EXHIBIT 3

Test Report

Test Report

TTEMC-F99055

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

Model : (1)17E4222E (2)17E4222H (3)7Vlr (4)7Vlr+

FCC ID : ARSCM7690

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.

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

File Number : ATM-G99153(G98335/G97604)
Report Number : TTEMC-F99055
Date of Test : Apr. 16 ~ 21, 1999
Date of Report : Apr. 23, 1999

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TEST REPORT CERTIFICATION
(Class II Permissive Change)

Applicant	:	Top Victory Electronics (Taiwan) Co., Ltd.
Manufacturer	:	Top Victory Electronics (Fujian) Co., Ltd.
FCC ID	:	ARSCM7690
EUT Description	:	17" Color Monitor
		(A) MODEL NO. : (1)17E4222E (2)17E4222H (3)7Vlr (4)7Vlr+
		(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 : Apr. 16 ~ 21, 1999

Prepared by : Julie Hsu Apr. 28. 99'
(JULIE HSU)

Test Engineer : Allen Wang 4/28/'99
(ALLEN WANG)

Approve & Authorized Signer : Jackie 4/28'99
(JACKIE DENG)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	17" Color Monitor
Model Number	:	(1)17E4222E (2)17E4222H (3)7Vlr (4)7Vlr+ Above models are identical, except for Brand and Safety Approval difference. The differences of those models are as follows:

Model No.	Brand	Safety Approval
17E4222E	PHILIPS	MPR II
17E4222H	PHILIPS	TCO 95
7Vlr	AOC	MPR II
7Vlr+	AOC	TCO

The MPR II safety version of sample (7Vlr / 17E4222E) are test sample in this report.

FCC ID	:	ARSCM7690
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, Fuging City, Fujian, China.
CRT #1	:	Chunghwa, M/N M41AGE83X76 S/N CPJ440AFAC15-TC
CRT #2	:	**LG, M/N M41LFQ803X05 (LA)** **S/N 81209001**
Data Cable #1	:	Non-Shielded, Undetachable, 1.8m Bonded two ferrite cores
Data Cable #2	:	**Shielded, Undetachable, 1.8m** **Bonded a ferrite core**
Power Cord	:	Non-Shielded, Detachable, 1.8m
Data of Receipt of Sample	:	Apr. 13, 1999
Date of Test	:	Apr. 16 ~ 21, 1999

Remark :

This EUT is a modified version of original FCC ID ARSCM7690.
The details of difference list are as follows:

1. to add two models (1)7Vlr (2)7Vlr+ for Brand AOC use.
2. to add a CRT (LG, M/N M41LFQ803X05) and a data cable (Shielded, Undetachable, 1.8m with a ferrite core).
3. to re-layout video board (change IC).
4. to change the max. resolution from 1024*768 (68.7KHz/85Hz) into 1280*1024 (64KHz/60Hz).

1.2. Tested Supporting System Details

1.2.1. PERSONAL COMPUTER

Model Number	:	D5250A
Serial Number	:	US72455810
FCC ID	:	By FCC DoC
Manufacturer	:	HP
CD-ROM	:	Goldstar, M/N CRD-8240B S/N 7054007048 FCC ID BEJCRD-8240B
VGA Card	:	Metabyte FCC ID I27MM-VS03A
Sound Card	:	Digitan Systems, M/N DSAC-300 S/N F/D O 625938
Lan Card	:	Digitan Systems, M/N DS560-450 S/N F/D O 630443
Telephone Line	:	Non-shielded, Detachable, 2.1m
Power Cord	:	Non-Shielded, Undetachable, 1.8m

1.2.2. KEYBOARD

Model Number	:	SK-2501
Serial Number	:	M970441461
FCC ID	:	GYUR38SK
Manufacturer	:	HP
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.3. PRINTER

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

1.2.4. MODEM

Model Number	:	DM-1414
Serial Number	:	980034386
FCC ID	:	IFAXDM1414
Manufacturer	:	Accex
Data Cable	:	Shielded, Detachable, 1.2m
Power Adapter	:	Amigo, M/N AM-91000A Non-Shielded, Undetachable, 1.8m

1.2.5. MOUSE

Model Number	:	M-S34
Serial Number	:	LZA65242531
FCC ID	:	DZL211029
Manufacturer	:	HP
Data Cable	:	Shielded, Undetachable, 1.9m

1.2.6. USB MOUSE #1

Model Number	:	M-UB48
Serial Number	:	LZB81900208
FCC ID	:	DZL211137
Manufacturer	:	Logitech
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.7. USB MOUSE #2

Model Number	:	M-UB48
Serial Number	:	LZB81900219
FCC ID	:	DZL211137
Manufacturer	:	Logitech
Data Cable	:	Shielded, Undetachable, 1.8m

1.2.8. SPEAKER

Model Number	:	J-008
Serial Number	:	J80547825
Manufacturer	:	(J-S) JAZZ HIPSTER
Data Cable	:	Non-Shielded, Undetachable, 1m

