

EXHIBIT 3

Test Report

Test Report

TTEMC-F99134

APPLICATION FOR CERTIFICATION
Class II Permissive Change
On Behalf of
Top Victory Electronics (Taiwan) Co., Ltd.
15" LCD Monitor

Model : LM-500

FCC ID : ARSTF1560E

Prepared for : Top Victory Electronics (Taiwan) Co., Ltd.
6F, 168, Lien Chen Road, Chung-Ho,
Taipei Hsien, Taiwan, R.O.C.

Prepared By : Taiwan Tokin EMC Eng. Corp.
No. 53-11, Tin-Fu Tsun, Lin-Kou,
Taipei Hsien, Taiwan, R.O.C.

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Report Number : TTEMC-F99134
Date of Test : Aug. 12 ~ 26, 1999
Date of Report : Sep. 03, 1999

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TOKIN-F013

TEST REPORT CERTIFICATION

(Class II Permissive Change)

Applicant : Top Victory Electronics (Taiwan) Co., Ltd.
Manufacturer : Top Victory Electronics (Fujian) Co., Ltd.
FCC ID : ARSTF1560E
EUT Description : 15" LCD Monitor
(A) MODEL NO. : LM-500
(B) SERIAL NO. : N/A
(C) POWER SUPPLY : 120V AC/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 compliance with the FCC official limits.

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 : Aug. 12 ~ 26, 1999

Prepared by : Monica Chang Sep. 4 '99
(MONICA CHANG)

Test Engineer : Allen Wang 9/8/99.
(ALLEN WANG)

Approve & Authorized Signer :

Jackie Deng 9/8/99
(JACKIE DENG)

* TUK99-F013

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	15" LCD Monitor
Model Number	:	LM-500
FCC ID	:	ARSTF1560E
Applicant	:	Top Victory Electronics (Taiwan) Co., Ltd. 6F, 168, Lien Chen Road, Chung-Ho, Taipei Hsien, Taiwan, R.O.C.
Manufacturer	:	Top Victory Electronics (Fujian) Co., Ltd. Yuan Hong Rd., Sung-Zheng, Hong-Lu, Fuding City, Fujian, China.
LCD Panel #1	:	LG, M/N LM151X2 S/N 1518CP2603660
LCD Panel #2	:	Samsung, M/N LT150X1-051 S/N 2MB4Q812.3
* LCD Panel #3 (add)	:	Chung Hwa, M/N CLAA150XA03 S/N EA20903D
Data Cable	:	Shielded, Undetachable, 1.5m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.8m
Data of Receipt of Sample	:	Aug. 12, 1999
Date of Test	:	Aug. 12 ~ 26, 1999

Remark :

- * This EUT is a modified version of original FCC ID ARSTF1560E.
The difference is to add a LCD Panel (Chung Hwa, M/N CLAA150XA03).

1.2. Tested Supporting System Details

1.2.1. PERSONAL COMPUTER

Mother Board	:	Asus, M/N P5A FCC ID. By DoC
CPU	:	AMD K6-2 266MHz
Case	:	Enlight, M/N EN7105C
S.P.S.	:	SPI, M/N FSP250-61GT S/N W13562640
Floppy Driver 3.5"	:	Mitsumi, M/N D353M3
Hard Disk Driver	:	Seagate, M/N ST34321A S/N VTH99025
VGA Card	:	ELSA, M/N Gloria-Synergy FCC ID KJGP2EASY
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.2. KEYBOARD

Model Number	:	5121
Serial Number	:	J83300819
FCC ID	:	E5XKBM104M10UC
Manufacturer	:	Behavior Tech Computer Corp.
Data Cable	:	Shielded, Undetachable, 1.0m

1.2.3. PRINTER

Model Number	:	2225C+
Serial Number	:	3007S68643
FCC ID	:	DSI6XU2225
Manufacturer	:	Hewlett Packard
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Hewlett Packard, M/N 82241A Non-Shielded, Undetachable, 2.0m

1.2.4. MODEM #1

Model Number	:	DM-1414
Serial Number	:	980034392
FCC ID	:	IFAXDM1414
Manufacturer	:	Accex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.5. MODEM #2

