

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.
18F, 738 Chung-Cheng Rd., Chung-Ho 235,
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.

Tel: (02) 2609-9301, 2609-2133

File Number : ATM-G01031 (G99202, G99431, G00011)
Report Number : TTEMC-F20106
Date of Test : Sept. 28 ~ Oct. 06, 2000
Date of Report : Oct. 17, 2000

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TEST REPORT CERTIFICATION

(Class II Permissive Change)

Applicant : Top Victory Electronics (Taiwan) Co., Ltd.
Manufacturer #1 : Top Victory Electronics (Fujian) Co., Ltd.
Manufacturer #2 : Beijing Orient Top Victory Electronics 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 : Sept. 28 ~ Oct. 06, 2000

Prepared by : Monica Chang
(MONICA CHANG)

Test Engineer : Allen Wang
(ALLEN WANG)

Approve & Authorized Signer : Jackie Deng
(JACKIE DENG)

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. 18F, 738 Chung-Cheng Rd., Chung-Ho 235, Taipei Hsien, Taiwan, R.O.C.
Manufacturer #1	:	Top Victory Electronics (Fujian) Co., Ltd. Yuan Hong Rd., Shang-Lu Fuqing City, Fujian, China.
Manufacturer #2	:	Beijing Orient Top Victory Electronics Co., Ltd. No. 10, Jiu Xian Qiao Rd., Chao Yang District, Beijing, 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	:	Chung Hwa, M/N CLAA150XA03 S/N EA20903D
LCD Panel #4	:	Hyundai, M/N HT15X11-100
LCD Panel #5 (Additional)	:	Toshiba, M/N HSD150MX41
Data Cable	:	Shielded, Undetachable, 1.2m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.8m
Data of Receipt of Sample	:	Sept. 28, 2000
Date of Test	:	Sept. 28 ~ Oct. 06, 2000

Remark :

This EUT is a modified version of original FCC ID ARSTF1560E.

The differences are to add a LCD Panel (Toshiba, M/N HSD150MX41) and re-lay out the main board.

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 W13562615
Floppy Driver 3.5"	:	Mitsumi, M/N D353M3
Hard Disk Driver	:	Seagate, M/N ST34321A, S/N VTH20835
VGA Card	:	Dataexpert, M/N CP765V2 FCC ID LUT-CP765
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.2. KEYBOARD

Model Number	:	5121
Serial Number	:	J83300815
FCC ID	:	E5XKBM104M10UC
Manufacturer	:	Behavior Tech Computer Corp.
Data Cable	:	Shielded, Undetachable, 1.0m

1.2.3. 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

1.2.4. MODEM #1

Model Number	:	DM-1414
Serial Number	:	980034398
FCC ID	:	IFAXDM1414
Manufacturer	:	Aceex
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	:	980034394
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. PS2 MOUSE

Model Number	:	M-S35
Serial Number	:	LZA82103122
FCC ID	:	DZL211029
Manufacturer	:	Logitech
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.2.7. USB MOUSE #1

Model Number	:	CREUBB
Serial Number	:	N/A
FCC ID	:	NHM-CREUBE
Manufacturer	:	CRE Technology Co., Ltd.
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.8. USB MOUSE #2

Model Number	:	CREUBB
Serial Number	:	N/A
FCC ID	:	NHM-CREUBE
Manufacturer	:	CRE Technology Co., Ltd.
Data Cable	:	Shielded, Undetachable, 1.8m

1.3. Description of Test Facility

Site Description (No. 7 Open Site)	:	Dec. 02, 1999 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 Lab Code	:	200077-0

1.4. Measurement Uncertainty

- (1) Radiation Uncertainty $U_r = \pm 4.01\text{dB}$
 (2) Conduction Uncertainty $U_c = \pm 2.26\text{dB}$

