

APPLICATION FOR CERTIFICATION
On Behalf of
Top Victory Electronics (Taiwan) Co., Ltd.
17" Color Monitor
Model : (1)7Vlr (2)7Vlr+ (3)7Glr (4)7Klr
FCC ID : ARSCM761U

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.
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Report Number : TTEMC-F20111
Date of Test : Aug. 31 ~ Sept. 14, 2000
Date of Report : Oct. 26, 2000

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TEST REPORT CERTIFICATION

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 : ARSCM761U
 EUT Description : 17" Color Monitor
 (A) MODEL NO. : (1)7Vlr (2)7Vlr+ (3)7Glr (4)7Klr
 (B) SERIAL NO. : N/A
 (C) 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 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.

The test results in this test report are traceable to national or international standards.

Date of Test : Aug. 31 ~ Sept. 14, 2000

Prepared by : *Kitty Ni* 10/27/00
(KITTY NI)

Test Engineer : *Allen Wang* 10/27/00
(ALLEN WANG)

Approve & Authorized Signer : *Jackie Deng* 10/27/00
(JACKIE DENG)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	17" Color Monitor
Model Number	:	(1)7Vlr (2)7Vlr+ (3)7Glr (4)7Klr M/N (1)7Vlr is MPR II Safety Version M/N (2)7Vlr+ is TCO'95 Safety Version M/N (3)7Glr is TCO'99 Safety Version M/N (4)7Klr is TCO'99 Safety Version
Serial Number	:	N/A
FCC ID	:	ARSCM761U
Applicant	:	Top Victory Electronics (Taiwan) Co., Ltd. 18F, 738 Chung-Cheng Rd., Chung-Ho 235 Taiwan, R.O.C.
Manufacturer #1	:	Top Victory Electronics (Fujian) Co., Ltd. Yuan Hong Road, 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.
CRT	:	Chunghwa, M/N M41AGE93X76 C
Data Cable	:	Shielded, Undetachable, 1.2m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.2m
Date of Receipt of Sample	:	Aug. 31, 2000
Date of Test	:	Aug. 31 ~ Sept. 14, 2000

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 W13562645
Floppy Driver 3.5"	:	Mitsumi, M/N D353M3
Hard Disk Driver	:	Seagate, M/N ST34321A S/N VTJ00224
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	:	J83300809
FCC ID	:	E5XKBM104M10UC
Manufacturer	:	Behavior Tech Computer Corp.
Data Cable	:	Shielded, Undetachable, 1.0m

1.2.3. PRINTER

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

1.2.4. MODEM # 1

Model Number	:	DM-1414
Serial Number	:	980034392
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 : 980034384
 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 : LZA82103133
 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 : Dec. 02, 1999 File on
 (No. 7 Open Site) 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

DAR-Registration No. : DAT-P-092/99-00

1.4. Measurement Uncertainty

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

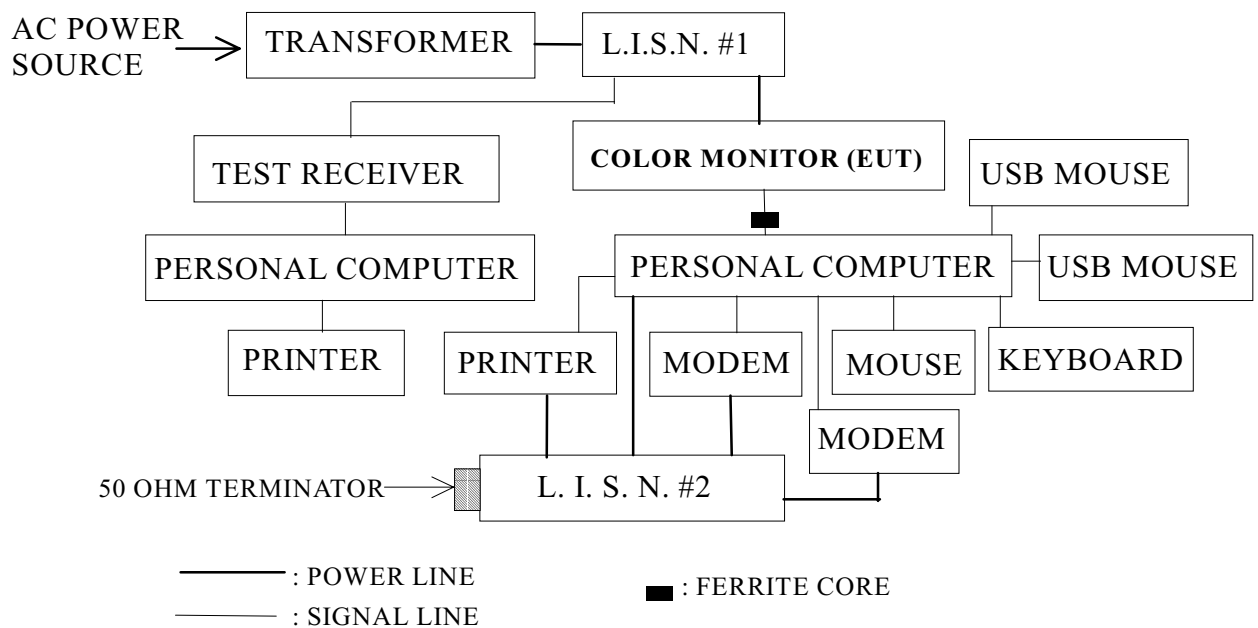
2. POWERLINE CONDUCTED TEST

2.1. Test Equipment

The following test equipment were used during the power line conducted tests :

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	844591/015	Feb.15, 00'	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-1430-5	Nov.27, 99'	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-1430-6	Nov.27, 99'	1 Year
4.	Computer	DFI	IPV3120400	N/A	N/A	N/A
5.	Printer	HP	C6450A	PH96Q150GJ	N/A	N/A

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 equipment 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. 17" Color Monitor (EUT)

Model Number	:	7V1r
Serial Number	:	N/A
FCC ID	:	ARSCM761U
Manufacturer #1	:	Top Victory Electronics (Fujian) Co., Ltd.
Manufacturer #2	:	Beijing Orient Top Victory Electronics Co., Ltd.
CRT	:	Chunghwa, M/N M41AGE93X76 C
Data Cable	:	Shielded, Undetachable, 1.2m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.2m

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. Turn on the power of all equipment.

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 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. Personal computer sent "H" character to printer, the printer printed "H" pattern.

2.5.7. The other peripheral devices were driven and operated in turn during all testing.

2.5.8. Repeat the above procedures from 2.5.3 to 2.5.7.

2.6. Test Procedure

The EUT was connected to the power mains through a line impedance stabilization network (L.I.S.N.# 1). The other peripheral devices power cord 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 equipment and all of the interface cables were changed according to FCC ANSI C63.4-1992 requirement.

The bandwidth of the R&S Test Receiver ESHS10 was set at 10KHz.