Model Number	:	DM-1414
Serial Number	:	980034391
FCC ID	:	IFAXDM1414
Manufacturer	:	Accex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, Model AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.6. MOUSE

Model Number	:	M-S35
Serial Number	:	LZA82103138
FCC ID	:	DZL211029
Manufacturer	:	Logitech
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.2.7. USB MOUSE #1

Model Number	:	M-UB48
Serial Number	:	LZB81900212
FCC ID	:	DZL211137
Manufacturer	:	Logitech
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.8. USB MOUSE #2

Model Number	:	M-UB48
Serial Number	:	LZB81900216
FCC ID	:	DZL211137
Manufacturer	:	Logitech
Data Cable	:	Shielded, Undetachable, 1.8m

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
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 Lab Code	:	200077-0

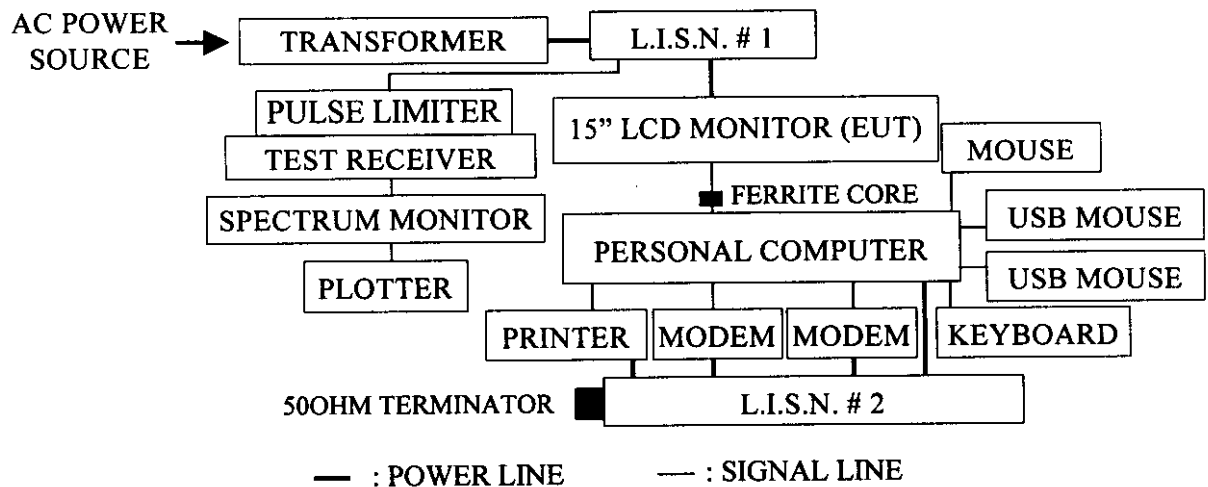
2. POWERLINE CONDUCTED TEST

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	886047/035	Jun.19, 99'	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-881-13	Apr.21, 99'	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-855-9	Apr.21, 99'	1 Year

2.2. Block Diagram of Test Setup



2.3. Powerline Conducted Emission Limit (CLSPR 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	50 dB

REMARKS : RF LINE VOLTAGE (dBuV) = 20 log RF LINE VOLTAGE (uV)

2.4. EUT's Configuration during Compliance 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. 15" LCD Monitor (EUT)

Model Number	:	17E4222E / 7V1r
FCC ID	:	ARSTF1560E
Manufacturer	:	Top Victory Electronics (Fujian) Co., Ltd.
CRT	:	Chung Hwa, M/N CLAA150XA03 S/N EA2093D
Data Cable	:	Shielded, Undetachable, 1.5m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.8m

2.4.2. Supporting System : 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. Turned on the power of all equipments.
- 2.5.3. Personal Computer read data from disk.
- 2.5.4. Personal Computer running the self-test program "Win-Test" by windows and sent "H" character to LCD monitor (EUT) through VGA card and the screen displayed and filled with "H" pattern by EUT's resolution 1024*768.
- 2.5.5. Personal Computer read data from floppy disk 、Modem and then wrote the data into floppy disk 、Modem.
- 2.5.6. The other peripheral devices were driven 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 of equipments and all of the interface cables were changed according to FCC ANSI C63.4-1992 on conducted measurement.