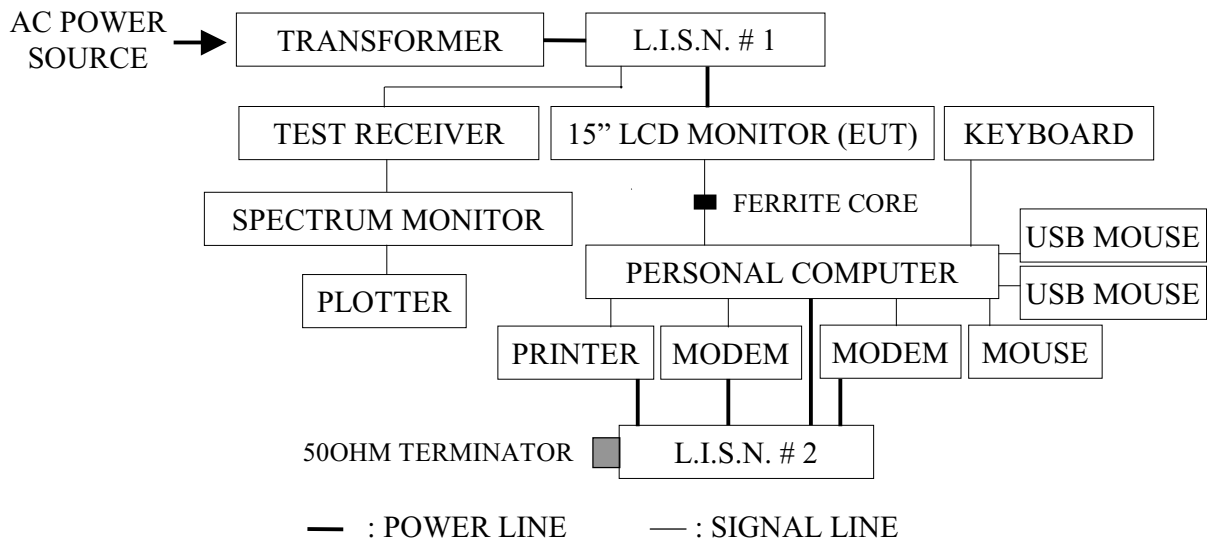
2. POWERLINE CONDUCTED TEST

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	ESCS30	825442/020	Jun. 27, 00'	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-1370-10	May 31, 00'	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-1370-9	May 31, 00'	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	:	LM-500
Serial Number	:	N/A
Manufacturer #1	:	Top Victory Electronics (Fujian) Co., Ltd.
Manufacturer #2	:	Beijing Orient Top Victory Electronics Co., Ltd.
LCD Panel	:	Toshiba, M/N HSD150MX41
Data Cable	:	Shielded, Undetachable, 1.2m 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 "Hwin" by windows and sent "H" character to LCD Monitor (EUT) through VGA card, the screen displayed and filled with "H" pattern by EUT's resolution.

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 ESCS30 was set at 10KHz.

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

2.7. Line Conducted RF Voltage Measurement Results

PASSED. All the test results are attached in the next pages. (6 Pages)

Two kinds of horizontal working frequency were done during conducted measurement and all the test results are listed in following pages. (6 Pages)

EUT : 15" LCD Monitor

M/N : LM-500

Test Date : Oct. 06, 2000

Temperature : 25.8°C

Humidity : 53%

Test Modes		Reference Data #
1.	46KHz (800*600, 75Hz)	Data #1204 (1205,1206); #1207 (1208,1209)
2.	60KHz (1024*768, 75Hz)	Data #1213 (1214,1215); #1210 (1211,1212)

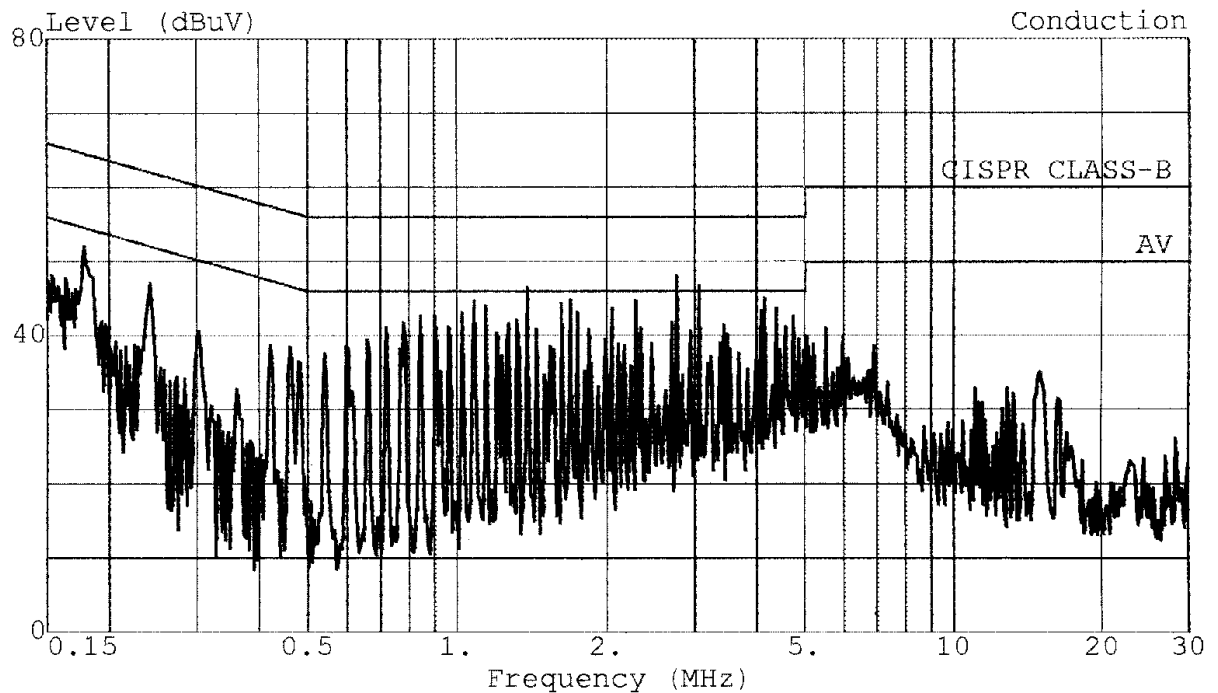
TOKIN

TAIWAN TOKIN EMC ENG. CORP.