1.2.9. MICROPHONE

Model Number	:	HD-303
Serial Number	:	N/A
Manufacturer	:	Multimedia Microphone System
Data Cable	:	Non-Shielded, Undetachable, 2.2m

1.2.10. WALKMAN

Model Number	:	RQ-P35LT-K
Serial Number	:	HA08717
Manufacturer	:	Panasonic
Data Cable	:	Non-Shielded, Detachable, 1.8m

1.2.11. EARPHONE #1

Model Number	:	N/A
Manufacturer	:	Panasonic
Earphone Cable	:	Non-Shielded, Undetachable, 1.1m

1.2.12. EARPHONE #2

Model Number	:	N/A
Manufacturer	:	Panasonic
Earphone Cable	:	Non-Shielded, Undetachable, 1.1m

1.2.13. GAME PAD

Model Number	:	S-2300
Serial Number	:	N/A
Manufacturer	:	Super Cobra
Data Cable	:	Non-Shielded, Undetachable, 1.35m

1.2.14. TELEPHONE

Model Number	:	RS-802M
Serial Number	:	N/A
Manufacturer	:	Ju Tong
Data Cable	:	Non-Shielded, Detachable, 0.5m

1.3. Description of Test Facility

Site Description (No. 4 Open Site)	:	May 14, 1997 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 Lab Code	:	200077-0

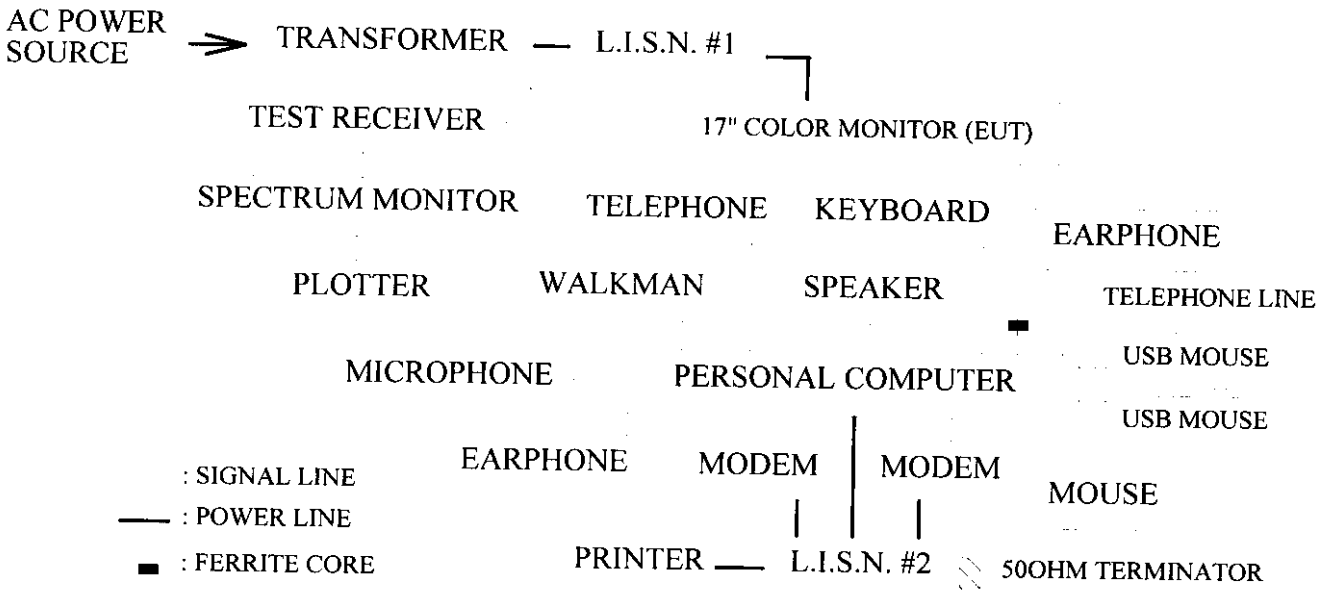
2. POWERLINE CONDUCTED TEST

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	ESHS 10	844591/015	Jan.30, 99'	1 Year
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-1370-9	Jun.03, 98'	1 Year
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-1370-10	Jun.03, 98'	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. 17" Color Monitor (EUT)

Model Number	:	17E4222E / 7VIr
FCC ID	:	ARSCM7690
Manufacturer	:	Top Victory Electronics (Fujian) Co., Ltd.
CRT	:	LG, M/N M41LFQ803X05 (LA) S/N 81209001
Data Cable	:	Shielded, Undetachable, 1.8m 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 monitor (EUT) through VGA card and the screen displayed and filled with "H" pattern by EUT's resolution 1024*768 and 1280*1024.

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 ESHS 10 was set at 10KHz.

The frequency range from 450KHz to 30MHz was checked.

All the test results are listed in section 2.7.