The bandwidth of the 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.

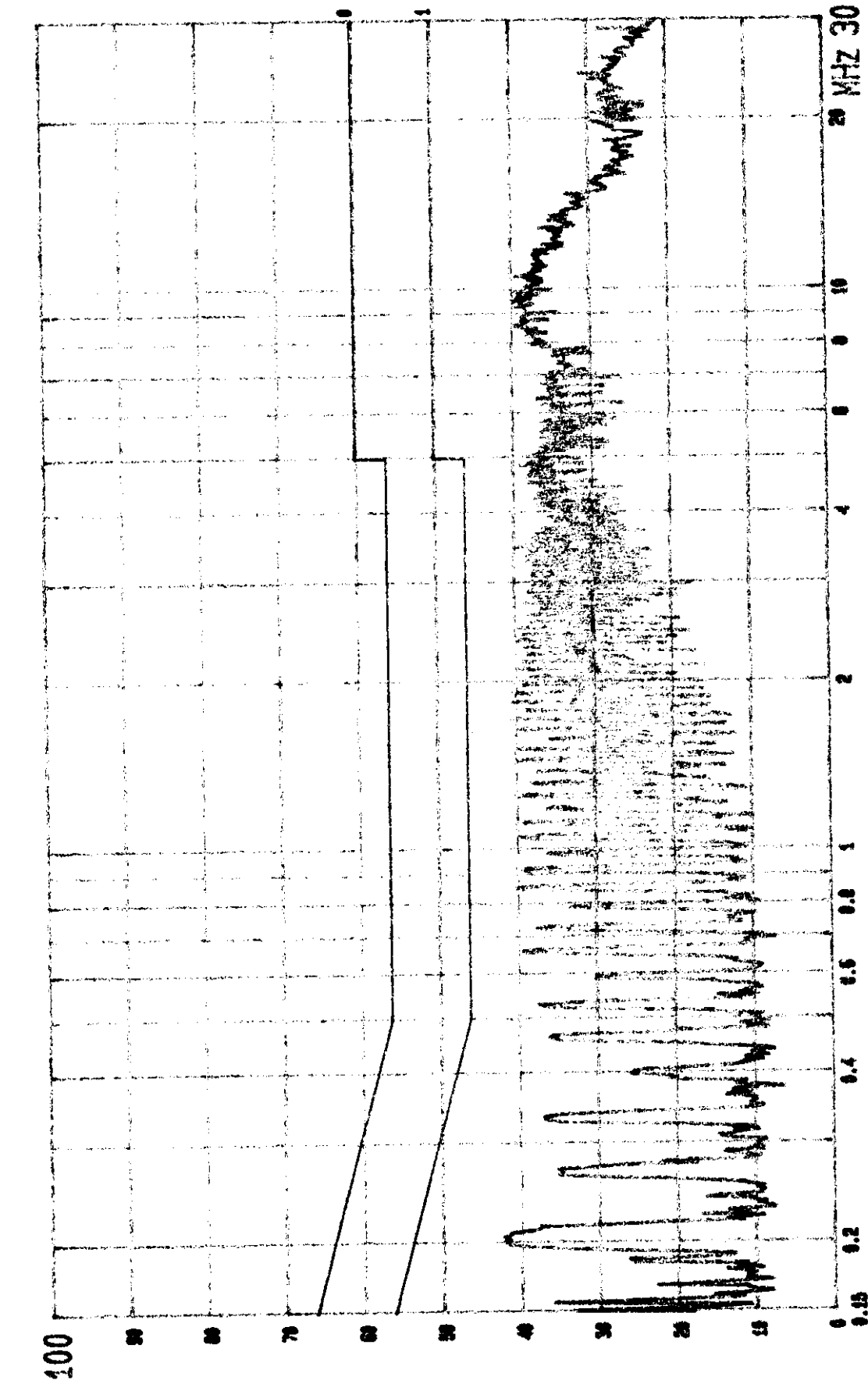
Date of Test : Aug. 26, 1999 Temperature : 28°C

