# APPLICATION FOR CERTIFICATION

On Behalf of

Philips Electronics Industries (Taiwan) Ltd.

Flat Panel Color Monitor

Model No.: 320WN6

FCC ID : A3KM145

Brand: PHILIPS

Prepared for: Philips Electronics Industries (Taiwan) Ltd.

5, Tze Chiang 1 Rd, Chungli Ind. Park, Chungli, Taoyuan Hsien, Taiwan, R.O.C.

Prepared By: AUDIX Corporation

Technical Division EMC Department No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei County, Taiwan, R.O.C.

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 File Number
 : EM940776

 Report Number
 : EM-F940162

 Date of Test
 : Jul. 05 ~ 07, 2005

 Date of Report
 : Jul. 19, 2005

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# TEST REPORT CERTIFICATION

Applicant : Philips Electronics Industries (Taiwan) Ltd.

Manufacturer : Philips Electronics Industries (Taiwan) Ltd.

Factory #1 : Skyway (Dong Guan) Monitor Factory

Factory #2 : Philips Consumer Electronics Co., of Suzhou Ltd.

Factory #3 : Philips Ltd. Assembly Centre Hungary

EUT Description : Flat Panel Color Monitor

FCC ID : A3KM145

(A) MODEL NO. : 320WN6(B) SERIAL NO. : TY0405196(C) BRAND NAME : PHILIPS

(D) POWER SUPPLY : AC 100-240V~ 60-50Hz

(E) TEST VOLTAGE : AC 120V/60Hz

#### Measurement Standard Used:

FCC CFR 47 Part 15 Subpart B/Jan. 2005 and CISPR 22/1997 ANSI C63.4-2003

The device described above was tested by AUDIX Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 Subpart B with the provisions of sections 15.107(a) and 15.109(g) Class B limits both conducted and radiated emission.

The measurement results are contained in this test report and AUDIX Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Corporation.

Date of Test: Jul.  $05 \sim 07$ , 2005

Prepared by: Jina I chang Jul. 21, >005

(Tina Huang/Assistant)

Test Engineer: Tony Lee Jul. >> . > out

(Tony Lee/Section Manager)

Approved & Authorized Signer: Klon Kin Jul. 22 2005

(Leon Liu/Senior Manager)

### 1. GENERAL INFORMATION

### 1.1. Description of Device (EUT)

Description : Flat Panel Color Monitor

Model Number : 320WN6

Serial Number : TY0405196

FCC ID. : A3KM145

Brand : PHILIPS

Applicant : Philips Electronics Industries (Taiwan) Ltd.

5, Tze Chiang 1 Rd, Chungli Ind. Park, Chungli, Taoyuan Hsien, Taiwan, R.O.C.

Manufacturer : Philips Electronics Industries (Taiwan) Ltd.

5, Tze Chiang 1 Road, Chungli Industrial Park P.O. Box 123, Chungli, Taoyuan, Taiwan, R.O.C

Factory #1 : Skyway (Dong Guan) Monitor Factory

Industrial Zone, Da Ling Shan Town, Dong Guan

City, Guang Dong, China

Factory #2 : Philips Consumer Electronics Co., of Suzhou Ltd.

No. 161, Zhujiang Road, New District, Suzhou

215011, China

Factory #3 : Philips Ltd. Assembly Centre Hungary

Holland Fasor 6. PF 204, H-8002 Szekesfehervar,

Hungary

Scanning Frequency : Horizontal: 30-63kHz

Vertical: 50-76Hz

Max Resolution : 1360\*768/60Hz

LCD Panel : LPL, M/N LC320W01

D-Sub Data Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

DVI Data Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

Audio Cable : Non-Shielded, Detachable, 1.5m

Power Cord : Non-Shielded, Detachable, 1.8m (3 pin)

Data of Receipt of Sample : Jun. 27, 2005

Date of Test : Jul.  $05 \sim 07, 2005$ 

### 1.2. Tested Supporting System Details

#### 1.2.1. PC SYSTEM

Model Name : Dell Dim 4600PC

Model Number : DMC
Serial Number : 5DYW915
FCC ID. : By DoC
BSMI ID : R33002
Manufacturer : DELL

VGA Card : Nvidia FX5200

Power Cord : Non-shielded, Detachable, 1.8m

#### 1.2.2. KEYBOARD

Model Number : SK-8110
Serial Number : N/A
BSMI ID : T3A002
FCC ID : By DoC
Manufacturer : DELL

Data Cable : Non-Shielded, Undetachable, 2m

#### 1.2.3. MOUSE

Model Number : MO71KC
Serial Number : 406012041
BSMI ID : R41108
FCC ID : By DoC
Manufacturer : DELL

Data Cable : Non-Shielded, Undetachable, 2m

### 1.2.4. 15" LCD MONITOR (TO EUT)

Model Number : D5063

Serial Number : CN206A6574 FCC ID : ARSLM562H

BSMI ID : R33037

Manufacturer : Top Victory Electronics (Fujian) Co., Ltd.

Data Cable (D-Sub) : Shielded, Detachable, 1.8m

Bonded two ferrite cores

AC Adapter : Delta, M/N ADP-40TB

BSMI ID 3892D142

Cord: Shielded, Undetachable, 1.8m

Bonded a ferrite core

Power Cord : Non-Shielded, Detachable, 1.8m

#### 1.2.5. TV PATTERN GENERATOR (TO EUT)

Model Number : PM 5418 TDSI+Y/C

Serial Number : LO646252 Manufacturer : Philips

Next Cal. Date : Sep. 15, 2005

BNC Cable : Shielded, Detachable, 2.1 m
Power Cord : Non-Shielded, Detachable, 1.8 m

#### 1.2.6. EARPHONE (TO EUT)

Model Number : N/A
Serial Number : N/A
Manufacturer : Panasonic

Earphone Cable : Non-Shielded, Undetachable, 1.1m

#### 1.2.7. DOT MATRIX PRINTER

Model Number : KX-P2135 Serial Number : 8DMCNC02116 FCC ID : ACJ5Z6KX-P2135

BSMI ID : 3872A371

Manufacturer
Data Cable
Shielded, Detachable, 1.5m
Power Cord
Non-Shielded, Detachable, 1.8m

#### 1.2.8. MODEM

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

#### 1.2.9. WALKMAN

Model Number : RQ-P35LT-K Serial Number : HA08496 Manufacturer : Panasonic

Data Cable : Non-Shielded, Detachable, 1.8m

#### 1.2.10. MICROPHONE

Model Number : HD-303 Serial Number : N/A

Manufacturer : Multimedia Microphone System
Data Cable : Non-Shielded, Undetachable, 2.2m

#### 1.2.11. MICRO VAULT

Model Number : USM128U2

Serial Number : N/A
FCC ID : By DoC
BSMI ID : D33021
Manufacturer : SONY

Data Cable : Shielded, Detachable, 1.8m

# 1.3. Test Facility

Name of Firm : Audix Corporation

**Technical Division EMC Department** No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang, Taipei County 24443, Taiwan, R.O.C.