2.7. Line Conducted RF Voltage Measurement Results

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

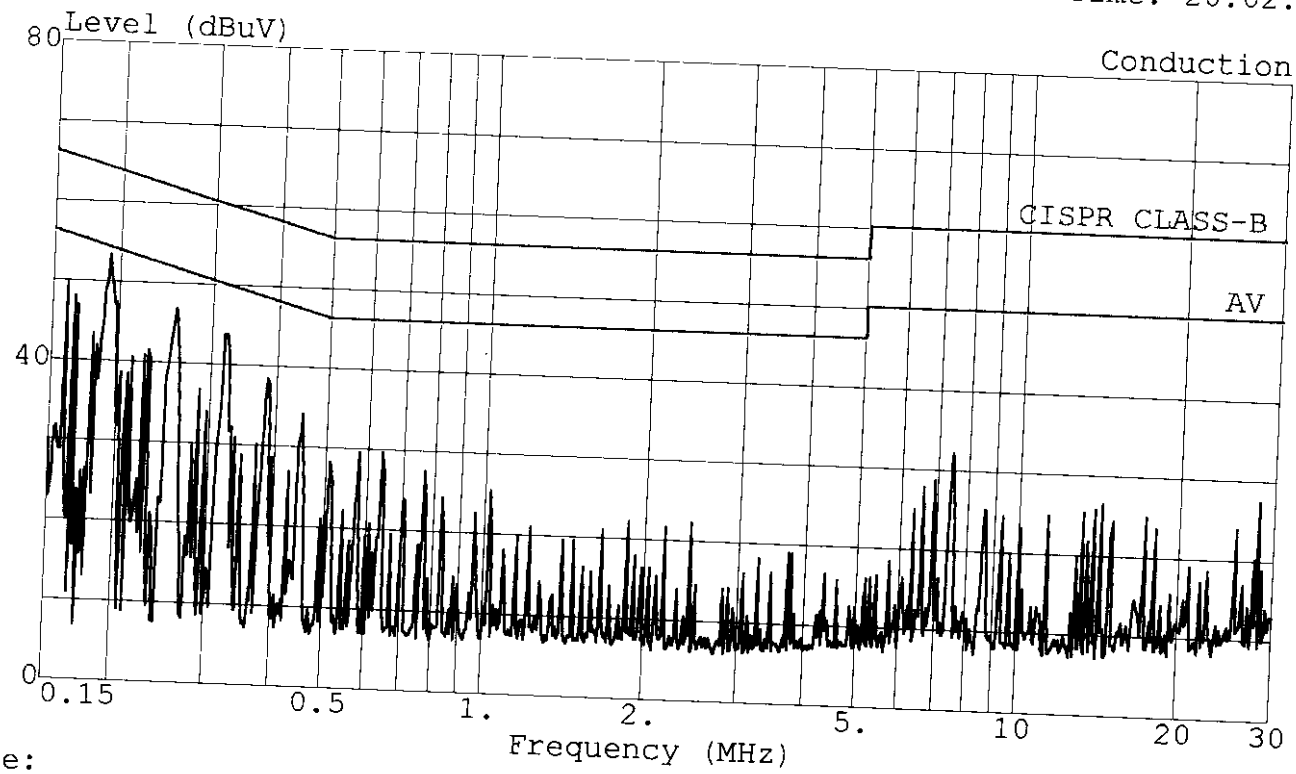
Test Date : Apr. 21, 1999 Temperature : 21 ℃ Humidity : 80 %

Test Mode	Reference Data #
64KHz/1280*1024, 60Hz	# 422 (# 423, 424), # 419 (# 420, 421)
69KHz/1024*768, 85Hz	# 413 (# 414, 415), # 416 (# 417, 418)

TAIWAN TOKIN EMC ENG. CORP.

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

Data#: 422 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 20:02:49



Trace:
Limit: CISPR CLASS-B Probe: KNW-244C NEUTRAL Ref Trace:
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 64KHz(1280*1024);60Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

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#: 423 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 20:04:26
Conduction
Limit: CISPR CLASS-B Probe: KNW-244C NEUTRAL
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 64KHz(1280*1024);60Hz
: M/N:17E4222H/17E4222E/ 7 V1r/7V1r+

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	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.191	51.35	-12.63	63.98	51.22	0.10	0.03	0.00	QP
2	0.383	37.46	-20.75	58.21	37.32	0.10	0.04	0.00	QP
3	0.767	26.53	-29.47	56.00	26.38	0.10	0.05	0.00	QP
4	2.435	21.35	-34.65	56.00	21.20	0.10	0.05	0.00	QP
5	7.446	31.30	-28.70	60.00	31.03	0.22	0.05	0.00	QP
6	14.288	25.59	-34.41	60.00	25.06	0.43	0.09	0.00	QP

Data#: 424 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 20:05:03
Conduction
Limit: CISPR-B (AV) Probe: KNW-244C NEUTRAL
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 64KHz(1280*1024);60Hz
: M/N:17E4222H/17E4222E/ 7 V1r/7V1r+