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

Three kinds of horizontal working frequency were done during conducted measurement and all the test results are listed in section 2.7..

2.7. Line Conducted RF Voltage Measurement Results

PASSED. Please refer to the following pages. (12 pages)

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

EUT : 17" Color Monitor Model No.: 7Vlr

Test Date : Sept. 14, 2000 Temperature : 23°C Humidity : 61%

Mode	Frequency Resolution	Reference Data #
1.	800*600/85Hz, 54KHz	# 70 (71, 72) ; # 67 (68, 69)
2.	1280*1024/60Hz, 64KHz	# 85 (86, 87) ; # 79 (80, 81)
3.	1024*768/85Hz, 69KHz	# 73 (74, 75) ; # 76 (77, 78)

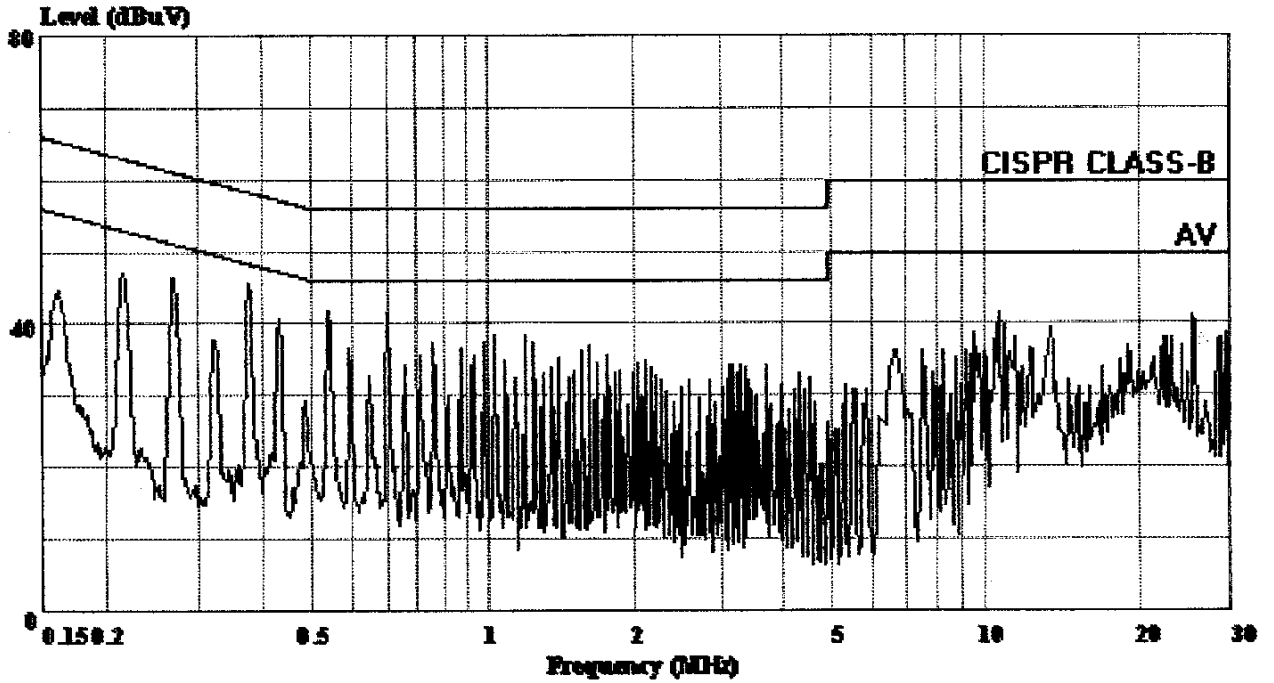
Please refer to the next pages.

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TAIWAN TOKIN EMC ENG. CORP.

Data#: 70 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:47:31



TAIWAN TOKIN EMC ENG. CORP. (No.4 Shielded room)

Trace:

Ref Trace:

Condition: CISPR CLASS-B KNW-407 NEUTRAL
 EUT : 17" COLOR MONITOR M/N:7Vlr
 POWER: 120Vac/60Hz
 MEMO : (800*600/85Hz) 54KHz

TOKIN

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TAIWAN TOKIN EMC ENG. CORP.

Data#: 71 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:52:18
 No.4 Shielded room

Condition: CISPR CLASS-B KNW-407 NEUTRAL
 EUT : 17" COLOR MONITOR M/N:7Vlr
 POWER: 120Vac/60Hz
 MEMO : (800*600/85Hz) 54KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.217	45.45	-17.49	62.94	45.23	0.19	0.04	0.00	QP
2	0.377	44.65	-13.70	58.35	44.50	0.11	0.04	0.00	QP
3	0.535	41.71	-14.29	56.00	41.57	0.10	0.04	0.00	QP
4	0.696	41.10	-14.90	56.00	40.95	0.10	0.05	0.00	QP
5	10.735	40.20	-19.80	60.00	40.04	0.10	0.06	0.00	QP
6	25.337	40.17	-19.83	60.00	39.66	0.31	0.20	0.00	QP

Data#: 72 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:52:47
 No.4 Shielded room

Condition: CISPR CLASS-B(AV) KNW-407 NEUTRAL
 EUT : 17" COLOR MONITOR M/N:7Vlr
 POWER: 120Vac/60Hz
 MEMO : (800*600/85Hz) 54KHz