Test Facility & Location : No. 5 Shielded Room

No. 67-4, Tin-Fu Tsun, Lin-Kou Hsiang, Taipei County 24443, Taiwan, R.O.C.

No. 4 Open Area Test Site

No. 67-4, Tin-Fu Tsun, Lin-Kou Hsiang, Taipei County 24443, Taiwan, R.O.C.

Feb. 03, 2003 Re-File on

Federal Communication Commission

Registration Number: 90991

NVLAP Lab. Code : 200077-0

(NVLAP is a NATA accredited body under Mutual Recognition Agreement)

DAR-Registration No. : DAT-P-145/03-01

# 1.4. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)		
Conduction Test	150kHz~30MHz	±1.73dB		
Radiation Test	30MHz~300MHz	±2.99dB		
(Distance: 10m)	300MHz~1000MHz	±2.73dB		

Remark: Uncertainty =  $ku_c(y)$ 

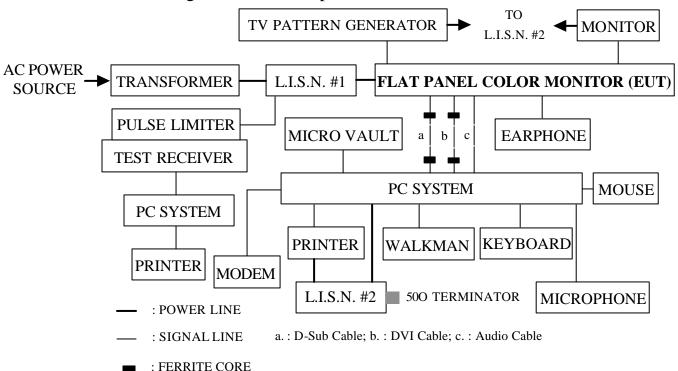
### 2. POWERLINE CONDUCTED EMISSION MEASUREMENT

### 2.1. Test Equipment

The following test equipment was used during the powerline conducted emission measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCS30	100039	Jun. 23, 05'	Jun. 22, 06'
2.	L.I.S.N. #1	Kyoritsu	KNW-407	8-1539-2	Nov. 18, 04'	Nov. 17, 05'
3.	L.I.S.N. #2	Kyoritsu	KNW-407	8-1539-3	Nov. 18, 04'	Nov. 17, 05'
4.	Pulse Limiter	R & S	ESH3-Z2	100040	Apr. 09, 05'	Apr. 08, 06'

### 2.2. Block Diagram of Test Setup



### 2.3. Powerline Conducted Emission Limit (15.107, Class B)

Frequency	Maximum RF Line Voltage		
	Quasi-Peak Level	Average Level	
150kHz ~ 500kHz	66 ~ 56 dBµV	56 ~ 46 dBμV	
500kHz ~ 5MHz	56 dBμV	46 dBμV	
5MHz ~ 30MHz	60 dBμV	50 dBμV	

Remark: 1. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2. The lower limit applies at the band edges.

### 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. Flat Panel Color Monitor (EUT)

Model Number : 320WN6
Serial Number : TY0405196
FCC ID : A3KM145
Brand : PHILIPS

Manufacturer : Philips Electronics Industries (Taiwan) Ltd.

Scanning Frequency : Horizontal: 30-63kHz

Vertical: 50-76Hz

Max Resolution : 1360\*768/60Hz

LCD Panel : LPL, M/N LC320W01 D-Sub Data Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

DVI Data Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

Audio Cable : Non-Shielded, Detachable, 1.5m

Power Cord : Non-Shielded, Detachable, 1.8m (3 pin)

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. The PC System read data from disk.
- 2.5.4. The PC System running the EMI self-test program "H-V1.8" by Windows XP and the screen of EUT displayed "H" pattern by EUT's resolution via D-Sub or DVI port (EUT input).
- 2.5.5. The PC System sent "H" pattern to the EUT via DVI Port (EUT input) and the TV Pattern Generator sent the "Color Bar" image to the (EUT) via BNC port (EUT input) at the same time during PIP mode testing.
- 2.5.6. The EUT sent character "H" to the 15" LCD Monitor via D-Sub port (EUT output) during all testing.
- 2.5.7. The PC System read data from FDD and then wrote data into FDD, same operation from HDD, Modem.
- 2.5.8. The other peripheral devices were driven and operated in turn during all testing.

#### 2.6. Test Procedure

The EUT was put on table which was above the ground by 80cm and its power cord 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 C63.4-2003 on conducted measurement.

The bandwidth of the R&S Test Receiver ESCS30 was set at 9kHz.

The frequency range from 150kHz to 30MHz was pre-scanned with a peak detector.

All the final readings from test receiver were measured with Quasi-Peak detector and Average detector. (Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

#### 2.7. Conducted Emission Measurement Results

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

The EUT with following test modes were tested during the conducted testing and all the test results are listed in the following pages.

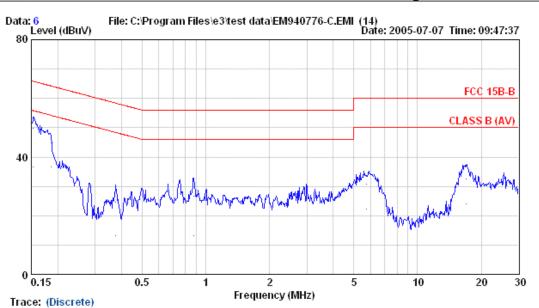
EUT: Flat Panel Color Monitor M/N: 320WN6

Test Date: Jul. 07, 2005 Temperature: 30 Humidity: 69%

The details of test modes are as follows:

Mode	Input	Display, Resolution/Frequency	Reference Test Data No.		
Wiode	mput	2 10,111, 110001011011111011010	Neutral	Line	
1.		"H" Pattern, 640*480/60Hz, 31kHz	# 6	# 5	
2.	D-Sub	"H" Pattern, 1280*768/60Hz, 48kHz	# 3	# 4	
3.		"H" Pattern, 1360*768/60Hz, 48kHz	# 2	# 1	
4.		"H" Pattern, 640*480/60Hz, 31kHz	# 7	# 8	
5.	DVI	"H" Pattern, 1280*768/60Hz, 48kHz	# 10	# 9	
6.		"H" Pattern, 1360*768/60Hz, 48kHz	# 11	# 12	
7.	DVI + BNC	PIP- "H" Pattern & "Color Bar" Image	# 14	# 13	