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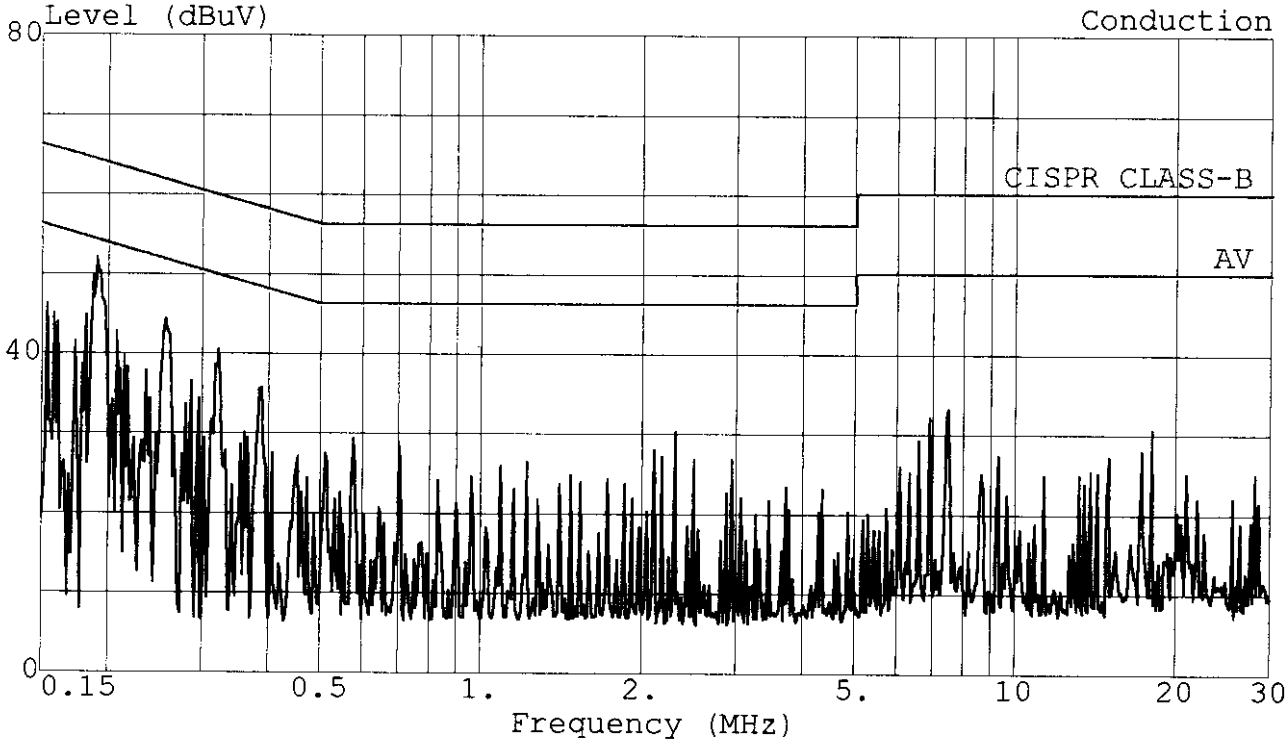
		Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
		MHz	dB	dB	dB	dB	dB	dB	dB	
1	!	0.191	47.35	-6.64	53.99	47.22	0.10	0.03	0.00	Average
2		0.383	34.46	-13.75	48.21	34.32	0.10	0.04	0.00	Average
3		0.767	24.53	-21.47	46.00	24.38	0.10	0.05	0.00	Average
4		2.435	19.35	-26.65	46.00	19.20	0.10	0.05	0.00	Average
5		7.446	29.30	-20.70	50.00	29.03	0.22	0.05	0.00	Average
6		14.288	23.59	-26.41	50.00	23.06	0.43	0.09	0.00	Average

TAIWAN TOKIN EMC ENG. CORP.

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

Data#: 419 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 20:00:10



Trace: Ref Trace:
Limit: CISPR CLASS-B Probe: KNW-244C LINE
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 64KHz(1280*1024);60Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

TAIWAN TOKIN EMC ENG. CORP.

Data#: 420 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 20:01:05
Conduction
Limit: CISPR CLASS-B Probe: KNW-244C LINE
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 64KHz(1280*1024);60Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

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	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1	0.190	51.08	-12.94	64.02	50.95	0.10	0.03	0.00	QP
2	0.383	34.51	-23.70	58.21	34.37	0.10	0.04	0.00	QP
3	2.309	29.37	-26.63	56.00	29.22	0.10	0.05	0.00	QP
4	7.486	32.28	-27.72	60.00	32.00	0.23	0.05	0.00	QP
5	18.039	29.71	-30.29	60.00	29.06	0.48	0.16	0.00	QP
6	28.152	24.08	-35.92	60.00	23.64	0.24	0.20	0.00	QP

Data#: 421 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 20:01:44
Conduction
Limit: CISPR-B (AV) Probe: KNW-244C LINE
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 64KHz(1280*1024);60Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