Test Site:
 #53-11 Tingfu Tsun, Linkou,
 Taipei, Taiwan R.O.C.
 Tel:02-26092133 Fax:02-26099303

Data#: 1204 File#: TOP-VICT.EMI

Date: 2000-10-06 Time: 10:27:43



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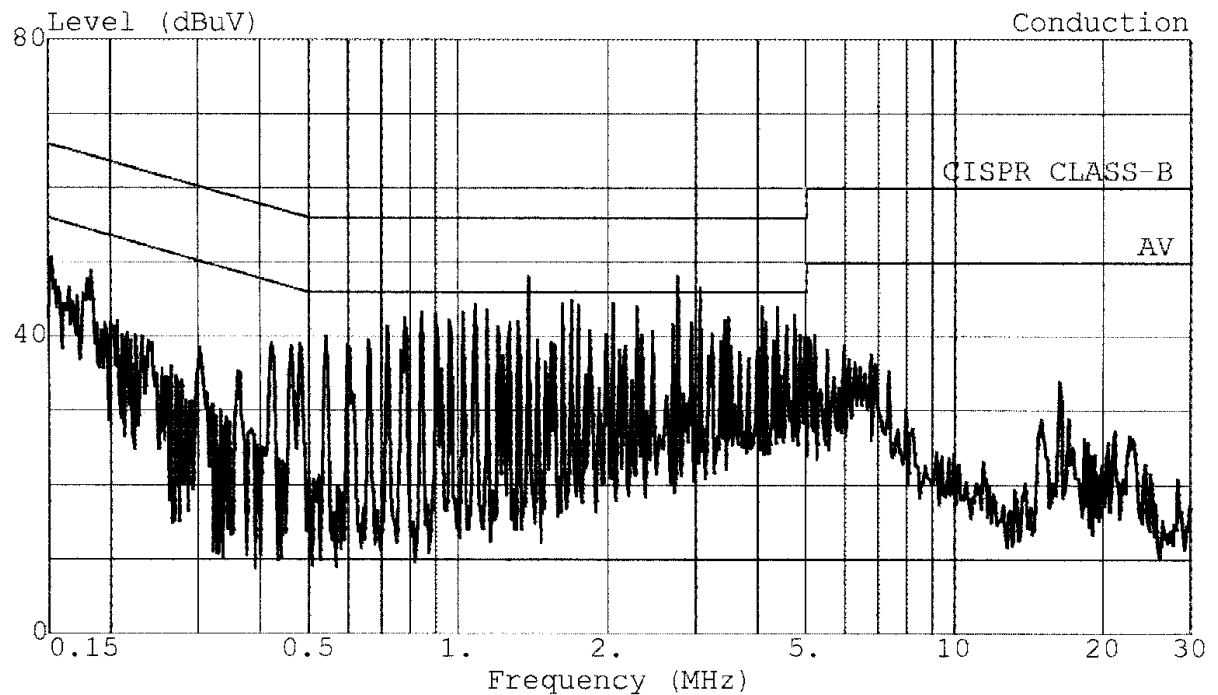
Ref Trace:

Limit: CISPR CLASS-B

Probe: KNW-407 NEUTRAL

Data#: 1207 File#: TOP-VICT.EMI

Date: 2000-10-06 Time: 10:31:09



Trace:

Ref Trace:

Limit: CISPR CLASS-B

Probe: KNW-407 LINE

EUT : 15" LCD Monitor M/N:LM-500

Power: 120Vac/60Hz

Memo : 800*600/75Hz;46KHz

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TAIWAN TOKIN EMC ENG. CORP.

Test Site:

#53-11 Tingfu Tsun, Linkou,

Taipei, Taiwan R.O.C.

Tel:02-26092133 Fax:02-26099303

Data#: 1205 File#: TOP-VICT.EMI

Date: 2000-10-06 Time: 10:29:46

Conduction

Limit: CISPR CLASS-B Probe: KNW-407 NEUTRAL

EUT : 15" LCD Monitor M/N:LM-500

Power: 120Vac/60Hz

Memo : 800*600/75Hz;46KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.180	50.22	-14.26	64.48	49.62	0.40	0.20	0.00	QP
2	0.241	45.34	-16.73	62.07	44.84	0.30	0.20	0.00	QP
3 !	1.383	46.08	-9.92	56.00	45.38	0.30	0.40	0.00	QP
4 !	2.771	47.38	-8.62	56.00	46.68	0.30	0.40	0.00	QP
5	4.156	44.62	-11.38	56.00	43.72	0.30	0.60	0.00	QP
6	5.998	38.08	-21.92	60.00	37.18	0.30	0.60	0.00	QP

Data#: 1206 File#: TOP-VICT.EMI

Date: 2000-10-06 Time: 10:30:17

Conduction

Limit: CISPR CLASS-B (AV) Probe: KNW-407 NEUTRAL

EUT : 15" LCD Monitor M/N:LM-500

Power: 120Vac/60Hz

Memo : 800*600/75Hz;46KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1 !	0.180	47.12	-7.36	54.48	46.52	0.40	0.20	0.00	Average
2 !	0.241	43.58	-8.49	52.07	43.08	0.30	0.20	0.00	Average
3 !	1.383	43.97	-2.03	46.00	43.27	0.30	0.40	0.00	Average
4 !	2.771	44.82	-1.18	46.00	44.12	0.30	0.40	0.00	Average
5 !	4.156	41.53	-4.47	46.00	40.63	0.30	0.60	0.00	Average
6	5.998	36.43	-13.57	50.00	35.53	0.30	0.60	0.00	Average

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Test Site:

#53-11 Tingfu Tsun, Linkou,
Taipei, Taiwan R.O.C.