EUT & M/N : 15" LCD Monitor Humidity : 43%

Frequency (MHz)	Factor dB	Reading (dBuV)				Measurement (dBuV)				Limits (dBuV)	
		Phase A Neutral		Phase B Live		Phase A Neutral		Phase B Live			
		Q.P.	Average	Q.P.	Average	Q.P.	Average	Q.P.	Average		
0.1976	0.4	40.8	30.8	40.6	30.5	41.2	31.2	41.0	30.9	63.7	53.7
0.2629	0.4	34.2	32.3	*	*	34.6	32.7	*	*	61.3	51.3
0.2644	0.4	*	*	36.0	30.6	*	*	36.4	31.0	61.3	51.3
0.7214	0.5	*	*	37.0	34.5	*	*	37.5	35.0	56.0	46.0
0.7233	0.5	37.1	34.9	*	*	37.6	35.4	*	*	56.0	46.0
1.1818	0.5	*	*	35.2	28.2	*	*	35.7	28.7	56.0	46.0
1.1839	0.5	34.9	28.4	*	*	35.4	28.9	*	*	56.0	46.0
1.4439	0.5	*	*	36.6	33.7	*	*	37.1	34.2	56.0	46.0
1.4477	0.5	38.2	35.4	*	*	38.7	35.9	*	*	56.0	46.0
6.4999	0.8	*	*	32.5	28.1	*	*	33.3	28.9	60.0	50.0
6.5139	0.8	32.6	28.6	*	*	33.4	29.4	*	*	60.0	50.0

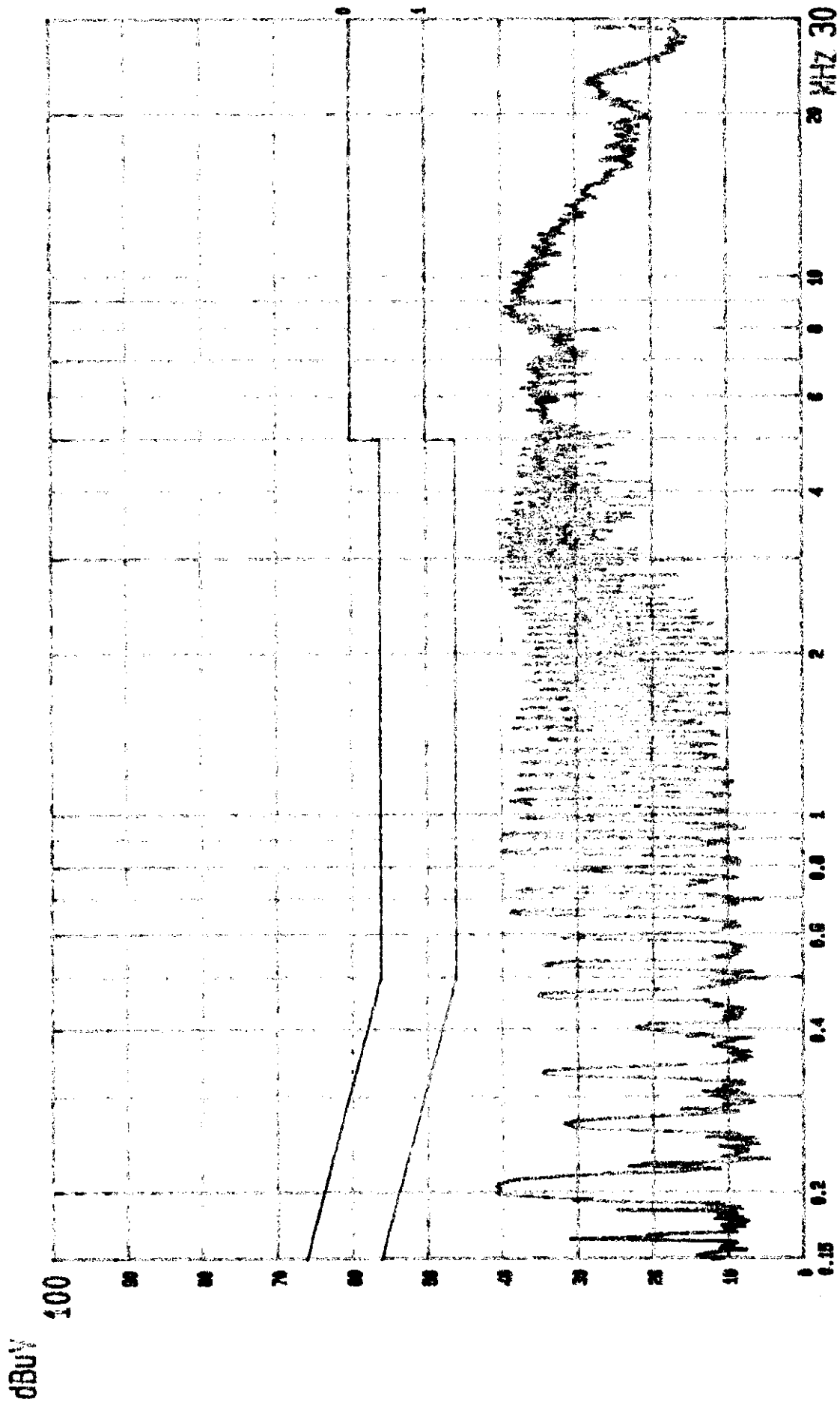
Remark: 1. "*" means the emission level is undetectable.