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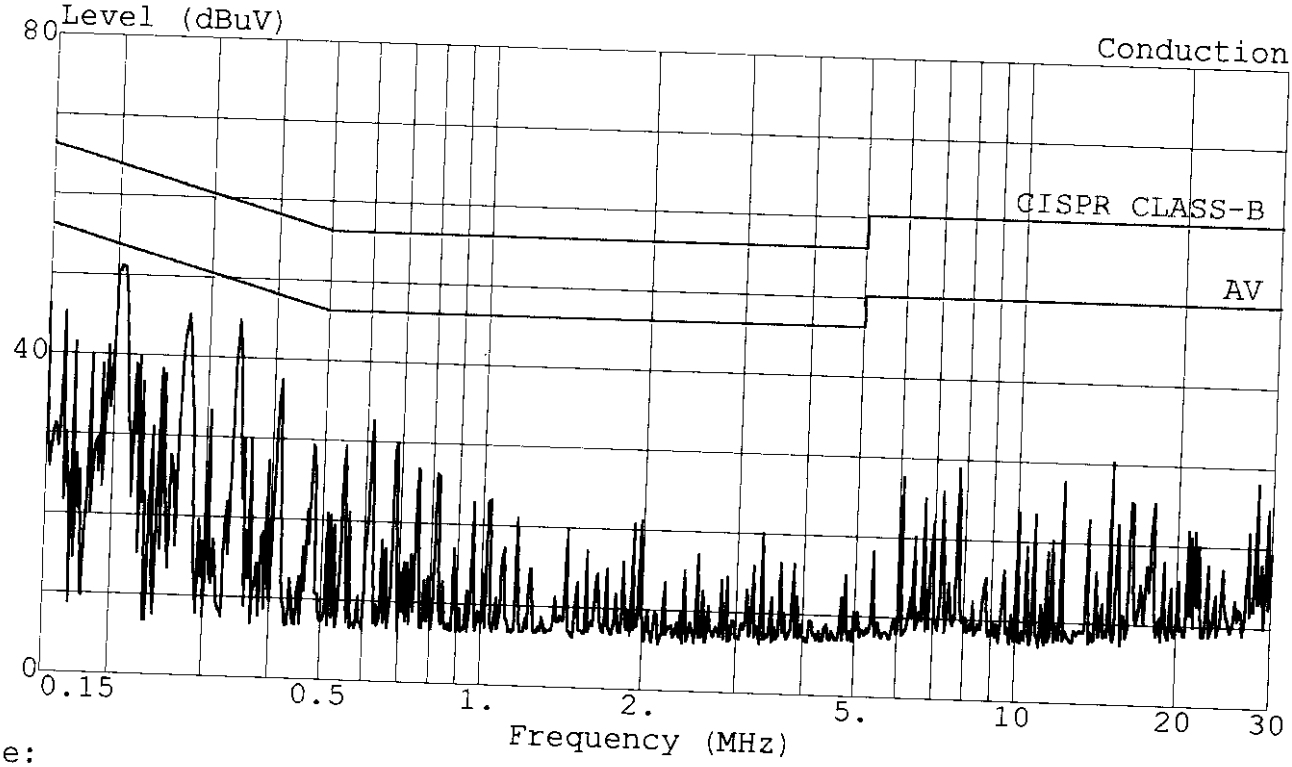
		Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
		MHz	dB	dB	dB	dB	dB	dB	dB	
1	!	0.190	47.08	-6.96	54.04	46.95	0.10	0.03	0.00	Average
2		0.383	32.51	-15.70	48.21	32.37	0.10	0.04	0.00	Average
3		2.309	27.37	-18.63	46.00	27.22	0.10	0.05	0.00	Average
4		7.486	29.28	-20.72	50.00	29.01	0.22	0.05	0.00	Average
5		18.039	26.71	-23.29	50.00	26.07	0.48	0.16	0.00	Average
6		28.152	22.08	-27.92	50.00	21.65	0.23	0.20	0.00	Average

TAIWAN TOKIN EMC ENG. CORP.

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

Data#: 413 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 19:51:07



Trace:
Limit: CISPR CLASS-B Probe: KNW-244C NEUTRAL Ref Trace:
EUT : MONITOR.
Power: 120Vac/60Hz
Memo : 69KHz(1024*768);85Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

Data#: 414 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 19:53:03
Conduction
Limit: CISPR CLASS-B Probe: KNW-244C NEUTRAL
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 69KHz(1024*768);85Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

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	0.204	50.39	-13.05	63.45	50.26	0.10	0.03	0.00	QP
2	0.339	40.14	-19.09	59.23	40.00	0.10	0.04	0.00	QP
3	0.614	30.97	-25.03	56.00	30.82	0.10	0.05	0.00	QP
4	6.099	26.97	-33.03	60.00	26.76	0.16	0.05	0.00	QP
5	12.196	25.21	-34.79	60.00	24.76	0.38	0.07	0.00	QP
6	28.164	28.54	-31.46	60.00	28.11	0.23	0.20	0.00	QP

Data#: 415 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 19:53:33
Conduction
Limit: CISPR-B (AV) Probe: KNW-244C NEUTRAL
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 69KHz(1024*768);85Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