Tel:02-26092133 Fax:02-26099303

Data#: 1208 File#: TOP-VICT.EMI
Conduction

Date: 2000-10-06 Time: 10:34:09

Limit: CISPR CLASS-B Probe: KNW-407 LINE

EUT : 15" LCD Monitor M/N:LM-500

Power: 120Vac/60Hz

Memo : 800*600/75Hz;46KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.154	43.65	-22.13	65.78	43.05	0.40	0.20	0.00	QP
2	0.181	44.29	-20.13	64.42	43.69	0.40	0.20	0.00	QP
3 !	1.385	46.66	-9.34	56.00	45.96	0.30	0.40	0.00	QP
4 !	2.769	46.94	-9.06	56.00	46.24	0.30	0.40	0.00	QP
5	4.155	44.80	-11.20	56.00	43.90	0.30	0.60	0.00	QP
6	5.239	37.72	-22.28	60.00	36.82	0.30	0.60	0.00	QP

Data#: 1209 File#: TOP-VICT.EMI
Conduction

Date: 2000-10-06 Time: 10:34:33

Limit: CISPR CLASS-B (AV) Probe: KNW-407 LINE

EUT : 15" LCD Monitor M/N:LM-500

Power: 120Vac/60Hz

Memo : 800*600/75Hz;46KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.154	38.13	-17.65	55.78	37.53	0.40	0.20	0.00	Average
2	0.181	40.66	-13.76	54.42	40.06	0.40	0.20	0.00	Average
3 !	1.385	44.51	-1.49	46.00	43.81	0.30	0.40	0.00	Average
4 !	2.769	44.07	-1.93	46.00	43.37	0.30	0.40	0.00	Average
5 !	4.155	42.53	-3.47	46.00	41.63	0.30	0.60	0.00	Average
6	5.239	34.59	-15.41	50.00	33.69	0.30	0.60	0.00	Average

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TAIWAN TOKIN EMC ENG. CORP.

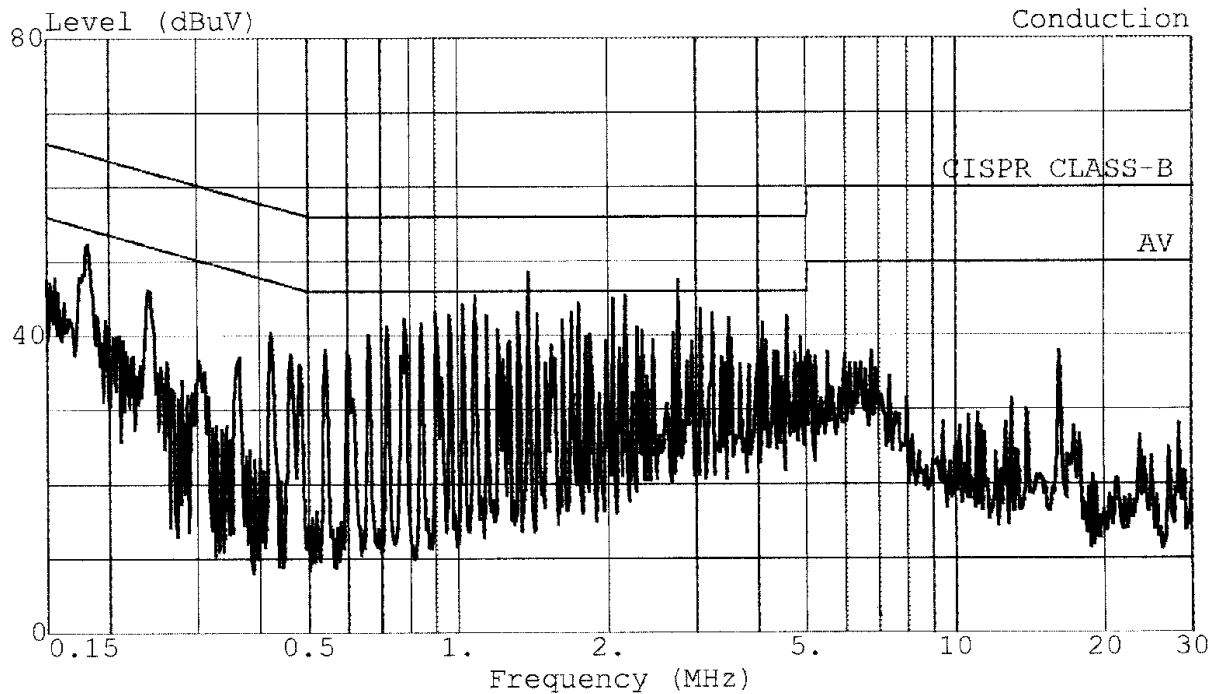
Test Site:

#53-11 Tingfu Tsun, Linkou,
Taipei, Taiwan R.O.C.