Site : NO.5 Shielded room Data : 6 Condition : KNW-407(8-1539-3) Phase : NEUTRAL

Condition : KNW-407(8-153 Limit : FCC 15B-B

Env. / Ins. : 30\*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

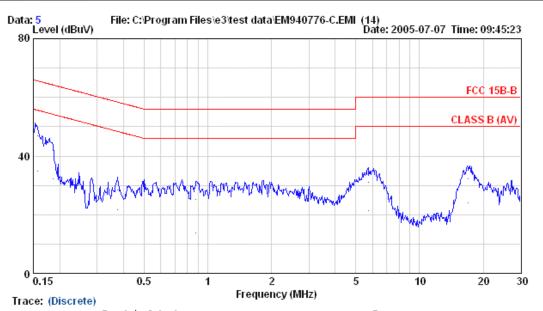
Power Rating : 120Vac / 60Hz

Test Mode : 640\*480 / 60Hz;31KHz(D-SUB)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.153	0.20	0.20	49.48	49.88	65.84	15.96	QP
2	0.153	0.20	0.20	36.25	36.65	55.84	19.19	AVERAGE
3	0.186	0.15	0.20	44.37	44.72	64.21	19.49	QP
4	0.186	0.15	0.20	36.31	36.66	54.21	17.55	AVERAGE
5	0.374	0.10	0.20	24.38	24.68	58.41	33.73	QP
6	0.374	0.10	0.20	13.03	13.33	48.41	35.08	AVERAGE
7	0.875	0.10	0.20	26.33	26.63	56.00	29.37	QP
8	0.875	0.10	0.20	12.77	13.07	46.00	32.93	AVERAGE
9	5.749	0.13	0.60	30.05	30.78	60.00	29.22	QP
10	5.749	0.13	0.60	21.54	22.27	50.00	27.73	AVERAGE
11	16.929	0.24	0.70	31.60	32.54	60.00	27.46	QP
12	16.929	0.24	0.70	23.04	23.98	50.00	26.02	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 5 Condition : KNW-407(8-1539-3) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

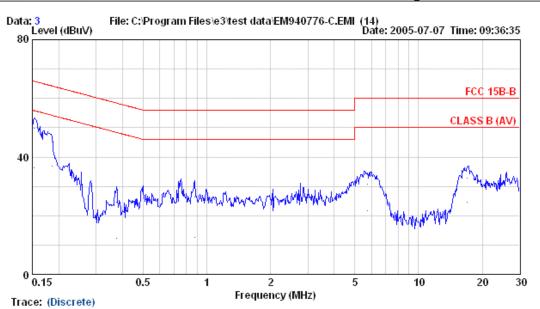
Power Rating : 120Vac / 60Hz

Test Mode : 640\*480 / 60Hz;31KHz(D-SUB)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.157	0.20	0.20	46.61	47.01	65.64	18.63	QP
2	0.157	0.20	0.20	34.33	34.73	55.64	20.91	AVERAGE
3	0.185	0.20	0.20	41.41	41.81	64.24	22.43	QP
4	0.185	0.20	0.20	31.75	32.15	54.24	22.09	AVERAGE
5	0.373	0.12	0.20	27.97	28.29	58.43	30.14	QP
6	0.373	0.12	0.20	21.38	21.70	48.43	26.73	AVERAGE
7	0.874	0.10	0.20	24.83	25.13	56.00	30.87	QP
8	0.874	0.10	0.20	13.35	13.65	46.00	32.35	AVERAGE
9	5.745	0.13	0.60	30.24	30.97	60.00	29.03	QP
10	5.745	0.13	0.60	20.79	21.52	50.00	28.48	AVERAGE
11	16.931	0.24	0.70	31.34	32.28	60.00	27.72	QP
12	16.931	0.24	0.70	23.04	23.98	50.00	26.02	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 3

Condition : KNW-407(8-1539-3) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

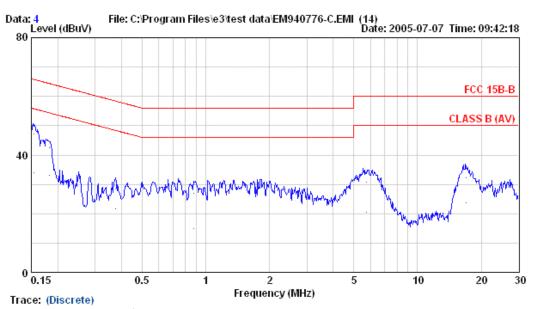
Power Rating : 120Vac / 60Hz

Test Mode : 1280 \* 768 / 60 Hz; 48 KHz (D-SUB)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.153	0.20	0.20	49.50	49.90	65.82	15.92	QP
2	0.153	0.20	0.20	35.97	36.37	55.82	19.45	AVERAGE
3	0.186	0.15	0.20	44.75	45.10	64.23	19.13	QP
4	0.186	0.15	0.20	36.44	36.79	54.23	17.44	AVERAGE
5	0.376	0.10	0.20	24.42	24.72	58.37	33.65	QP
6	0.376	0.10	0.20	12.04	12.34	48.37	36.03	AVERAGE
7	0.874	0.10	0.20	26.06	26.36	56.00	29.64	QP
8	0.874	0.10	0.20	12.30	12.60	46.00	33.40	AVERAGE
9	5.751	0.13	0.60	30.01	30.74	60.00	29.26	QP
10	5.751	0.13	0.60	21.00	21.73	50.00	28.27	AVERAGE
11	16.934	0.24	0.70	31.78	32.72	60.00	27.28	QP
12	16.934	0.24	0.70	23.66	24.60	50.00	25.40	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 4 Condition : KNW-407(8-1539-3) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