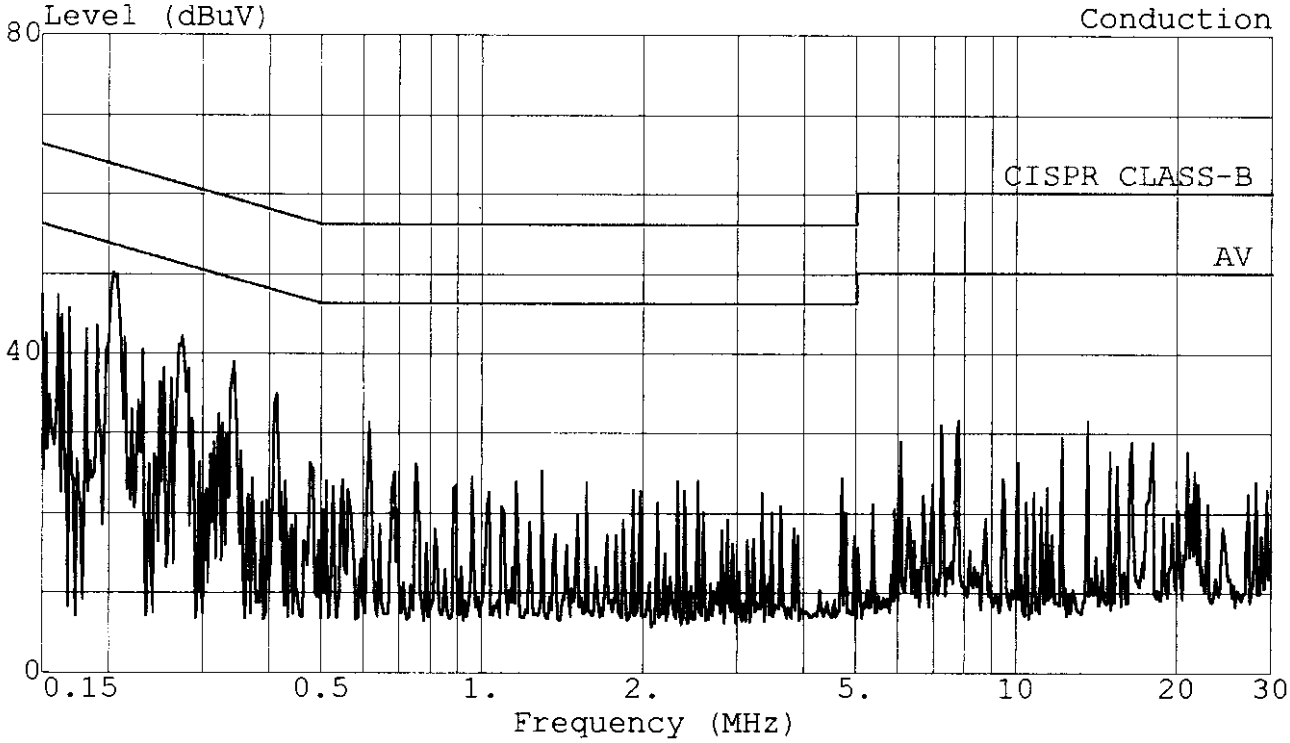
Page: 1

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark
	MHz	dB	dB	dB	dB	dB	dB	dB	
1 !	0.204	47.39	-6.05	53.45	47.26	0.10	0.03	0.00	Average
2	0.339	38.13	-11.10	49.23	37.99	0.10	0.04	0.00	Average
3	0.614	30.22	-15.78	46.00	30.07	0.10	0.05	0.00	Average
4	6.099	25.10	-24.90	50.00	24.89	0.16	0.05	0.00	Average
5	12.196	23.76	-26.24	50.00	23.31	0.38	0.07	0.00	Average
6	28.164	25.41	-24.59	50.00	24.98	0.23	0.20	0.00	Average

TAIWAN TOKIN EMC ENG. CORP.

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

Data#: 416 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 19:54:59



Trace: Ref Trace:
Limit: CISPR CLASS-B Probe: KNW-244C LINE
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 69KHz(1024*768);85Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

Data#: 417 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 19:56:59
Conduction
Limit: CISPR CLASS-B Probe: KNW-244C LINE
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 69KHz(1024*768);85Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

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	0.204	48.19	-15.26	63.45	48.06	0.10	0.03	0.00	QP
2	0.343	38.04	-21.09	59.13	37.90	0.10	0.04	0.00	QP
3	0.614	30.44	-25.56	56.00	30.29	0.10	0.05	0.00	QP
4	2.321	23.08	-32.92	56.00	22.93	0.10	0.05	0.00	QP
5	7.810	30.66	-29.34	60.00	30.37	0.24	0.05	0.00	QP
6	18.039	27.91	-32.09	60.00	27.26	0.48	0.16	0.00	QP

Data#: 418 File#: TOP-VICT.EMI Date: 1999-04-21 Time: 19:57:52
Conduction
Limit: CISPR-B (AV) Probe: KNW-244C LINE
EUT : MONITOR
Power: 120Vac/60Hz
Memo : 69KHz(1024*768);85Hz
: M/N:17E4222H/17E4222E/ 7 Vlr/7Vlr+