Tel:02-26092133 Fax:02-26099303

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Date: 2000-10-06 Time: 10:41:21



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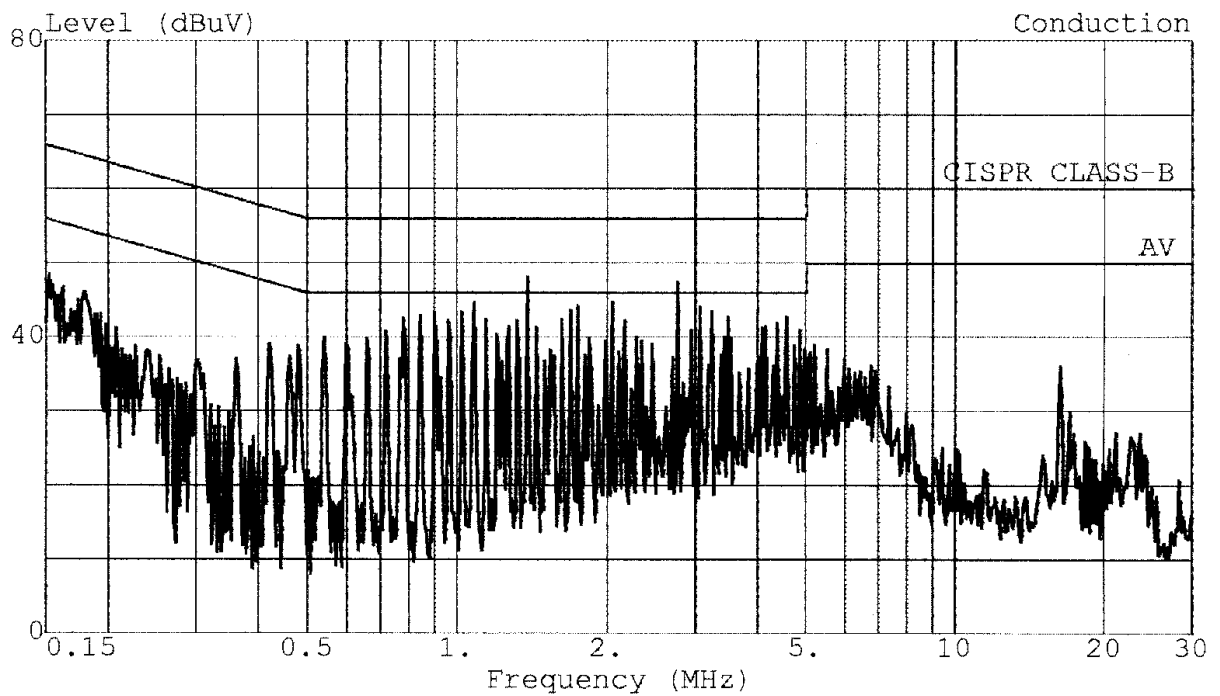
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Probe: KNW-407 NEUTRAL

Ref Trace:

Data#: 1210 File#: TOP-VICT.EMI

Date: 2000-10-06 Time: 10:36:06



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Limit: CISPR CLASS-B

Probe: KNW-407 LINE

Ref Trace:

EUT : 15" LCD Monitor M/N:LM-500

Power: 120Vac/60Hz

Memo : 1024*768/75Hz;60KHz

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TAIWAN TOKIN EMC ENG. CORP.

Test Site:
 #53-11 Tingfu Tsun, Linkou,
 Taipei, Taiwan R.O.C.
 Tel:02-26092133 Fax:02-26099303

Data#: 1214 File#: TOP-VICT.EMI Date: 2000-10-06 Time: 10:46:14
 Conduction
 Limit: CISPR CLASS-B Probe: KNW-407 NEUTRAL
 EUT : 15" LCD Monitor M/N:LM-500
 Power: 120Vac/60Hz
 Memo : 1024*768/75Hz;60KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.180	50.42	-14.05	64.47	49.82	0.40	0.20	0.00	QP
2	0.242	44.65	-17.38	62.03	44.15	0.30	0.20	0.00	QP
3	0.422	39.10	-18.30	57.40	38.60	0.30	0.20	0.00	QP
4 !	1.385	47.42	-8.58	56.00	46.72	0.30	0.40	0.00	QP
5 !	2.768	46.32	-9.68	56.00	45.62	0.30	0.40	0.00	QP
6	6.771	39.14	-20.86	60.00	38.24	0.30	0.60	0.00	QP

Data#: 1215 File#: TOP-VICT.EMI Date: 2000-10-06 Time: 10:46:37
 Conduction
 Limit: CISPR CLASS-B (AV) Probe: KNW-407 NEUTRAL
 EUT : 15" LCD Monitor M/N:LM-500
 Power: 120Vac/60Hz
 Memo : 1024*768/75Hz;60KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1 !	0.180	47.96	-6.51	54.47	47.36	0.40	0.20	0.00	Average
2 !	0.242	43.10	-8.93	52.03	42.60	0.30	0.20	0.00	Average
3 !	0.422	39.42	-7.98	47.40	38.92	0.30	0.20	0.00	Average
4 !	1.385	44.34	-1.66	46.00	43.64	0.30	0.40	0.00	Average
5 !	2.768	44.32	-1.68	46.00	43.62	0.30	0.40	0.00	Average
6	6.771	34.94	-15.06	50.00	34.04	0.30	0.60	0.00	Average

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Test Site:

#53-11 Tingfu Tsun, Linkou,

Taipei, Taiwan R.O.C.