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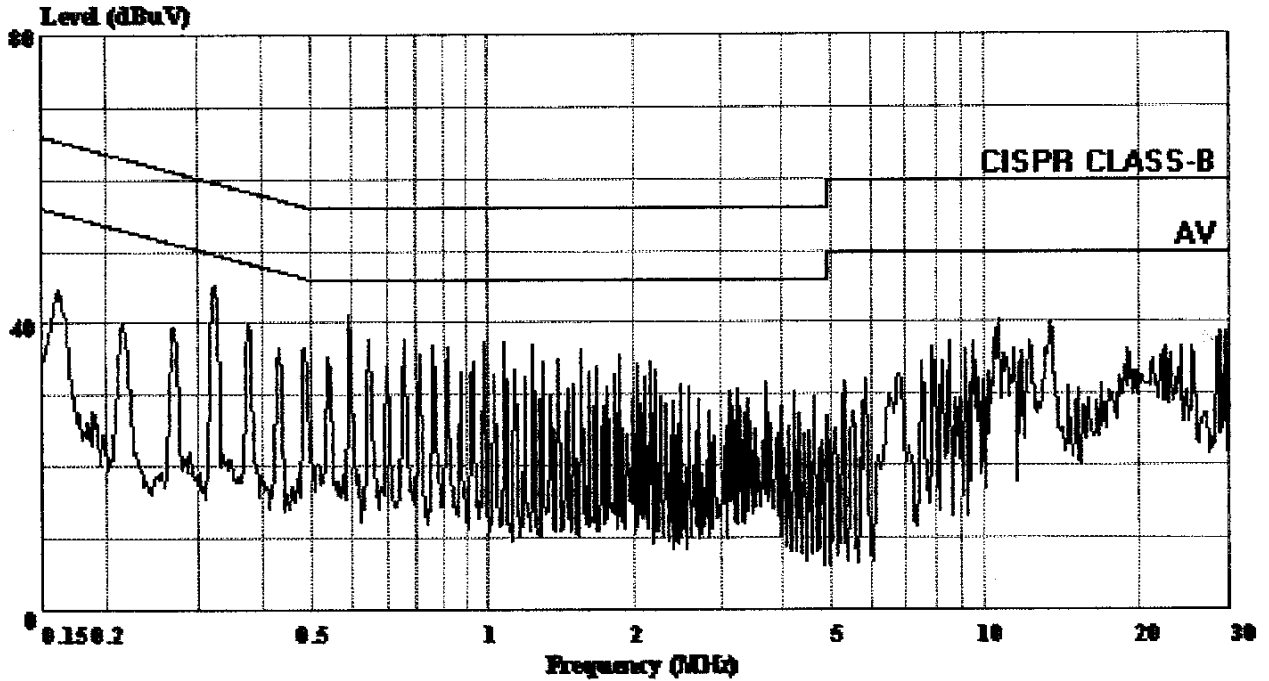
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamplifier	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1 !	0.217	44.92	-8.02	52.94	44.70	0.19	0.04	0.00	Average
2 !	0.377	44.35	-4.00	48.35	44.20	0.11	0.04	0.00	Average
3 !	0.535	40.76	-5.24	46.00	40.62	0.10	0.04	0.00	Average
4 !	0.696	40.15	-5.85	46.00	40.00	0.10	0.05	0.00	Average
5	10.735	36.15	-13.85	50.00	35.99	0.10	0.06	0.00	Average
6	25.337	38.34	-11.66	50.00	37.83	0.31	0.20	0.00	Average

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Data#: 67 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:17:34



TAIWAN TOKIN EMC ENG. CORP. (No.4 Shielded room)

Trace:

Ref Trace:

Condition: CISPR CLASS-B KNW-407 LINE
EUT : 17" COLOR MONITOR M/N:7V1r
POWER: 120Vac/60Hz
MEMO : (800*600/85Hz) 54KHz

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TAIWAN TOKIN EMC ENG. CORP.

Data#: 68 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:23:03
 No.4 Shielded room

Condition: CISPR CLASS-B KNW-407 LINE
 EUT : 17" COLOR MONITOR M/N:7Vlr
 POWER: 120Vac/60Hz
 MEMO : (800*600/85Hz) 54KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.160	42.40	-23.04	65.44	42.09	0.28	0.03	0.00	QP
2	0.321	45.04	-14.65	59.69	44.87	0.13	0.04	0.00	QP
3	0.592	40.61	-15.39	56.00	40.47	0.10	0.04	0.00	QP
4	1.080	34.44	-21.56	56.00	34.29	0.10	0.05	0.00	QP
5	10.762	40.07	-19.93	60.00	39.91	0.10	0.06	0.00	QP
6	13.472	38.61	-21.39	60.00	38.42	0.10	0.09	0.00	QP

Data#: 69 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:31:03
 No.4 Shielded room

Condition: CISPR CLASS-B(AV) KNW-407 LINE
 EUT : 17" COLOR MONITOR M/N:7Vlr
 POWER: 120Vac/60Hz
 MEMO : (800*600/85Hz) 54KHz

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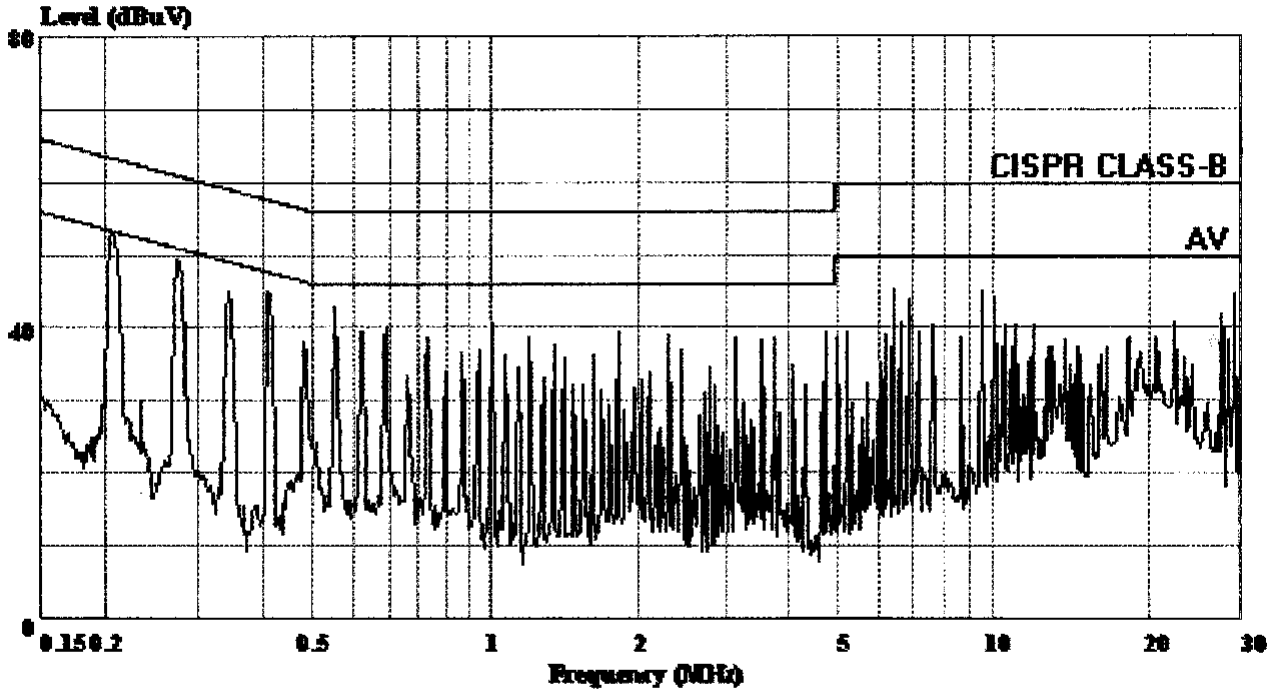
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.160	40.17	-15.27	55.44	39.86	0.28	0.03	0.00	Average
2 !	0.321	45.14	-4.55	49.69	44.97	0.13	0.04	0.00	Average
3 !	0.592	39.63	-6.37	46.00	39.49	0.10	0.04	0.00	Average
4	1.080	32.90	-13.10	46.00	32.75	0.10	0.05	0.00	Average
5	10.762	36.88	-13.12	50.00	36.72	0.10	0.06	0.00	Average
6	13.472	35.17	-14.83	50.00	34.98	0.10	0.09	0.00	Average

TOKIN

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TAIWAN TOKIN EMC ENG. CORP.