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	!	0.204	45.19	-8.26	53.45	45.06	0.10	0.03	0.00	Average
2		0.343	36.04	-13.09	49.13	35.90	0.10	0.04	0.00	Average
3		0.614	29.44	-16.56	46.00	29.29	0.10	0.05	0.00	Average
4		2.321	21.08	-24.92	46.00	20.93	0.10	0.05	0.00	Average
5		7.810	28.66	-21.34	50.00	28.37	0.24	0.05	0.00	Average
6		18.039	25.91	-24.09	50.00	25.27	0.48	0.16	0.00	Average

3. RADIATED EMISSION TEST

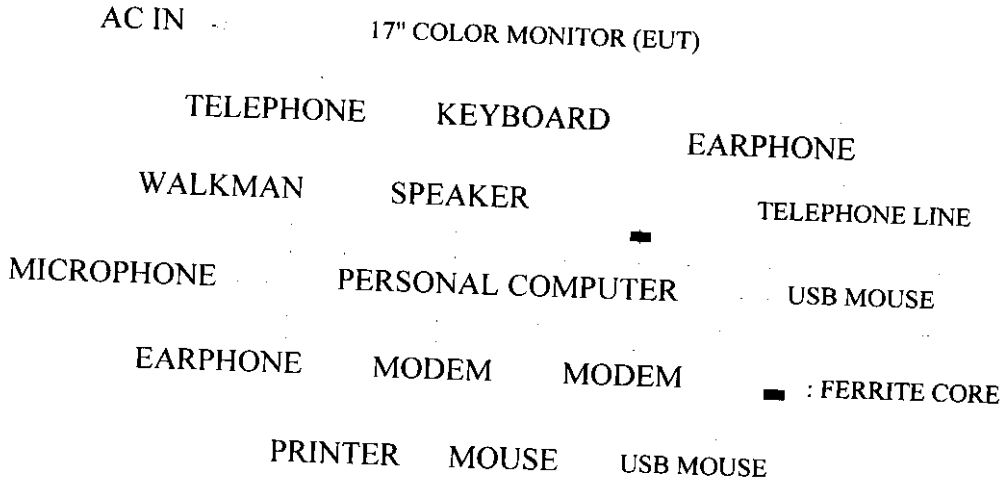
3.1. Test Equipment

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

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESVS10	845165/018	Mar. 19, 99'	1 Year
2.	Broadband Antenna	Chase	VBA6106A	1227	Nov.03, 98'	1 Year
3.	Log Periodic Antenna	Chase	UPA6109	1020	Nov.03, 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 METERS

10 METERS

EUT

0.8
METER

TURN TABLE

GROUND PLANE

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.

Two kinds of test modes were done during radiated measured and all the test results are listed in section 3.8. The details of test modes are as follows:
(1) 64KHz / 1280*1024, 60Hz
(2) 69KHz / 1024*768, 85Hz

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 1000 MHz was investigated. All the emissions not reported below are too low against the FCC CLASS B limit..

Date of Test : Apr. 16, 1999 Temperature : 23 ℃

EUT : 17" Color Monitor Humidity : 47 %

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

	Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBuV	Emission Level Horizontal dBuV/m	Limits dBuV/m	Margin dBuV/m
	30.795	18.62	1.14	- 1.09	18.67	30.00	11.33
	51.322	14.43	1.45	1.19	17.07	30.00	12.93
	71.849	12.34	1.79	5.01	19.14	30.00	10.86
	133.429	19.77	2.58	- 0.18	22.17	30.00	7.83
	153.956	20.15	2.79	- 1.39	21.55	30.00	8.45
	174.483	20.78	2.97	0.84	24.59	30.00	5.41
	195.001	21.44	3.12	- 1.83	22.73	30.00	7.27
	215.527	21.67	3.31	- 0.49	24.49	30.00	5.51
	277.124	23.76	3.92	2.66	30.34	37.00	6.66
	318.171	11.98	4.25	1.75	17.98	37.00	19.02
	359.225	13.39	4.48	2.14	20.01	37.00	16.99
	413.972	14.97	4.90	- 1.28	18.59	37.00	18.41
	482.389	15.64	5.43	0.75	21.82	37.00	15.18
	543.970	19.05	5.93	5.94	30.92	37.00	6.08
*	564.497	19.19	6.04	7.37	32.60	37.00	4.40
	605.555	20.01	6.37	- 0.93	25.45	37.00	11.55
	667.135	19.36	6.58	- 0.16	25.78	37.00	11.22
	749.243	21.17	7.15	0.31	28.63	37.00	8.37

Remark :
1. All readings are Quasi-Peak values.
2. The worst emission was detected at 564.497MHz with corrected signal level of 32.60dBuV/m (limit is 37dBuV/m) when the antenna was at horizontal polarization and was at 3.95m high and the turn table was at 220 ° .
3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