Tel:02-26092133 Fax:02-26099303

Data#: 1211 File#: TOP-VICT.EMI

Date: 2000-10-06 Time: 10:39:49

Conduction

Limit: CISPR CLASS-B Probe: KNW-407 LINE

EUT : 15" LCD Monitor M/N:LM-500

Power: 120Vac/60Hz

Memo : 1024*768/75Hz;60KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.154	43.15	-22.66	65.81	42.55	0.40	0.20	0.00	QP
2	0.181	44.65	-19.81	64.46	44.05	0.40	0.20	0.00	QP
3 !	1.383	46.36	-9.64	56.00	45.66	0.30	0.40	0.00	QP
4	2.769	45.66	-10.34	56.00	44.96	0.30	0.40	0.00	QP
5	4.153	44.21	-11.79	56.00	43.31	0.30	0.60	0.00	QP
6	5.238	37.82	-22.18	60.00	36.92	0.30	0.60	0.00	QP

Data#: 1212 File#: TOP-VICT.EMI

Date: 2000-10-06 Time: 10:40:28

Conduction

Limit: CISPR CLASS-B (AV) Probe: KNW-407 LINE

EUT : 15" LCD Monitor M/N:LM-500

Power: 120Vac/60Hz

Memo : 1024*768/75Hz;60KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.154	37.57	-18.24	55.81	36.97	0.40	0.20	0.00	Average
2	0.181	41.07	-13.39	54.46	40.47	0.40	0.20	0.00	Average
3 !	1.383	44.62	-1.38	46.00	43.92	0.30	0.40	0.00	Average
4 !	2.769	43.10	-2.90	46.00	42.40	0.30	0.40	0.00	Average
5 !	4.153	41.76	-4.24	46.00	40.86	0.30	0.60	0.00	Average
6	5.238	36.56	-13.44	50.00	35.66	0.30	0.60	0.00	Average

3. RADIATED EMISSION TEST

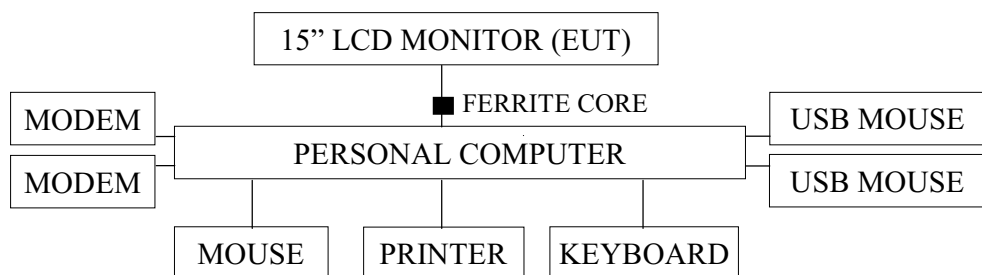
3.1. Test Equipment

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

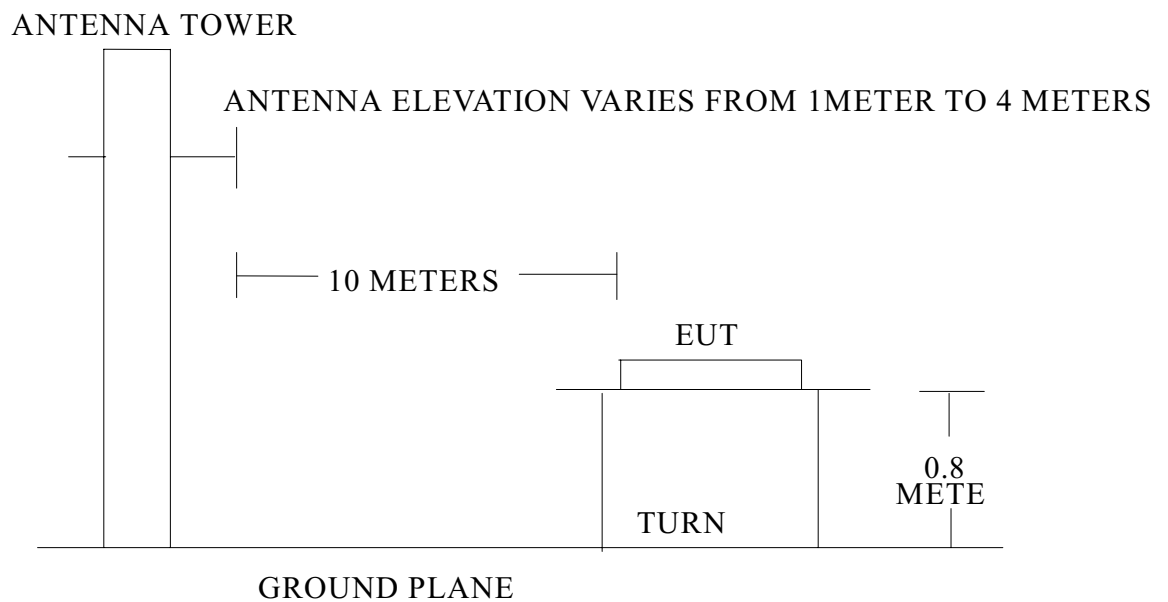
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8595E	3829A03489	Oct. 13, 99'	1 Year
2.	Test Receiver	Rohde & Schwarz	ESVS10	826148/005	May 06, 00'	1 Year
3.	Broadband Antenna	Chase	VBA6106A	1258	Jul. 05, 00'	1 Year
4.	Log Periodic Antenna	Chase	UPA6109	1064	Jul. 05, 00'	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 (10M) 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 ESVP was set at 120KHz.