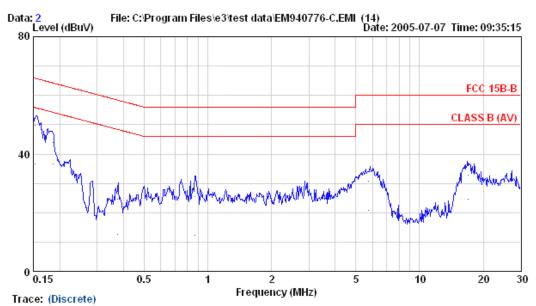
Power Rating : 120Vac / 60Hz

Test Mode : 1280 \* 768 / 60Hz; 48KHz(D-SUB)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	46.87	47.27	65.80	18.53	QP
2	0.154	0.20	0.20	33.52	33.92	55.80	21.88	AVERAGE
3	0.183	0.20	0.20	42.23	42.63	64.36	21.73	QP
4	0.183	0.20	0.20	32.73	33.13	54.36	21.23	AVERAGE
5	0.374	0.12	0.20	28.13	28.45	58.42	29.97	QP
6	0.374	0.12	0.20	21.28	21.60	48.42	26.82	AVERAGE
7	0.877	0.10	0.20	26.66	26.96	56.00	29.04	QP
8	0.877	0.10	0.20	14.75	15.05	46.00	30.95	AVERAGE
9	5.753	0.13	0.60	30.09	30.82	60.00	29.18	QP
10	5.753	0.13	0.60	19.86	20.59	50.00	29.41	AVERAGE
11	16.935	0.24	0.70	31.29	32.23	60.00	27.77	QP
12	16.935	0.24	0.70	22.70	23.64	50.00	26.36	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 2

Condition : KNW-407(8-1539-3) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 30\*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

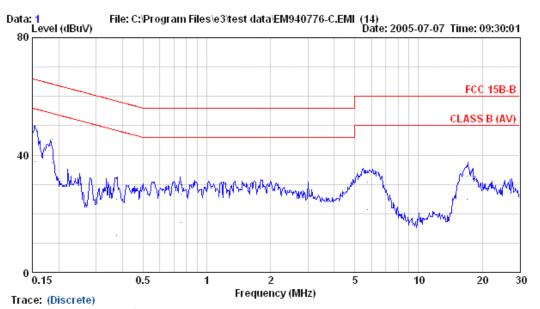
Power Rating : 120Vac / 60Hz

Test Mode : 1360 \* 768 / 60Hz; 48KHz(D-SUB)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.153	0.20	0.20	49.34	49.74	65.85	16.11	QP
2	0.153	0.20	0.20	36.31	36.71	55.85	19.14	AVERAGE
3	0.187	0.15	0.20	43.68	44.03	64.18	20.15	QP
4	0.187	0.15	0.20	36.18	36.53	54.18	17.65	AVERAGE
5	0.376	0.10	0.20	24.27	24.57	58.37	33.80	QP
6	0.376	0.10	0.20	12.31	12.61	48.37	35.76	AVERAGE
7	0.871	0.10	0.20	25.27	25.57	56.00	30.43	QP
8	0.871	0.10	0.20	11.89	12.19	46.00	33.81	AVERAGE
9	5.751	0.13	0.60	30.01	30.74	60.00	29.26	QP
10	5.751	0.13	0.60	20.20	20.93	50.00	29.07	AVERAGE
11	16.936	0.24	0.70	31.94	32.88	60.00	27.12	QP
12	16.936	0.24	0.70	23.59	24.53	50.00	25.47	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 1 Condition : KNW-407(8-1539-3) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

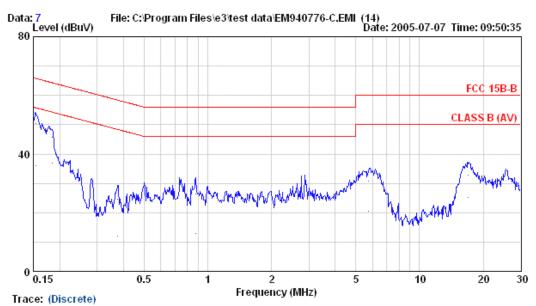
Power Rating : 120Vac/60Hz

Test Mode : 1360 \* 768 / 60Hz; 48KHz(D-SUB)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	49.80	50.20	65.78	15.58	QP
2	0.154	0.20	0.20	37.34	37.74	55.78	18.04	AVERAGE
3	0.185	0.20	0.20	44.95	45.35	64.24	18.89	QP
4	0.185	0.20	0.20	37.09	37.49	54.24	16.75	AVERAGE
5	0.375	0.10	0.20	24.64	24.94	58.39	33.45	QP
6	0.375	0.10	0.20	12.17	12.47	48.39	35.92	AVERAGE
7	0.754	0.10	0.20	26.31	26.61	56.00	29.39	QP
8	0.754	0.10	0.20	16.71	17.01	46.00	28.99	AVERAGE
9	5.751	0.13	0.60	30.05	30.78	60.00	29.22	QP
10	5.751	0.13	0.60	20.52	21.25	50.00	28.75	AVERAGE
11	16.934	0.24	0.70	31.92	32.86	60.00	27.14	QP
12	16.934	0.24	0.70	24.03	24.97	50.00	25.03	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 7

Condition : KNW-407(8-1539-3) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

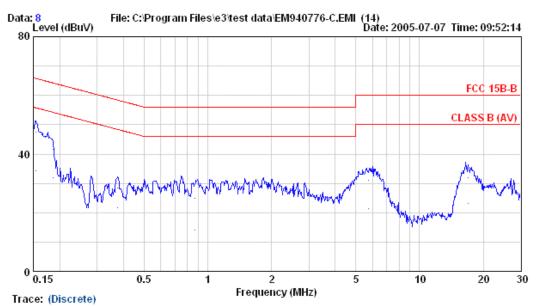
Power Rating : 120Vac / 60Hz

Test Mode : 640\*480 / 60Hz;31KHz(DVI)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	49.92	50.32	65.80	15.48	QP
2	0.154	0.20	0.20	35.60	36.00	55.80	19.80	AVERAGE
3	0.185	0.15	0.20	45.33	45.68	64.27	18.59	QP
4	0.185	0.15	0.20	36.71	37.06	54.27	17.21	AVERAGE
5	0.376	0.10	0.20	24.46	24.76	58.36	33.60	QP
6	0.376	0.10	0.20	11.76	12.06	48.36	36.30	AVERAGE
7	0.873	0.10	0.20	26.08	26.38	56.00	29.62	QP
8	0.873	0.10	0.20	12.71	13.01	46.00	32.99	AVERAGE
9	5.749	0.13	0.60	29.91	30.64	60.00	29.36	QP
10	5.749	0.13	0.60	19.74	20.47	50.00	29.53	AVERAGE
11	16.934	0.24	0.70	31.74	32.68	60.00	27.32	QP
12	16.934	0.24	0.70	24.17	25.11	50.00	24.89	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 8 Condition : KNW-407(8-1539-3) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