2. Factor = Insertion Loss + Cable Loss



120V/60Hz PAGE: 02.
(PEAK VALUE) TTENC.

--- Date 26.AUG '99 Time 13:43:14
TOP VICTORY EUT: 15"LCD MONITOR M/N: LM-500
LINE: VA. MEMO: 1027X768; 75Hz



120V/60Hz PAGE: 01.
(PEAK VALUE) TTEMC.

--- Date 26.AUG '99 Time 13:45:26
TOP VICTORY EUT: 15"LCD MONITOR M/N: LM-500
LINE: VB. MEMO: 1027X768; 75Hz

3. RADIATED EMISSION TEST

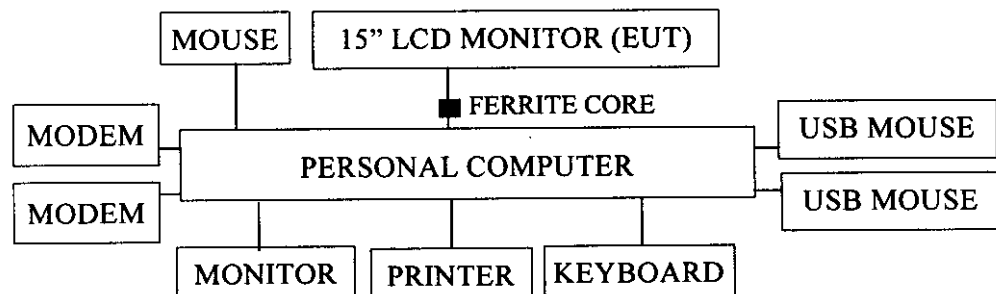
3.1. Test Equipment

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

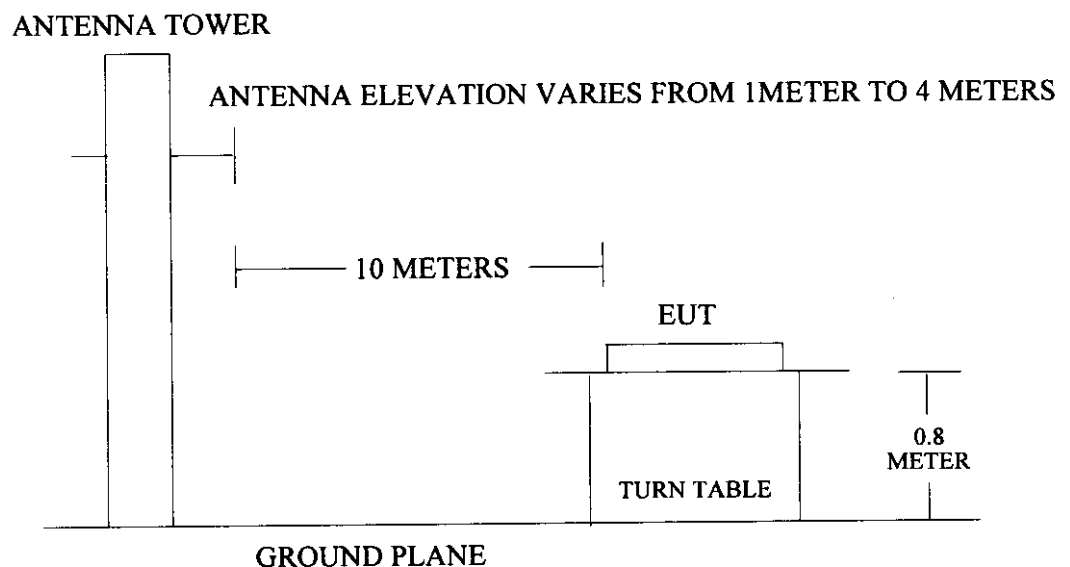
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde&Schwarz	ESVP	893202/001	May 13, 99'	1 Year
2.	Broadband Antenna	Schwarzbeck	BBA9106	A1L	Feb.02, 99'	1 Year
3.	Broadband Antenna	Chase	UPA6109	1039	Feb.02, 99'	1 Year

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



3.3. Radiation Limit (CLSPR 22 CLASS B)

All emanations from a class B computing devices or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified below:

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

- Note :
- (1) The tighter limit shall apply 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 E.U.T..

3.4. EUT's Configuration during Compliance Measurement

The configuration of EUT and its simulators were same as those used in conducted measurement. Please refer to 2.4.

3.5. Operating Condition of EUT

Same as conducted measurement which is 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 is set 10 meters away from the receiving antenna which was 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 were 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 of the R&S Test Receiver ESVS10 was set at 120KHz.