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

The following operating conditions were measured at No. 7 Open Site and all the test results are listed in section 4.7.

Test Modes	
1.	46KHz (800*600, 75Hz)
2.	60KHz (1024*768, 75Hz)

3.7. Test Results

PASSED. Please refer to 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 : Sep. 28, 2000 Temperature : 27°C
 EUT : 15" LCD Monitor Humidity : 62%
 Test Mode : 46KHz (800*600, 75Hz)

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Limits dBμV/m	Margin dB
57.355	12.39	1.42	3.13	16.94	30.00	13.06
65.156	11.83	1.55	7.64	21.02	30.00	8.98
87.244	15.33	1.77	6.34	23.44	30.00	6.56
122.620	19.08	2.13	-1.15	20.06	30.00	9.94
176.868	20.79	2.50	1.48	24.77	30.00	5.23
193.255	20.78	2.67	-3.55	19.90	30.00	10.10
200.000	21.09	2.65	1.59	25.33	30.00	4.67
282.566	24.02	3.22	0.15	27.39	37.00	9.61
318.843	14.25	3.66	1.56	19.47	37.00	17.53
400.000	16.09	4.05	9.08	29.22	37.00	7.78
459.330	17.19	4.30	13.17	34.66	37.00	2.34
494.665	18.01	4.61	5.89	28.51	37.00	8.49
530.000	18.92	4.80	1.84	25.56	37.00	11.44
600.000	19.78	5.23	-1.85	23.16	37.00	13.84
800.000	22.95	6.18	2.46	31.59	37.00	5.41
* 999.990	24.52	6.96	4.19	35.67	37.00	1.33

- Remarks :
1. All reading are Quasi-Peak values.
 2. The worst emission was detected at 999.990MHz with corrected signal level of 35.67dBμV/m (limit was 37dBμV/m) when the antenna was at horizontal polarization and was at 1.5m high and the turn table was at 310° .
 3. 0° is the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test : Sep. 28, 2000 Temperature : 27°C

EUT : 15" LCD Monitor Humidity : 62%

Test Mode : 46KHz (800*600, 75Hz)

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level		Margin dB
			Vertical dBμV		Vertical dBμV/m	Limits dBμV/m	
57.347	13.56	1.42	0.97		15.95	30.00	14.05
65.156	12.87	1.55	5.92		20.34	30.00	9.66
70.668	13.37	1.62	4.31		19.30	30.00	10.70
81.691	15.40	1.71	6.63		23.74	30.00	6.26
87.224	15.99	1.77	8.24		26.00	30.00	4.00
122.620	18.19	2.13	0.53		20.85	30.00	9.15
176.753	20.90	2.50	-2.02		21.38	30.00	8.62
193.254	22.91	2.67	-1.98		23.60	30.00	6.40
200.000	22.53	2.65	0.10		25.28	30.00	4.72
247.121	22.32	3.06	3.69		29.07	37.00	7.93
282.550	21.45	3.22	1.52		26.19	37.00	10.81
318.380	14.78	3.65	5.33		23.76	37.00	13.24
400.000	16.51	4.05	6.83		27.39	37.00	9.61
495.879	18.22	4.61	-2.35		20.48	37.00	16.52
800.000	22.97	6.18	1.76		30.91	37.00	6.09
* 999.990	24.89	6.96	2.00		33.85	37.00	3.15

- Remarks :
1. All reading are Quasi-Peak values.
 2. The worst emission was detected at 999.990MHz with corrected signal level of 33.85dBμV/m (limit was 37dBμV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 350° .
 3. 0° is the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test : Sep. 28, 2000 Temperature : 27°C

EUT : 15" LCD Monitor Humidity : 62%

Test Mode : 60KHz (1024*768, 75Hz)

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level		Margin dB
			Horizontal dBμV		Horizontal dBμV/m	Limits dBμV/m	
42.506	17.41	1.22	-2.80		15.83	30.00	14.17
63.760	11.75	1.53	7.94		21.22	30.00	8.78
77.926	13.65	1.67	7.33		22.65	30.00	7.35
113.336	18.62	2.04	-2.63		18.03	30.00	11.97
127.502	19.52	2.19	-1.28		20.43	30.00	9.57
177.083	20.81	2.52	0.49		23.82	30.00	6.18
200.000	21.09	2.65	1.20		24.94	30.00	5.06
247.913	21.97	3.06	-0.70		24.33	37.00	12.67
318.813	14.25	3.66	6.41		24.32	37.00	12.68
400.000	16.09	4.05	9.75		29.89	37.00	7.11
460.457	17.27	4.37	13.09		34.73	37.00	2.27
495.874	18.12	4.61	6.33		29.06	37.00	7.94
531.293	19.02	4.70	6.63		30.35	37.00	6.65
600.000	19.78	5.23	-0.74		24.27	37.00	12.73
800.000	22.95	6.18	3.52		32.65	37.00	4.35
999.999	24.52	6.96	2.20		33.68	37.00	3.32

Remark : All reading are Quasi-Peak values.