Data#: 85 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:53:57



TAIWAN TOKIN EMC ENG. CORP. (No. 4 Shielded room)

Trace:

Ref Trace:

Condition: CISPR CLASS-B KNW-407 NEUTRAL
EUT : 17" COLOR MONITOR M/N:7V1r
POWER: 120Vac/60Hz
MEMO : (1280*1024/60Hz) 64KHz

TOKIN

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TAIWAN TOKIN EMC ENG. CORP.

Data#: 86 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:58:57
 No.4 Shielded room

Condition: CISPR CLASS-B KNW-407 NEUTRAL
 EUT : 17" COLOR MONITOR M/N:7V1r
 POWER: 120Vac/60Hz
 MEMO : (1280*1024/60Hz) 64KHz

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	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.204	51.76	-11.67	63.43	51.53	0.20	0.03	0.00	QP
2	0.411	45.16	-12.47	57.63	45.02	0.10	0.04	0.00	QP
3	0.550	42.11	-13.89	56.00	41.97	0.10	0.04	0.00	QP
4	1.098	40.23	-15.77	56.00	40.08	0.10	0.05	0.00	QP
5	9.603	42.29	-17.71	60.00	42.14	0.10	0.05	0.00	QP
6	10.149	39.16	-20.84	60.00	39.01	0.10	0.05	0.00	QP

Data#: 87 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 13:48:32
 No.4 Shielded room

Condition: CISPR CLASS-B(AV) KNW-407 NEUTRAL
 EUT : 17" COLOR MONITOR M/N:7V1r
 POWER: 120Vac/60Hz
 MEMO : (1280*1024/60Hz) 64KHz

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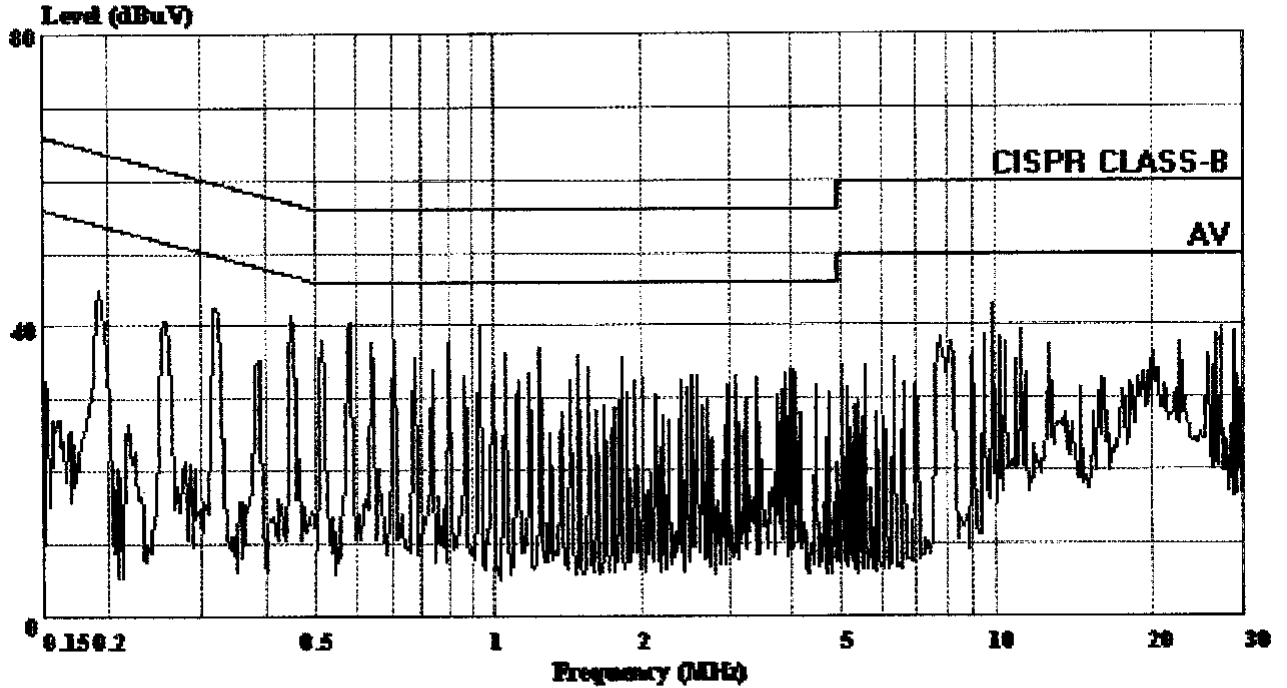
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1 !	0.204	44.76	-8.67	53.43	44.53	0.20	0.03	0.00	QP
2 !	0.411	38.16	-9.47	47.63	38.02	0.10	0.04	0.00	QP
3	0.550	35.11	-10.89	46.00	34.97	0.10	0.04	0.00	QP
4	1.098	33.23	-12.77	46.00	33.08	0.10	0.05	0.00	QP
5	9.603	35.29	-14.71	50.00	35.14	0.10	0.05	0.00	QP
6	10.149	32.16	-17.84	50.00	32.01	0.10	0.05	0.00	QP

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TAIWAN TOKIN EMC ENG. CORP.

Data#: 79 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 12:11:49



TAIWAN TOKIN EMC ENG. CORP. (No. 4 Shielded room)

Trace:

Ref Trace:

Condition: CISPR CLASS-B KNW-407 LINE
 EUT : 17" COLOR MONITOR M/N:7V1r
 POWER: 120Vac/60Hz
 MEMO : (1280*1024/60Hz) 64KHz

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TAIWAN TOKIN EMC ENG. CORP.

Data#: 80 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 12:16:58
 No.4 Shielded room

Condition: CISPR CLASS-B KNW-407 LINE
 EUT : 17" COLOR MONITOR M/N:7V1r
 POWER: 120Vac/60Hz
 MEMO : (1280*1024/60Hz) 64KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamplifier Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.195	41.23	-22.60	63.83	40.99	0.21	0.03	0.00	QP
2	0.322	42.06	-17.59	59.65	41.89	0.13	0.04	0.00	QP
3	1.024	39.89	-16.11	56.00	39.74	0.10	0.05	0.00	QP
4	5.756	36.22	-23.78	60.00	36.07	0.10	0.05	0.00	QP
5	9.916	42.10	-17.90	60.00	41.95	0.10	0.05	0.00	QP
6	26.995	39.37	-20.63	60.00	38.83	0.34	0.20	0.00	QP

Data#: 81 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 12:17:43
 No.4 Shielded room

Condition: CISPR CLASS-B(AV) KNW-407 LINE
 EUT : 17" COLOR MONITOR M/N:7V1r
 POWER: 120Vac/60Hz
 MEMO : (1280*1024/60Hz) 64KHz