Date of Test : Apr. 16, 1999 Temperature : 23 ℃

EUT : 17" Color Monitor Humidity : 47 %

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 dBuV/m
*	30.773	21.92	1.14	3.23	26.29	30.00	3.71
	51.304	15.34	1.45	7.41	24.20	30.00	5.80
	64.988	12.58	1.72	7.99	22.29	30.00	7.71
	71.853	12.59	1.79	10.76	25.14	30.00	4.86
	133.424	19.05	2.58	- 0.21	21.42	30.00	8.58
	153.951	21.13	2.79	0.97	24.89	30.00	5.11
	174.477	20.50	2.97	- 0.65	22.82	30.00	7.18
	208.701	20.93	3.27	- 0.72	23.48	30.00	6.52
	222.386	20.35	3.35	1.37	25.07	30.00	4.93
	256.597	23.29	3.70	1.82	28.81	37.00	8.19
	318.148	13.57	4.25	1.27	19.09	37.00	17.91
	359.233	15.04	4.48	1.48	21.00	37.00	16.00
	441.341	15.99	5.09	1.97	23.05	37.00	13.95
	543.976	18.81	5.93	6.98	31.72	37.00	5.28
	564.503	18.47	6.04	5.16	29.67	37.00	7.33
	585.029	18.48	6.16	- 0.23	24.41	37.00	12.59
	646.610	19.26	6.63	- 1.73	24.16	37.00	12.84
	728.718	20.43	6.96	- 0.54	26.85	37.00	10.15

Remark :
1. All readings are Quasi-Peak values.
2. The worst emission was detected at 30.773MHz with corrected signal level of 26.29dBuV/m (limit is 30dBuV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 30 ° .
3. 0 ° was the table front facing the antenna. Degree is calculated from 0 ° clockwise facing the antenna.

Date of Test : Apr. 19, 1999 Temperature : 23 ℃

EUT : 17" Color Monitor Humidity : 82 %

Test Mode : 69KHz / 1024*768, 85Hz

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBuV	Emission Level Horizontal dBuV/m	Limits dBuV/m	Margin dBuV/m
33.225	19.13	1.19	- 2.31	18.01	30.00	11.99
44.298	17.70	1.32	- 1.59	17.43	30.00	12.57
55.406	12.98	1.53	- 0.77	13.74	30.00	16.26
77.623	12.72	1.84	2.21	16.77	30.00	13.23
110.784	18.27	2.33	2.30	22.90	30.00	7.10
132.939	19.81	2.58	- 2.49	19.90	30.00	10.10
177.218	20.85	2.97	- 0.60	23.22	30.00	6.78
221.517	21.65	3.35	- 1.71	23.29	30.00	6.71
265.834	23.16	3.79	2.25	29.20	37.00	7.80
310.122	11.55	4.20	0.29	16.04	37.00	20.96
354.440	13.32	4.46	0.84	18.62	37.00	18.38
398.758	14.50	4.81	1.64	20.95	37.00	16.05
443.076	16.21	5.14	1.14	22.49	37.00	14.51
487.349	15.84	5.48	1.83	23.15	37.00	13.85
531.667	18.84	5.78	0.83	25.45	37.00	11.55
575.984	19.23	6.11	4.53	29.87	37.00	7.13

Remark : All readings are Quasi-Peak values.

Date of Test : Apr. 19, 1999 Temperature : 23 ℃

EUT : 17" Color Monitor Humidity : 82 %

Test Mode : 69KHz / 1024*768, 85Hz

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBuV	Emission Level Vertical dBuV/m	Limits dBuV/m	Margin dBuV/m
44.348	17.56	1.32	0.00	18.88	30.00	11.12
55.383	14.96	1.53	7.97	24.46	30.00	5.54
66.474	12.61	1.72	9.08	23.41	30.00	6.59
77.612	13.22	1.84	6.25	21.31	30.00	8.69
110.761	17.67	2.33	- 3.03	16.97	30.00	13.03
132.978	18.82	2.58	2.30	23.70	30.00	6.30
177.202	20.71	2.97	- 2.68	21.00	30.00	9.00
221.539	20.34	3.35	- 2.01	21.68	30.00	8.32
265.846	23.13	3.79	- 0.81	26.11	37.00	10.89
310.129	13.30	4.20	- 0.11	17.39	37.00	19.61
354.446	14.97	4.46	0.44	19.87	37.00	17.13
443.073	16.23	5.14	0.92	22.29	37.00	14.71
487.323	16.99	5.48	- 0.81	21.66	37.00	15.34
531.674	18.55	5.78	0.69	25.02	37.00	11.98
575.982	18.65	6.11	2.44	27.20	37.00	9.80

Remark : All readings are Quasi-Peak values.

4. MODIFICATION TO EUT

1. Add a ferrite bead core at drain of Q911.
2. Add a ferrite bead core at J047.
3. Add two ferrite bead core at R955.
4. Add two ferrite bead core between L901 & CN901 in series.
5. Add a ferrite bead core at C418.
6. Add a ferrite bead core at C419.
7. Add two wires from CRT to main board.
8. Add three pcs 10pF bypass capacitors at Pin 18, 20, 24 of IC 801.

5. DEVIATION TO TEST SPECIFICATIONS

【 NONE 】