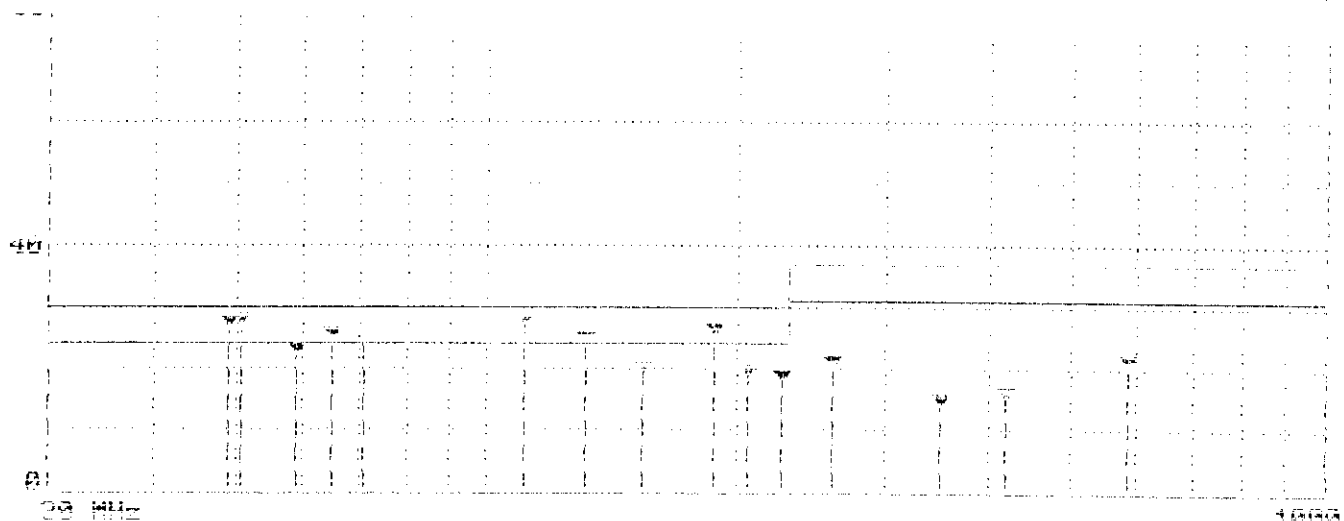
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50.760	17.71	-12.29	30.00	-0.10	16.55	1.26	0.00
62.825	19.23	-10.77	30.00	5.30	12.54	1.39	0.00
70.870	17.79	-12.21	30.00	4.20	12.06	1.53	0.00
113.089	23.23	-6.77	30.00	2.80	18.42	2.01	0.00
131.184	19.80	-10.20	30.00	-2.50	20.11	2.19	0.00
141.218	22.15	-7.85	30.00	-0.90	20.72	2.33	0.00
155.304	20.46	-9.54	30.00	-3.10	21.00	2.56	0.00
163.348	20.61	-9.39	30.00	-3.30	21.26	2.65	0.00
171.386	20.62	-9.38	30.00	-3.60	21.35	2.87	0.00
195.522	19.55	-10.45	30.00	-5.70	21.84	3.41	0.00
201.548	20.56	-9.44	30.00	-4.90	21.96	3.50	0.00
239.777	19.88	-17.12	37.00	-7.70	23.10	4.48	0.00
263.920	22.18	-14.82	37.00	-6.30	24.00	4.48	0.00
337.385	22.60	-14.40	37.00	4.10	14.25	4.25	0.00
391.740	15.89	-21.11	37.00	-4.20	15.59	4.50	0.00
492.330	16.89	-20.11	37.00	-5.20	17.13	4.96	0.00
596.941	19.08	-17.92	37.00	-5.00	18.50	5.58	0.00

Date of Test : Jun. 16, 1998 Temperature : 30 °C
 EUT : Scanner Humidity : 71 %
 Test Mode : with TOUCH Power Adapter

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBuV	Emission Level Vertical dBuV/m	Limits dBuV/m	Margin dBuV/m
48.755	17.41	1.19	8.20	26.80	30.00	3.20
50.765	16.94	1.26	9.10	27.30	30.00	2.70
58.807	14.50	1.37	6.70	22.57	30.00	7.43
64.839	13.66	1.41	9.60	24.67	30.00	5.33
70.870	13.09	1.53	8.80	23.42	30.00	6.58
* 111.080	17.45	1.98	7.90	27.33	30.00	2.67
131.186	20.01	2.19	2.10	24.30	30.00	5.70
153.303	21.37	2.50	-4.50	19.37	30.00	10.63
187.483	23.34	3.22	-1.10	25.46	30.00	4.54
205.588	23.06	3.69	-7.80	18.95	30.00	11.05
225.726	21.41	4.28	-7.70	17.99	30.00	12.01
259.931	23.41	4.55	-7.50	20.46	37.00	16.54
349.457	14.96	4.29	-5.20	14.05	37.00	22.95
417.874	16.73	4.64	-6.10	15.27	37.00	21.73
584.854	19.51	5.49	-4.20	20.80	37.00	16.20

- Remark : 1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 111.080MHz with corrected signal level of 27.33dBuV/m (limit is 30dBuV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 160 ° .
 3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.



20 MHz 1000
 Limit : CISPR CLASS-B 10m
 Ref : 30MHz 10m 12dB
 Margin: bds Graph: 0 10dB 20 30 40 50 60
 Note : TOWER ADAPTOR
 SITE1: R&S ESVP

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 CISPR CLASS-B 10m, BBA6106B(0616) VERTICAL, UHALT9106A(0616)
 SITE1, R&S ESVP

	Freq	Level	Over Limit	Limit Line	Reading Level	Probe Factor	Cable Loss	Preamp Factor
	MHz	dB	dB	dB	dB	dB	dB	dB
!	48.755	26.80	-3.20	30.00	8.20	17.41	1.19	0.00
!	50.765	27.30	-2.70	30.00	9.10	16.94	1.26	0.00
	58.807	22.57	-7.43	30.00	6.70	14.50	1.37	0.00
!	64.839	24.67	-5.33	30.00	9.60	13.66	1.41	0.00
	70.870	23.42	-6.58	30.00	8.80	13.09	1.53	0.00
!	111.080	27.33	-2.67	30.00	7.90	17.45	1.98	0.00
!	131.186	24.30	-5.70	30.00	2.10	20.01	2.19	0.00
	153.303	19.37	-10.63	30.00	-4.50	21.37	2.50	0.00
!	187.483	25.46	-4.54	30.00	-1.10	23.34	3.22	0.00
	205.588	18.95	-11.05	30.00	-7.80	23.06	3.69	0.00
	225.726	17.99	-12.01	30.00	-7.70	21.41	4.28	0.00
	259.931	20.46	-16.54	37.00	-7.50	23.41	4.55	0.00
	349.457	14.05	-22.95	37.00	-5.20	14.96	4.29	0.00
	417.874	15.27	-21.73	37.00	-6.10	16.73	4.64	0.00
	584.854	20.80	-16.20	37.00	-4.20	19.51	5.49	0.00

4. DEVIATIONS TO TEST SPECIFICATIONS

【 NONE 】