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

3.7. Test Results

PASSED. All the test results are listed in the following pages.

3.8. Radiated Emission Measurement Results

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

Date of Test : Aug. 12, 1999 Temperature : 26.8°C
 EUT : 15" LCD Monitor Humidity : 59%
 Test Mode : 60KHz / 1024*768, 75Hz

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBuV	Emission Level Horizontal dBuV/m	Limits dBuV/m	Margin dB
67.106	12.33	2.01	3.90	18.24	30.00	11.76
83.902	13.95	2.19	4.30	20.44	30.00	9.56
117.503	18.90	2.45	-3.40	17.95	30.00	12.05
151.114	20.47	2.73	-2.82	20.38	30.00	9.62
184.693	21.57	3.24	-3.59	21.22	30.00	8.78
* 218.290	22.59	3.66	-3.49	22.76	30.00	7.24
235.068	23.13	3.62	-3.47	23.28	37.00	13.72
251.852	23.36	3.86	-2.46	24.76	37.00	12.24
318.977	14.00	4.23	-2.78	15.45	37.00	21.55
352.567	14.78	4.42	-2.87	16.33	37.00	20.67
386.169	15.06	4.65	-0.57	19.14	37.00	17.86
419.761	15.77	4.82	6.56	27.15	37.00	9.85
453.403	16.75	5.15	-0.30	21.60	37.00	15.40
486.956	17.12	5.38	-2.06	20.44	37.00	16.56
520.567	17.57	5.47	-2.17	20.87	37.00	16.13

- Remark :
1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 218.290MHz with corrected signal level of 22.76dBuV/m (limit is 30dBuV/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at 205° .
 3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test : Aug. 12, 1999 Temperature : 26.8°C