Page: 1

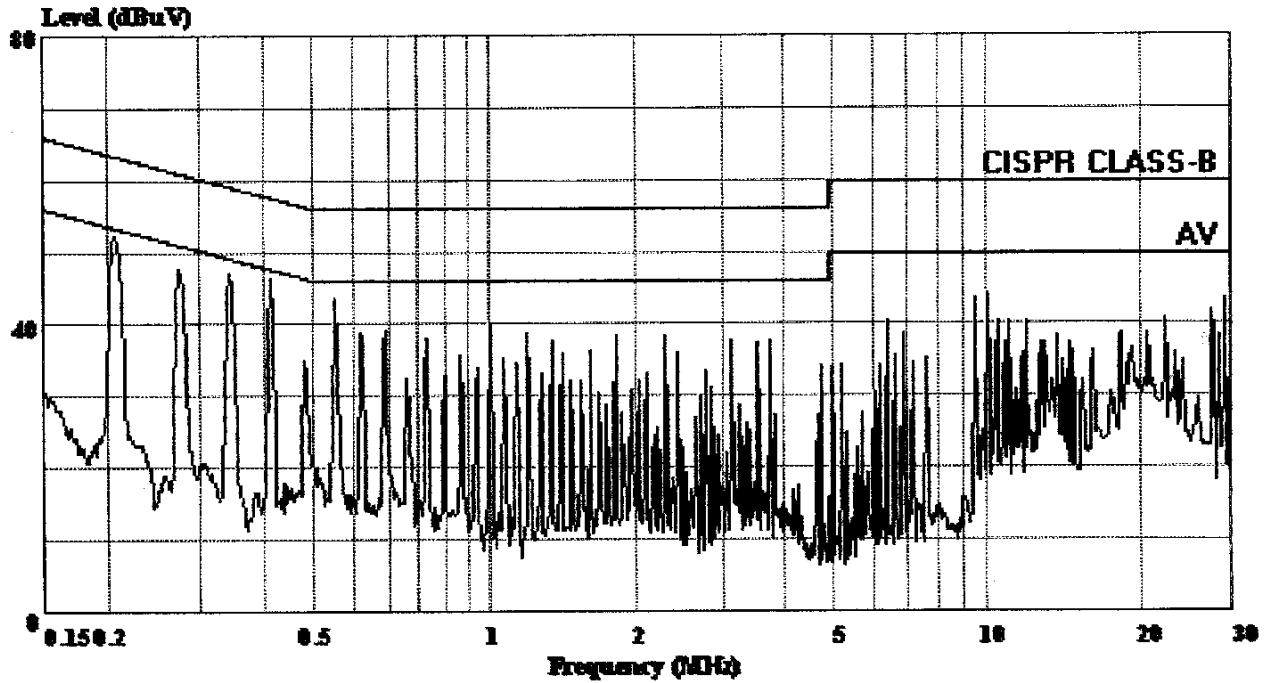
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamplifier Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.195	39.12	-14.71	53.83	38.88	0.21	0.03	0.00	Average
2 !	0.322	41.79	-7.86	49.65	41.62	0.13	0.04	0.00	Average
3 !	1.024	38.56	-7.44	46.00	38.41	0.10	0.05	0.00	Average
4	5.756	34.51	-15.49	50.00	34.36	0.10	0.05	0.00	Average
5	9.916	38.31	-11.69	50.00	38.16	0.10	0.05	0.00	Average
6	26.995	37.18	-12.82	50.00	36.64	0.34	0.20	0.00	Average

TOKIN

TAIWAN TOKIN EMC ENG. CORP.

No53-11, Tin-fu Tsun, Lin-kou Hsiang,
Taipei, County, Taiwan R.O.C.
TEL: 02-2609-2133
FAX: 02-2609-9303

Data#: 73 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:53:57



TAIWAN TOKIN EMC ENG. CORP. (No.4 Shielded room)

Trace:

Ref Trace:

Condition: CISPR CLASS-B KNW-407 NEUTRAL
EUT : 17" COLOR MONITOR M/N:7V1r
POWER: 120Vac/60Hz
MEMO : (1024*768/85Hz) 69KHz

TOKIN

No53-11, Tin-fu Tsun, Lin-kou Hsiang,
 Taipei, County, Taiwan R.O.C.
 TEL:02-2609-2133
 FAX:02-2609-9303

TAIWAN TOKIN EMC ENG. CORP.

Data#: 74 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:58:57
 No.4 Shielded room

Condition: CISPR CLASS-B KNW-407 NEUTRAL
 EUT : 17" COLOR MONITOR M/N:7V1r
 POWER: 120Vac/60Hz
 MEMO : (1024*768/85Hz) 69KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.204	51.76	-11.67	63.43	51.53	0.20	0.03	0.00	QP
2	0.411	46.16	-11.47	57.63	46.02	0.10	0.04	0.00	QP
3	0.550	43.11	-12.89	56.00	42.97	0.10	0.04	0.00	QP
4	1.098	40.23	-15.77	56.00	40.08	0.10	0.05	0.00	QP
5	9.603	43.29	-16.71	60.00	43.14	0.10	0.05	0.00	QP
6	10.149	46.16	-13.84	60.00	46.01	0.10	0.05	0.00	QP

Data#: 75 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 11:59:41
 No.4 Shielded room

Condition: CISPR CLASS-B(AV) KNW-407 NEUTRAL
 EUT : 17" COLOR MONITOR M/N:7V1r
 POWER: 120Vac/60Hz
 MEMO : (1024*768/85Hz) 69KHz