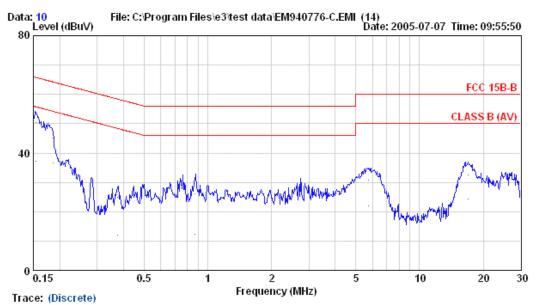
Power Rating : 120Vac / 60Hz

Test Mode : 640\*480 / 60Hz;31KHz(DVI)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	47.19	47.59	65.80	18.21	QP
2	0.154	0.20	0.20	33.89	34.29	55.80	21.51	AVERAGE
3	0.186	0.20	0.20	41.25	41.65	64.23	22.58	QP
4	0.186	0.20	0.20	31.63	32.03	54.23	22.20	AVERAGE
5	0.374	0.10	0.20	28.09	28.39	58.40	30.01	QP
6	0.374	0.10	0.20	21.33	21.63	48.40	26.77	AVERAGE
7	0.873	0.10	0.20	24.63	24.93	56.00	31.07	QP
8	0.873	0.10	0.20	13.83	14.13	46.00	31.87	AVERAGE
9	5.750	0.13	0.60	30.24	30.97	60.00	29.03	QP
10	5.750	0.13	0.60	20.63	21.36	50.00	28.64	AVERAGE
11	16.939	0.24	0.70	30.87	31.81	60.00	28.19	QP
12	16.939	0.24	0.70	22.15	23.09	50.00	26.91	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 10 Condition : KNW-407(8-1539-3) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

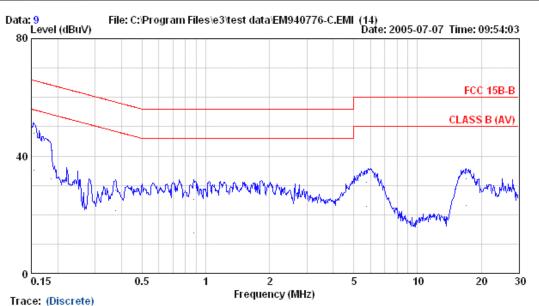
Power Rating : 120Vac / 60Hz

Test Mode : 1280 \* 768 / 60 Hz; 48 KHz (DVI)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	50.06	50.46	65.76	15.30	QP
2	0.154	0.20	0.20	36.71	37.11	55.76	18.65	AVERAGE
3	0.186	0.15	0.20	44.81	45.16	64.24	19.08	QP
4	0.186	0.15	0.20	36.18	36.53	54.24	17.71	AVERAGE
5	0.375	0.10	0.20	24.72	25.02	58.39	33.37	QP
6	0.375	0.10	0.20	11.83	12.13	48.39	36.26	AVERAGE
7	0.872	0.10	0.20	25.72	26.02	56.00	29.98	QP
8	0.872	0.10	0.20	12.03	12.33	46.00	33.67	AVERAGE
9	5.751	0.13	0.60	29.97	30.70	60.00	29.30	QP
10	5.751	0.13	0.60	21.30	22.03	50.00	27.97	AVERAGE
11	16.933	0.24	0.70	31.70	32.64	60.00	27.36	QP
12	16.933	0.24	0.70	23.35	24.29	50.00	25.71	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 9 Condition : KNW-407(8-1539-3) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

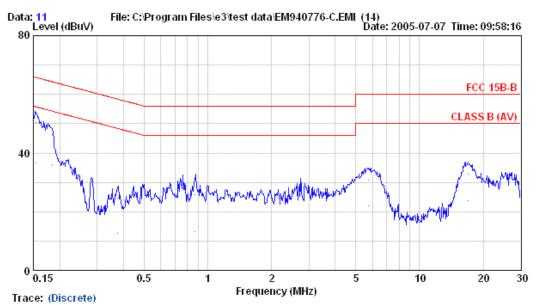
Power Rating : 120Vac / 60Hz

Test Mode : 1280 \* 768 / 60 Hz; 48 KHz (DVI)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	47.36	47.76	65.79	18.03	QP
2	0.154	0.20	0.20	34.91	35.31	55.79	20.48	AVERAGE
3	0.186	0.20	0.20	41.37	41.77	64.23	22.46	QP
4	0.186	0.20	0.20	31.97	32.37	54.23	21.86	AVERAGE
5	0.374	0.10	0.20	28.01	28.31	58.41	30.10	QP
6	0.374	0.10	0.20	21.18	21.48	48.41	26.93	AVERAGE
7	0.874	0.10	0.20	25.03	25.33	56.00	30.67	QP
8	0.874	0.10	0.20	13.58	13.88	46.00	32.12	AVERAGE
9	5.749	0.13	0.60	30.36	31.09	60.00	28.91	QP
10	5.749	0.13	0.60	22.10	22.83	50.00	27.17	AVERAGE
11	16.934	0.24	0.70	31.17	32.11	60.00	27.89	QP
12	16.934	0.24	0.70	22.15	23.09	50.00	26.91	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 11 Condition : KNW-407(8-1539-3) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

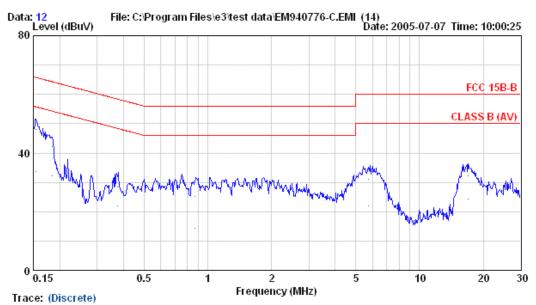
Power Rating : 120Vac / 60Hz

Test Mode : 1360 \* 768 / 60 Hz; 48 KHz (DVI)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	49.94	50.34	65.79	15.45	QP
2	0.154	0.20	0.20	36.31	36.71	55.79	19.08	AVERAGE
3	0.183	0.15	0.20	45.86	46.21	64.33	18.12	QP
4	0.183	0.15	0.20	35.75	36.10	54.33	18.23	AVERAGE
5	0.375	0.10	0.20	24.25	24.55	58.38	33.83	QP
6	0.375	0.10	0.20	12.17	12.47	48.38	35.91	AVERAGE
7	0.871	0.10	0.20	25.62	25.92	56.00	30.08	QP
8	0.871	0.10	0.20	12.77	13.07	46.00	32.93	AVERAGE
9	5.752	0.13	0.60	29.93	30.66	60.00	29.34	QP
10	5.752	0.13	0.60	21.30	22.03	50.00	27.97	AVERAGE
11	16.936	0.24	0.70	31.92	32.86	60.00	27.14	QP
12	16.936	0.24	0.70	22.88	23.82	50.00	26.18	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 12 Condition : KNW-407(8-1539-3) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 30\*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