Date of Test : Sep. 28, 2000 Temperature : 27°C

EUT : 15" LCD Monitor Humidity : 62%

Test Mode : 60KHz (1024*768, 75Hz)

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level		Margin dB
			Vertical dB μ V		Vertical dB μ V/m	Limits dB μ V/m	
42.506	17.41	1.22	-2.80		15.83	30.00	14.17
63.760	11.75	1.53	7.94		21.22	30.00	8.78
77.926	13.65	1.67	7.33		22.65	30.00	7.35
113.336	18.62	2.04	-2.63		18.03	30.00	11.97
127.502	19.52	2.19	-1.28		20.43	30.00	9.57
177.083	20.81	2.52	0.49		23.82	30.00	6.18
200.000	21.09	2.65	1.20		24.94	30.00	5.06
247.913	21.97	3.06	-0.70		24.33	37.00	12.67
318.843	14.68	3.66	8.08		26.42	37.00	10.58
400.000	16.51	4.05	7.21		27.77	37.00	9.23
460.457	17.79	4.37	3.68		25.84	37.00	11.16
495.879	18.22	4.61	-1.00		21.83	37.00	15.17
531.297	18.97	4.70	-1.51		22.16	37.00	14.84
600.000	19.94	5.23	-1.87		23.30	37.00	13.70
800.000	22.97	6.18	4.41		33.56	37.00	3.44
999.999	24.89	6.96	0.39		32.24	37.00	4.76

Remark : All reading are Quasi-Peak values.

4. MODIFICATIONS TO EUT

1. Added 4pcs of copper tape on the plate of the LCD Panel.
2. Added 2pcs of conductive sponge on the metal shielding of the main board.

5. DEVIATION TO TEST SPECIFICATIONS

【NONE】

6. PHOTOGRAPHS

6.1. Photos of Powerline Conducted Measurement



FRONT VIEW OF CONDUCTED TEST



BACK VIEW OF CONDUCTED TEST

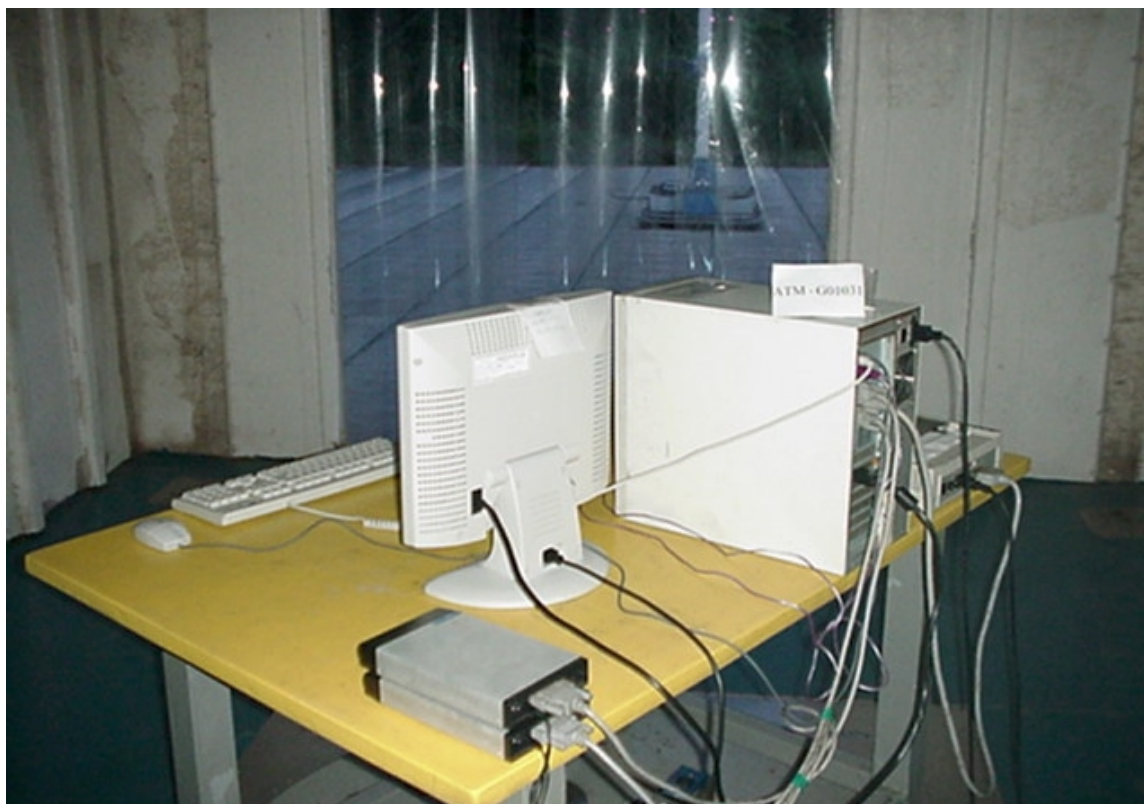
6.2. Photos of Radiated Measurement at Open Field Test Site



FRONT VIEW OF RADIATED TEST



BACK VIEW OF RADIATED TEST



SETUP WITH MAXIMUM DETECTED EMISSION AT HORIZONTAL POLARIZATION



SETUP WITH MAXIMUM DETECTED EMISSION AT VERTICAL POLARIZATION