Page: 1

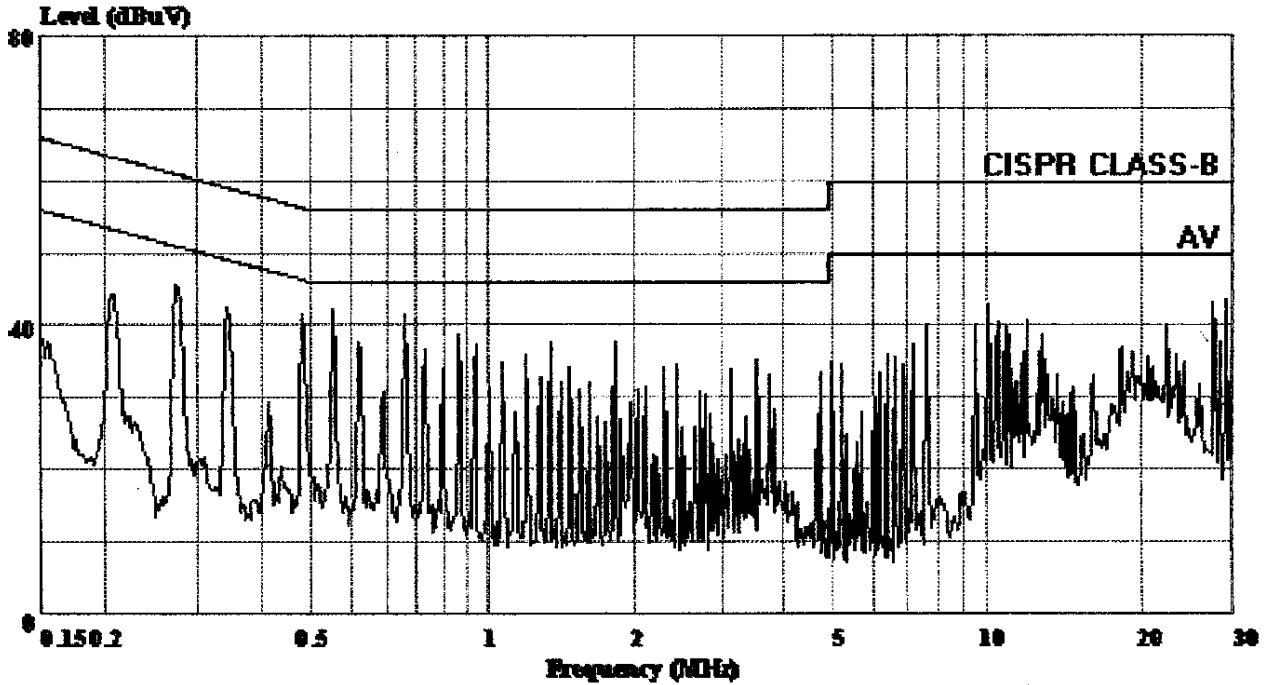
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1 !	0.204	50.78	-2.65	53.43	50.55	0.20	0.03	0.00	Average
2 !	0.411	45.36	-2.27	47.63	45.22	0.10	0.04	0.00	Average
3 !	0.550	42.85	-3.15	46.00	42.71	0.10	0.04	0.00	Average
4 !	1.098	37.05	-8.95	46.00	36.90	0.10	0.05	0.00	Average
5	9.603	39.23	-10.77	50.00	39.08	0.10	0.05	0.00	Average
6 !	10.149	42.87	-7.13	50.00	42.72	0.10	0.05	0.00	Average

TOKIN

TAIWAN TOKIN EMC ENG. CORP.

No53-11, Tin-fu Tsun, Lin-kou Hsiang,
Taipei, County, Taiwan R.O.C.
TEL: 02-2609-2133
FAX: 02-2609-9303

Data#: 76 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 12:01:53



TAIWAN TOKIN EMC ENG. CORP. (No. 4 Shielded room)

Trace:

Ref Trace:

Condition: CISPR CLASS-B KNW-407 LINE
EUT : 17" COLOR MONITOR M/N:7V1r
POWER: 120Vac/60Hz
MEMO : (1024*768/85Hz) 69KHz

TOKIN

No53-11, Tin-fu Tsun, Lin-kou Hsiang,
 Taipei, County, Taiwan R.O.C.
 TEL: 02-2609-2133
 FAX: 02-2609-9303

TAIWAN TOKIN EMC ENG. CORP.

Data#: 77 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 12:06:13
 No.4 Shielded room

Condition: CISPR CLASS-B KNW-407 LINE
 EUT : 17" COLOR MONITOR M/N:7Vlr
 POWER: 120Vac/60Hz
 MEMO : (1024*768/85Hz) 69KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1	0.275	45.20	-15.78	60.98	45.01	0.15	0.04	0.00	QP
2	0.341	41.84	-17.34	59.18	41.68	0.12	0.04	0.00	QP
3	0.548	42.19	-13.81	56.00	42.05	0.10	0.04	0.00	QP
4	0.753	41.76	-14.24	56.00	41.61	0.10	0.05	0.00	QP
5	10.149	44.15	-15.85	60.00	44.00	0.10	0.05	0.00	QP
6	27.433	40.52	-19.48	60.00	39.97	0.35	0.20	0.00	QP

Data#: 78 File#: TOP VICTORY.EMI Date: 2000-09-14 Time: 12:06:40
 No.4 Shielded room

Condition: CISPR CLASS-B(AV) KNW-407 LINE
 EUT : 17" COLOR MONITOR M/N:7Vlr
 POWER: 120Vac/60Hz
 MEMO : (1024*768/85Hz) 69KHz

Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	dB	
1 !	0.275	44.82	-6.16	50.98	44.63	0.15	0.04	0.00	Average
2 !	0.341	41.34	-7.84	49.18	41.18	0.12	0.04	0.00	Average
3 !	0.548	41.68	-4.32	46.00	41.54	0.10	0.04	0.00	Average
4 !	0.753	40.64	-5.36	46.00	40.49	0.10	0.05	0.00	Average
5 !	10.149	40.36	-9.64	50.00	40.21	0.10	0.05	0.00	Average
6	27.433	35.92	-14.08	50.00	35.37	0.35	0.20	0.00	Average