EUT : 15" LCD Monitor Humidity : 59%

Test Mode : 64KHz / 1280*1024, 60Hz

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBuV	Emission Level Vertical dBuV/m	Limits dBuV/m	Margin dB
67.101	13.73	2.01	7.00	22.74	30.00	7.26
83.901	13.58	2.19	1.01	16.78	30.00	13.22
117.503	17.58	2.45	-2.10	17.93	30.00	12.07
151.113	20.55	2.73	-1.71	21.57	30.00	8.43
184.661	22.05	3.24	-3.46	21.83	30.00	8.17
* 218.251	23.11	3.66	-3.35	23.42	30.00	6.58
235.062	23.29	3.62	-3.40	23.51	37.00	13.49
251.856	23.51	3.86	1.65	29.02	37.00	7.98
319.039	12.95	4.24	-2.24	14.95	37.00	22.05
352.632	14.88	4.42	-2.74	16.56	37.00	20.44
386.164	15.38	4.65	-2.86	17.17	37.00	19.83
419.762	16.06	4.82	2.06	22.94	37.00	14.06
453.418	16.77	5.15	-0.61	21.31	37.00	15.69
486.978	17.13	5.38	-2.68	19.83	37.00	17.17
520.569	17.85	5.47	-2.57	20.75	37.00	16.25

- Remark :
1. All readings are Quasi-Peak values.
 2. The worst emission was detected at 218.251MHz with corrected signal level of 23.42dBuV/m (limit is 30dBuV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 110° .
 3. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

4. MODIFICATION TO EUT

1. Added 3pcs copper tape on the plate of LCD Panel (Chung Hwa).

5. DEVIATION TO TEST SPECIFICATIONS

【NONE】

EXHIBIT 2

EUT and Simulators Configuration

* Tok 99-FO13

EUT AND SIMULATORS CONFIGURATION**Description of EUT**

Applicant : Top Victory Electronics (Taiwan) Co., Ltd.
6F, 168, Lien Chen Road, Chung-Ho, Taipei
Hsien, Taiwan, R.O.C.

Manufacturer : Top Victory Electronics (Fujian) Co.
Yuan Hong Rd., Sung-Zheng, Hong-Lu,
Fuding City, Fujian, China.

Product Name : 15" LCD Monitor

Model Number : LM-500

FCC ID : ARSTF1560E

LCD Panel #1 : LG, M/N LM151X2
(Last Granted) S/N 1518CP2603660

* **LCD Panel #2 : Chung Hwa, M/N CLAA150XA03
(Add) S/N EA20903D**

Horizontal Freq. : 30KHz to 60KHz

Vertical Freq. : 50Hz to 75Hz

Resolution (Max.) : 1024*768, Non-Interlaced

Data Cable : Shielded, Undetachable, 1.5m
Bonded a ferrite core

Power Cord : Non-Shielded, Detachable, 1.8m

TTEMC Report No. : TTEMC-F99134

Date of Test : Aug. 12 ~ 26, 1999

- * Remarks: This EUT is a modified version of original FCC ID.: ARSTF1560E.
The details of difference is as follows:
(1) to add a LCD Panel (Chung Hwa, M/N CLAA150XA03)

Description of Simulators

@ Personal Computer

Mother Board : ASUS, M/N P5A
FCC by DoC
CPU : AMD K6-2-266MHz
Case : Enlight, M/N EN7105C
F.D.D. : Mitsumi, M/N D353M3
H.D.D. : Seagate, M/N ST34321A
S.P.S. : SPI, M/N FSP250-61GT
FCC by DoC
VGA Card : ELSA, M/N Gloria-Synergy
FCC ID. KJGP2EASY

@ Keyboard

Model Number : 5121
Serial Number : J83300819
FCC ID : E5XKBM104M10UC
Manufacturer : BTC

@ Printer

Model Number : 2225C+
Serial Number : 3007S68643
FCC ID : DSI6XU2225
Manufacturer : Hewlett Packard

@ Model #1

Model Number : DM-1414
Serial Number : 980034392
FCC ID : IFAXDM1414
Manufacturer : Aceex

@ Model #2

Model Number : DM-1414
Serial Number : 980034391
FCC ID : IFAXDM1414
Manufacturer : Aceex

@ PS2 Mouse

Model Number : M-S35
Serial Number : LZA82103138
FCC ID : DZL211029
Manufacturer : Logitech

@ USB Mouse #1

Model Number : M-UB48
Serial Number : LZB81900212
FCC ID : DZL211137
Manufacturer : Logitech

@ USB Mouse #2

Model Number : M-UB48
Serial Number : LZB81900216
FCC ID : DZL211137
Manufacturer : Logitech