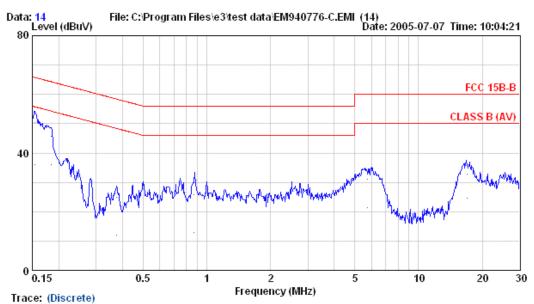
Power Rating : 120Vac / 60Hz

Test Mode : 1360 \* 768 / 60 Hz; 48 KHz (DVI)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	47.52	47.92	65.79	17.87	QP
2	0.154	0.20	0.20	33.38	33.78	55.79	22.01	AVERAGE
3	0.185	0.20	0.20	41.82	42.22	64.25	22.03	QP
4	0.185	0.20	0.20	31.75	32.15	54.25	22.10	AVERAGE
5	0.375	0.10	0.20	28.17	28.47	58.39	29.92	QP
6	0.375	0.10	0.20	21.76	22.06	48.39	26.33	AVERAGE
7	0.873	0.10	0.20	24.95	25.25	56.00	30.75	QP
8	0.873	0.10	0.20	14.11	14.41	46.00	31.59	AVERAGE
9	5.753	0.13	0.60	30.44	31.17	60.00	28.83	QP
10	5.753	0.13	0.60	21.20	21.93	50.00	28.07	AVERAGE
11	16.936	0.24	0.70	31.19	32.13	60.00	27.87	QP
12	16.936	0.24	0.70	23.43	24.37	50.00	25.63	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 14 Condition : KNW-407(8-1539-3) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

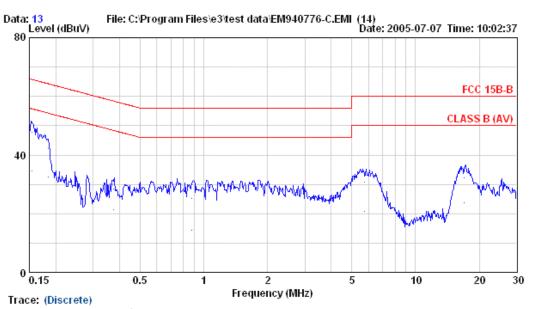
Power Rating : 120Vac / 60Hz

Test Mode : PIE

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	49.86	50.26	65.80	15.54	QP
2	0.154	0.20	0.20	35.60	36.00	55.80	19.80	AVERAGE
3	0.185	0.15	0.20	45.29	45.64	64.27	18.63	QP
4	0.185	0.15	0.20	35.67	36.02	54.27	18.25	AVERAGE
5	0.375	0.10	0.20	24.48	24.78	58.38	33.60	QP
6	0.375	0.10	0.20	11.76	12.06	48.38	36.32	AVERAGE
7	0.871	0.10	0.20	25.53	25.83	56.00	30.17	QP
8	0.871	0.10	0.20	12.58	12.88	46.00	33.12	AVERAGE
9	5.753	0.13	0.60	30.28	31.01	60.00	28.99	QP
10	5.753	0.13	0.60	20.79	21.52	50.00	28.48	AVERAGE
11	16.932	0.24	0.70	31.76	32.70	60.00	27.30	QP
12	16.932	0.24	0.70	23.59	24.53	50.00	25.47	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.





Site : NO.5 Shielded room Data : 13 Condition : KNW-407(8-1539-3) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 30 \*C / 69% ESCS 30 Engineer: Tony Chen

EUT : Flat Panel Color Monitor M/N:320WN6

Power Rating : 120Vac / 60Hz

Test Mode : PIE

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.154	0.20	0.20	47.48	47.88	65.77	17.89	QP
2	0.154	0.20	0.20	34.20	34.60	55.77	21.17	AVERAGE
3	0.185	0.20	0.20	41.84	42.24	64.26	22.02	QP
4	0.185	0.20	0.20	32.08	32.48	54.26	21.78	AVERAGE
5	0.374	0.12	0.20	28.01	28.33	58.42	30.09	QP
6	0.374	0.12	0.20	21.08	21.40	48.42	27.02	AVERAGE
7	0.874	0.10	0.20	24.95	25.25	56.00	30.75	QP
8	0.874	0.10	0.20	14.16	14.46	46.00	31.54	AVERAGE
9	5.746	0.13	0.60	30.14	30.87	60.00	29.13	QP
10	5.746	0.13	0.60	20.03	20.76	50.00	29.24	AVERAGE
11	16.939	0.24	0.70	31.15	32.09	60.00	27.91	QP
12	16.939	0.24	0.70	22.88	23.82	50.00	26.18	AVERAGE

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.

### 3. RADIATED EMISSION MEASUREMENT

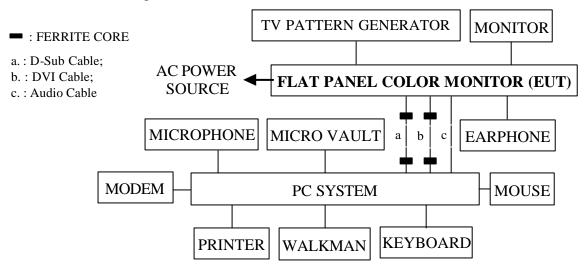
# 3.1. Test Equipment

The following test equipment was used during the radiated emission measurement: (No. 4 Open Area Test Site)

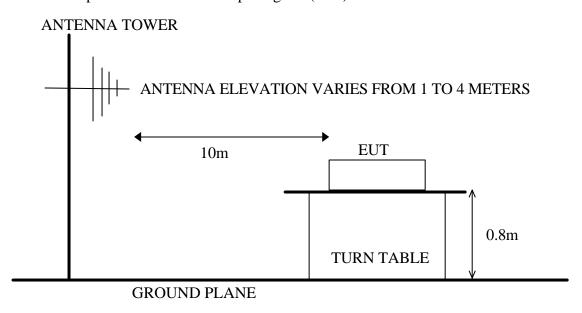
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8590L	3624A01446	N/A	N/A
2.	Test Receiver	R & S	ESVS10	845165/018	Jun. 09, 05'	Jun. 08, 06'
3.	Amplifier	HP	8447D	1937A02488	N/A	N/A
4.	Biconical Antenna	Chase	VBA6106A	1231	Nov. 15, 04'	Nov. 14, 05'
5.	Log Periodic Antenna	Chase	UPA6109	1020	Nov. 15, 04'	Nov. 14, 05'

# 3.2. Block Diagram of Test Setup

3.2.1. Block Diagram of connection between EUT and simulators



### 3.2.2. Open Area Test Site Setup Diagram (10m)



### 3.3. Radiation Limit (15.109/CISPR 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:

Ī	FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS
	(MHz)	(Meters)	$(dB\mu V/m)$
	30 ~ 230	10	30
Г	230 ~ 1000	10	37

Note:

- The tighter limit applies at the edge between two frequency bands.
- 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 the same as those used in conducted measurement. Please refer to 2.4.