3. RADIATED EMISSION TEST

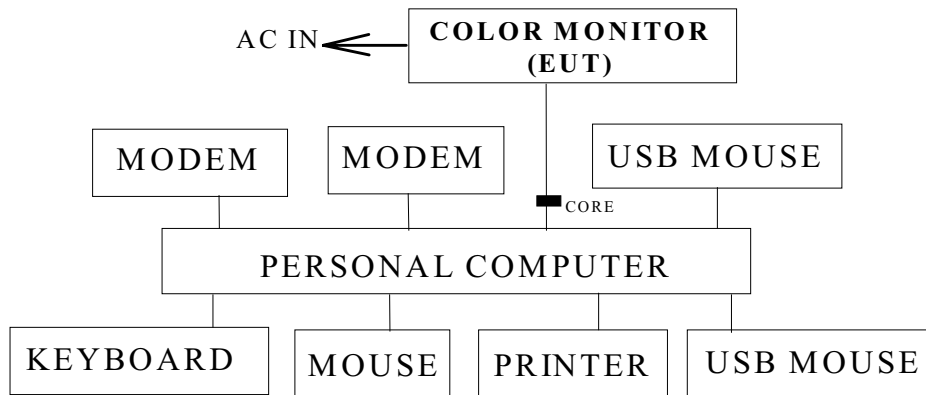
3.1. Test Equipment

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

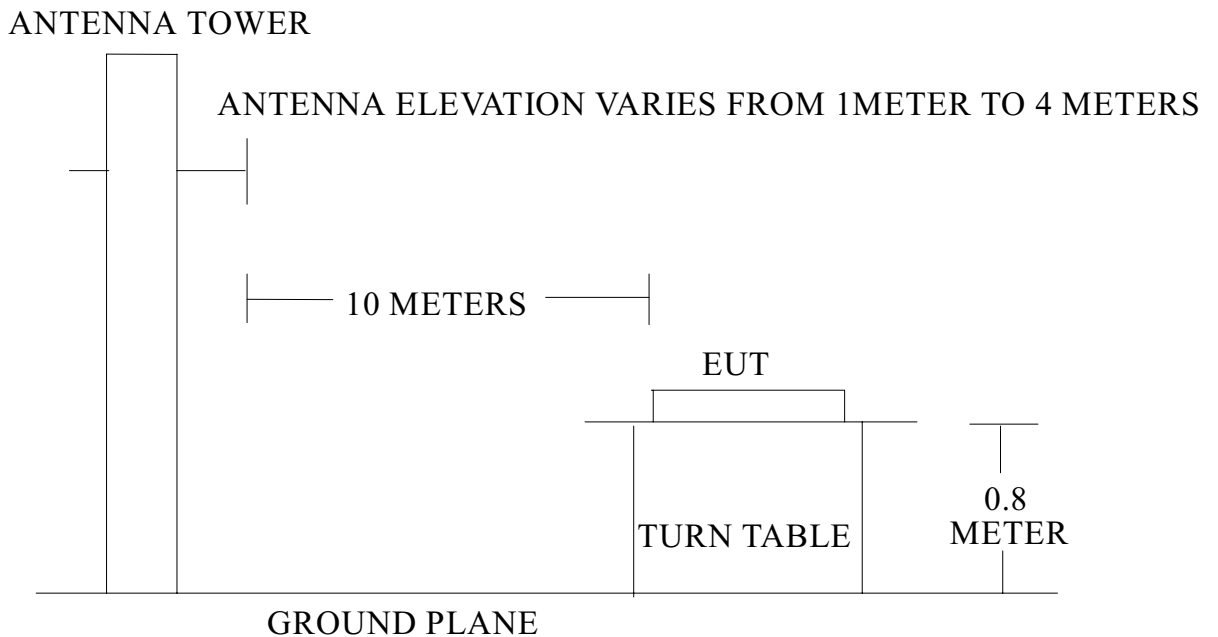
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum Analyzer	HP	8595E	3829A03489	Oct.13, 99'	1 Year
2.	Test Receiver	Rohde & Schwarz	ESVS10	826148/005	May 06, 00'	1 Year
3.	Computer	TOKIN	586PC	N/A	N/A	NA
4.	Printer	HP	C6450A	TH96Q121ZC	N/A	N/A
5.	Amplifier	HP	8447D	2944A06891	N/A	N/A
6.	Broadband Antenna	Chase	VBA6106A	1240	Jul.05, 00'	1 Year
7.	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 (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 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 device or system.

3.4. EUT's Configuration during Compliance 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 is listed in Section 2.5.

3.6. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The turn table rotate 360 degrees to determine the position of the maximum emission level. EUT was set 10 meters away from the receiving antenna which were mounted on a antenna tower. The antenna can move 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 requirement.

The bandwidth of the R&S Test Receiver ESVS10 was set at 120KHz.

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

Three kinds of horizontal working frequency were done during radiated measurement and all the test results are listed in section 3.7..

Test Mode :

- (1) 54KHz/800*600, 85Hz
- (2) 64KHz/1280*1024, 60Hz
- (3) 69KHz/1024*768, 85Hz

3.7. Radiated Emission Measurement Results

PASSED.

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

Date of Test :	Aug. 31, 2000	Temperature :	27.1°C
EUT :	17" Color Monitor, M/N 7Vlr	Humidity :	61%
Test Mode :	54KHz/800*600/85Hz		

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level Horizontal dBuV/m	Limits dBuV/m	Margin dB
			Horizontal dBuV	Horizontal dBuV/m			
61.250	11.75	1.46	0.63	13.84	30.00	16.16	
128.988	19.59	2.16	- 1.36	20.39	30.00	9.61	
145.837	20.08	2.29	- 2.77	19.60	30.00	10.40	
168.238	20.98	2.53	- 1.03	22.48	30.00	7.52	
224.388	21.96	2.84	- 1.46	23.34	30.00	6.66	
246.788	21.86	3.06	- 1.77	23.15	37.00	13.85	
257.990	22.49	3.01	- 0.79	24.71	37.00	12.29	
263.606	22.86	3.17	1.10	27.13	37.00	9.87	
302.872	13.57	3.31	2.68	19.56	37.00	17.44	
314.109	14.19	3.56	2.14	19.89	37.00	17.11	
336.542	14.65	3.58	3.23	21.46	37.00	15.54	
370.200	15.11	3.99	1.08	20.18	37.00	16.82	
384.010	15.66	3.95	- 1.19	18.42	37.00	18.58	
409.436	15.91	4.03	1.89	21.83	37.00	15.17	
431.888	16.30	4.19	4.52	25.01	37.00	11.99	
487.976	17.81	4.52	0.78	23.11	37.00	13.89	
577.576	19.82	5.13	- 2.55	22.40	37.00	14.60	

Remark : All reading are Quasi-Peak values.

Date of Test : Aug. 31, 2000 Temperature : 27.1°C
 EUT : 17" Color Monitor, M/N 7Vlr Humidity : 61%
 Test Mode : 54KHz/800*600/85Hz

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level Vertical dBµV/m	Limits dBµV/m	Margin dB
			Vertical dBµV				
37.370	18.81	1.12	6.44		26.37	30.00	3.63
57.203	13.62	1.42	10.53		25.57	30.00	4.43
129.025	18.40	2.16	- 2.42		18.14	30.00	11.86
134.605	19.03	2.21	- 2.23		19.01	30.00	10.99
145.849	19.81	2.29	- 0.59		21.51	30.00	8.49
168.270	20.77	2.53	- 2.25		21.05	30.00	8.95
218.764	21.59	2.89	- 2.98		21.50	30.00	8.50
246.796	22.32	3.06	- 1.66		23.72	37.00	13.28
263.613	22.71	3.17	0.11		25.99	37.00	11.01
302.902	14.20	3.31	2.75		20.26	37.00	16.74
319.703	14.68	3.66	3.72		22.06	37.00	14.94
336.543	14.86	3.58	3.01		21.45	37.00	15.55
353.369	15.77	3.85	1.27		20.89	37.00	16.11
392.631	16.73	4.02	- 0.79		19.96	37.00	17.04
415.052	16.45	4.17	- 0.07		20.55	37.00	16.45
426.295	16.71	4.21	- 0.74		20.18	37.00	16.82
504.805	18.65	4.59	- 0.56		22.68	37.00	14.32

Remark : All reading are Quasi-Peak values.

Date of Test : Aug. 31, 2000 Temperature : 27.1°C
 EUT : 17" Color Monitor, M/N 7Vlr Humidity : 61%
 Test Mode : 64KHz/1280*1024/60Hz

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level Horizontal dB μ V/m	Limits dB μ V/m	Margin dB
				Horizontal dB μ V				
*	65.380	11.88	1.56	8.68		22.12	30.00	7.88
	76.255	12.95	1.67	5.38		20.00	30.00	10.00
	141.505	19.97	2.29	- 3.96		18.30	30.00	11.70
	152.380	20.27	2.36	- 4.57		18.06	30.00	11.94
	185.005	20.90	2.63	- 4.46		19.07	30.00	10.93
	195.880	20.68	2.68	- 4.71		18.65	30.00	11.35
	217.630	21.67	2.88	- 3.54		21.01	30.00	8.99
	250.255	21.99	3.01	- 3.99		21.01	37.00	15.99
	293.755	24.41	3.44	- 4.03		23.82	37.00	13.18
	304.761	13.70	3.37	0.18		17.25	37.00	19.75
	337.399	14.65	3.59	- 0.29		17.95	37.00	19.05
	402.690	16.10	4.07	3.14		23.31	37.00	13.69
	413.565	15.97	4.16	- 0.87		19.26	37.00	17.74
	435.350	16.34	4.19	- 1.53		19.00	37.00	18.00
	554.975	20.06	4.87	- 3.14		21.79	37.00	15.21
	620.225	19.90	5.29	- 3.16		22.03	37.00	14.97
	663.725	20.48	5.48	- 3.02		22.94	37.00	14.06
	707.225	21.18	5.83	- 3.02		23.99	37.00	13.01

- Remark :
1. All reading are Quasi-Peak values.
 2. The worst emission was detected at 65.380MHz with corrected signal level of 22.12dB μ V/m (limit was 30.0dB μ V/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at 190° .
 3. 0° is the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Date of Test : Aug. 31, 2000 Temperature : 27.1°C
 EUT : 17" Color Monitor, M/N 7Vlr Humidity : 61%
 Test Mode : 64KHz/1280*1024/60Hz

	Frequency MHz	Antenna	Cable	Meter Reading	Emission Level	Limits dB μ V/m	Margin dB
		Factor dB/m	Loss dB	Vertical dB μ V	Vertical dB μ V/m		
	36.380	19.09	1.10	6.21	26.40	30.00	3.60
*	59.000	13.29	1.42	11.99	26.70	30.00	3.30
	70.600	13.31	1.62	10.66	25.59	30.00	4.41
	119.758	18.45	2.14	- 0.68	19.91	30.00	10.09
	141.508	19.41	2.29	- 2.94	18.76	30.00	11.24
	185.008	22.33	2.63	- 3.34	21.62	30.00	8.38
	195.883	23.25	2.68	- 3.50	22.43	30.00	7.57
	217.633	21.51	2.88	- 0.01	24.38	30.00	5.62
	250.749	22.71	2.99	- 3.15	22.55	37.00	14.45
	326.514	14.91	3.63	6.65	25.19	37.00	11.81
	381.622	16.35	3.99	- 2.71	17.63	37.00	19.37
	391.807	16.58	4.00	2.30	22.88	37.00	14.12
	402.685	16.59	4.07	6.40	27.06	37.00	9.94
	413.605	16.37	4.16	2.60	23.13	37.00	13.87
	424.480	16.83	4.20	2.68	23.71	37.00	13.29
	478.855	18.10	4.49	- 2.14	20.45	37.00	16.55
	609.355	19.93	5.15	- 3.06	22.02	37.00	14.98

- Remark :
1. All reading are Quasi-Peak values.
 2. The worst emission was detected at 59.000MHz with corrected signal level of 26.70dB μ V/m (limit was 30dB μ V/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 165° .
 3. 0° is the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna

Date of Test : Aug. 31, 2000 Temperature : 27.1°C
 EUT : 17" Color Monitor, M/N 7Vlr Humidity : 61%
 Test Mode : 69KHz/1024*768/85Hz

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level Horizontal dBuV/m	Limits dBuV/m	Margin dB
			Horizontal dBuV	Horizontal dBuV/m			
37.942	17.95	1.13	- 1.64	17.44	30.00	12.56	
56.936	12.54	1.42	0.18	14.14	30.00	15.86	
66.433	11.93	1.57	4.96	18.46	30.00	11.54	
123.414	19.14	2.13	- 0.37	20.90	30.00	9.10	
151.906	20.30	2.36	- 1.05	21.61	30.00	8.39	
180.396	20.71	2.57	- 1.96	21.32	30.00	8.68	
227.882	22.14	2.83	0.28	25.25	30.00	4.75	
246.876	21.86	3.06	- 2.65	22.27	37.00	14.73	
256.372	22.53	3.00	- 2.31	23.22	37.00	13.78	
313.075	14.21	3.54	3.68	21.43	37.00	15.57	
341.536	14.75	3.76	0.56	19.07	37.00	17.93	
407.945	15.91	4.04	- 1.43	18.52	37.00	18.48	
436.406	16.37	4.23	0.16	20.76	37.00	16.24	
474.354	17.63	4.45	2.40	24.48	37.00	12.52	
531.276	19.02	4.70	- 0.70	23.02	37.00	13.98	
569.245	19.90	5.04	2.35	27.29	37.00	9.71	
730.806	20.83	5.88	0.84	27.55	37.00	9.45	

Remark : All reading are Quasi-Peak values.

Date of Test : Aug. 31, 2000 Temperature : 27.1°C
 EUT : 17" Color Monitor, M/N 7Vlr Humidity : 61%
 Test Mode : 69KHz/1024*768/85Hz

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading		Emission Level Vertical dBuV/m	Limits dBuV/m	Margin dB
			Vertical dBuV				
33.776	18.73	1.07	1.60		21.40	30.00	8.60
37.901	18.89	1.13	5.33		25.35	30.00	4.65
63.400	12.94	1.51	8.07		22.52	30.00	7.48
75.791	14.88	1.67	1.25		17.80	30.00	12.20
123.351	18.25	2.13	1.82		22.20	30.00	7.80
132.843	18.95	2.19	- 1.87		19.27	30.00	10.73
151.803	20.30	2.36	- 1.64		21.02	30.00	8.98
227.699	22.32	2.83	1.07		26.22	30.00	3.78
246.666	22.34	3.06	1.54		26.94	37.00	10.06
303.591	14.27	3.34	0.12		17.73	37.00	19.27
322.590	14.83	3.63	3.92		22.38	37.00	14.62
351.026	15.70	3.81	4.60		24.11	37.00	12.89
474.383	18.21	4.45	- 1.22		21.44	37.00	15.56
578.635	19.71	5.12	- 1.71		23.12	37.00	13.88
673.610	21.13	5.62	- 2.85		23.90	37.00	13.10
740.019	21.25	5.91	- 1.74		25.42	37.00	11.58
939.814	24.32	6.71	- 0.02		31.01	37.00	5.99

Remark : All reading are Quasi-Peak values.

4. DEVIATION TO TEST SPECIFICATIONS

【NONE】

5. MODIFICATIONS TO EUT

1. Added a ferrite core on the signal cable of video board input.
2. Added a ferrite core on the signal cable (outside).
3. Added a ferrite core on Focus & G2.
4. Video board with metal shielding case.
5. Added two ground wires from CRT arcing wire (right & left side) to video board shielding case.
6. Added two ground wires from the rear side of video shielding case (right & left side) to mother board.