# 3.5. Operating Condition of EUT

Same as conducted measurement which was listed in 2.5. except the test set up replaced by section 3.2.

#### 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 C63.4-2003 and CISPR 22 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.

All the final readings of measurement from Test Receiver are Quasi-Peak values.

### 3.7. Radiated Emission Measurement Results

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

The EUT with following test modes was tested during the radiated testing and all the test results are listed in the following pages.

EUT: Flat Panel Color Monitor M/N: 320WN6

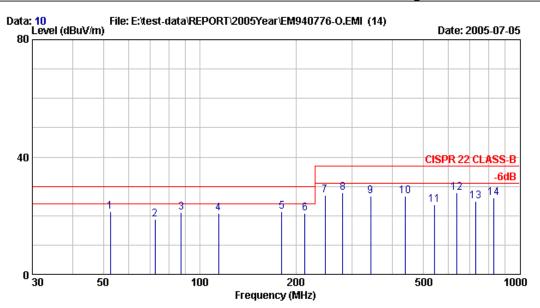
Test Date: Jul. 05, 2005 Temperature: 30 Humidity: 54%

The details of test modes are as follows:

Mode	Input	Display, Resolution/Frequency	Reference To	Reference Test Data No.		
Wiode	трис		Horizontal	Vertical		
1.		"H" Pattern, 640*480/60Hz, 31kHz	# 10	# 9		
2.	D-Sub	"H" Pattern, 1280*768/60Hz, 48kHz	# 7	# 8		
3.		"H" Pattern, 1360*768/60Hz, 48kHz	# 6	# 5		
4.		"H" Pattern, 640*480/60Hz, 31kHz	# 11	# 12		
5.	DVI	"H" Pattern, 1280*768/60Hz, 48kHz	#3	#4		
6.		"H" Pattern, 1360*768/60Hz, 48kHz	# 2	# 1		
7.	DVI + BNC	PIP - "H" Pattern & "Color Bar" Image	# 13	# 14		

mode for maximum detected emission)





: NO.4 Open Site Site no.

Data no. : 10 Ant. pol. : HORIZONTAL Dis. / Ant. : 10m VBA6106A/UPA6109

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

: Flat Panel Color Monitor M/N:320WN6

Power Rating: 120Vac / 60Hz

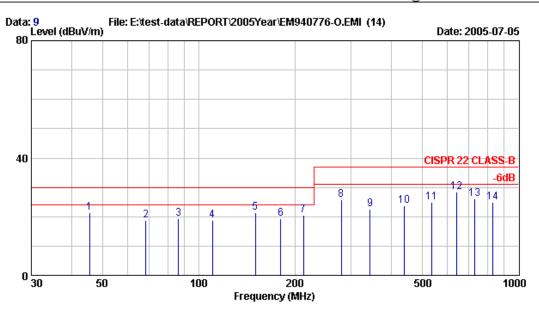
Test Mode : 640\*480/60Hz ; 31KHz (D-SUB)

S/N:TY0405196

	-	Factor	Loss	_			Margin Remark (dB)
1	52.553	15.12	0.77	5.58	21.47	30.00	8.53
2	72.533	13.08	0.89	4.66	18.63	30.00	11.37
3	87.544	15.65	1.00	4.45	21.10	30.00	8.90
4	114.543	18.80	1.10	1.02	20.92	30.00	9.08
5	180.460	21.10	1.50	-1.11	21.49	30.00	8.51
6	213.540	21.51	1.50	-2.20	20.80	30.00	9.20
7	246.553	22.99	1.66	2.23	26.88	37.00	10.12
8	280.457	24.70	1.74	1.53	27.96	37.00	9.04
9	342.453	14.44	2.08	10.00	26.52	37.00	10.48
10	439.454	16.52	2.32	7.68	26.52	37.00	10.48
11	540.553	18.66	2.52	2.49	23.67	37.00	13.33
12	635.435	20.91	2.86	4.10	27.87	37.00	9.13
13	730.143	22.19	3.12	-0.44	24.87	37.00	12.13
14	830.535	24.39	3.35	-1.75	26.00	37.00	11.00

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





Site no. : NO.4 Open Site
Dis. / Ant. : 10m VBA6106A/UPA6109

Data no. : 9 Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

: Flat Panel Color Monitor M/N:320WN6

Power Rating: 120Vac / 60Hz

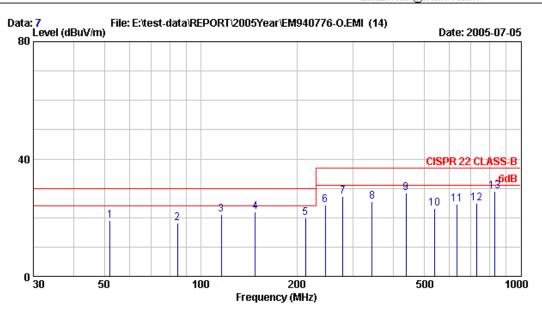
Test Mode : 640\*480/60Hz ; 31KHz (D-SUB)

S/N:TY0405196

	Freq. (MHz)	Factor	Loss	Reading	Emission Level (dB $\mu$ V/m)		_	Remark
1	45.554	17.60	0.71	3.12	21.42	30.00	8.58	
2	68.434	12.68	0.88	5.14	18.70	30.00	11.30	
3	86.543	15.02	0.99	3.34	19.35	30.00	10.65	
4	110.563	17.51	1.11	0.23	18.85	30.00	11.15	
5	150.545	20.48	1.35	-0.50	21.33	30.00	8.67	
6	180.547	21.47	1.50	-3.64	19.32	30.00	10.68	
7	212.563	21.84	1.49	-2.89	20.44	30.00	9.56	
8	279.456	23.45	1.73	0.61	25.80	37.00	11.20	
9	343.556	14.40	2.08	6.10	22.58	37.00	14.42	
10	439.457	16.89	2.32	4.45	23.66	37.00	13.34	
11	536.530	19.26	2.51	3.00	24.77	37.00	12.23	
12	642.453	20.88	2.87	4.69	28.45	37.00	8.55	
13	731.545	22.38	3.13	0.59	26.10	37.00	10.90	
14	828.464	24.26	3.34	-2.64	24.96	37.00	12.04	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





: NO.4 Open Site Site no.

Data no. : 7 Ant. pol. : HORIZONTAL Dis. / Ant. : 10m VBA6106A/UPA6109

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

: Flat Panel Color Monitor M/N:320WN6

Power Rating: 120Vac / 60Hz

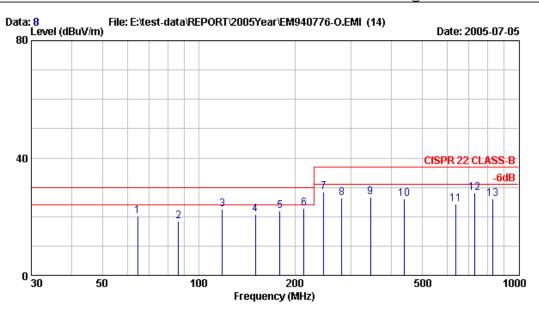
Test Mode : 1280\*768/60Hz ; 48KHz (D-SUB)

S/N:TY0405196

		Ant.	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	$(\mathtt{dB}\mu\mathtt{V})$	$(dB \mu V/m)$	$(dB \mu V/m)$	(dB)	
1	52.156	15.12	0.76	3.22	19.09	30.00	10.91	
2	84.547	15.36	0.98	1.90	18.24	30.00	11.76	
3	116.015	18.92	1.10	1.05	21.07	30.00	8.93	
4	148.298	20.81	1.35	-0.11	22.05	30.00	7.95	
5	213.056	21.51	1.50	-3.01	19.99	30.00	10.01	
6	245.156	22.97	1.64	-0.22	24.39	37.00	12.61	
7	278.121	24.53	1.73	0.89	27.16	37.00	9.84	
8	343.153	14.53	2.08	8.99	25.59	37.00	11.41	
9	438.913	16.52	2.32	9.48	28.31	37.00	8.69	
10	537.544	18.48	2.52	2.02	23.02	37.00	13.98	
11	634.031	20.85	2.86	0.89	24.60	37.00	12.40	
12	731.565	22.24	3.13	-0.40	24.97	37.00	12.03	
13	830.130	24.39	3.35	1.26	29.01	37.00	7.99	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





Site no. : NO.4 Open Site

Data no. : 8 Ant. pol. : VERTICAL Dis. / Ant. : 10m VBA6106A/UPA6109

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

: Flat Panel Color Monitor M/N:320WN6

Power Rating: 120Vac / 60Hz

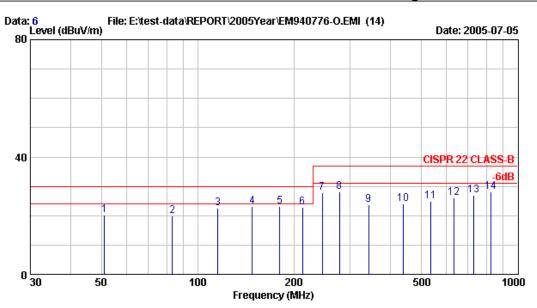
Test Mode : 1280\*768/60Hz ; 48KHz (D-SUB)

S/N:TY0405196

		Ant.	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	$(\mathtt{dB}\mu\mathtt{V})$	$(dB \mu V/m)$	$(dB \mu V/m)$	(dB)	
1	64.450	13.29	0.87	6.14	20.30	30.00	9.70	
2	86.545	15.02	0.99	2.44	18.45	30.00	11.55	
3	118.434	18.01	1.10	3.55	22.66	30.00	7.34	
4	150.435	20.48	1.35	-1.11	20.72	30.00	9.28	
5	179.440	21.40	1.48	-0.79	22.09	30.00	7.91	
6	213.234	21.91	1.50	-0.48	22.93	30.00	7.07	
7	246.145	23.13	1.65	3.55	28.34	37.00	8.66	
8	280.564	23.41	1.74	1.21	26.36	37.00	10.64	
9	345.144	14.56	2.09	10.15	26.80	37.00	10.20	
10	440.544	16.86	2.32	6.89	26.07	37.00	10.93	
11	637.454	20.39	2.87	1.00	24.25	37.00	12.75	
12	731.467	22.38	3.13	2.58	28.09	37.00	8.91	
13	829.543	24.31	3.34	-1.45	26.20	37.00	10.80	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





Site no. : NO.4 Open Site
Dis. / Ant. : 10m VBA6106A/UPA6109

Data no. : 6 Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HAUNG

: Flat Panel Color Monitor M/N:320WN6

Power Rating: 120Vac / 60Hz

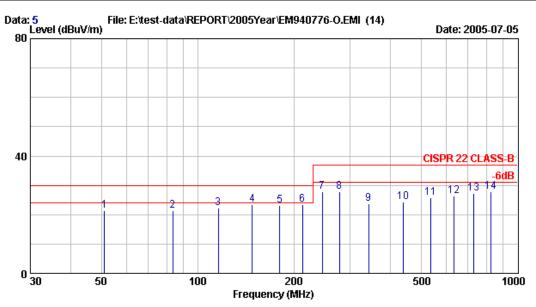
Test Mode : 1360\*768/60Hz ; 48KHz (D-SUB)

S/N:TY0405196

	Freq. (MHz)	Factor	Loss	Reading	Emission Level (dB $\mu$ V/m)		_	Remark
1	51.114	15.50	0.75	3.89	20.14	30.00	9.86	
2	83.485	15.09	0.97	3.81	19.86	30.00	10.14	
3	115.858	18.92	1.10	2.62	22.64	30.00	7.36	
4	148.215	20.81	1.35	1.06	23.22	30.00	6.78	
5	180.607	21.10	1.50	0.57	23.17	30.00	6.83	
6	212.955	21.51	1.50	-0.05	22.95	30.00	7.05	
7	245.322	22.97	1.64	3.26	27.87	37.00	9.13	
8	277.689	24.39	1.73	2.12	28.24	37.00	8.76	
9	342.430	14.44	2.08	7.33	23.85	37.00	13.15	
10	439.512	16.52	2.32	5.24	24.08	37.00	12.92	
11	536.610	18.45	2.51	3.98	24.94	37.00	12.06	
12	633.686	20.74	2.85	2.57	26.16	37.00	10.84	
13	730.783	22.19	3.13	1.67	26.99	37.00	10.01	
14	827.857	24.17	3.34	0.69	28.21	37.00	8.79	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





Site no. : NO.4 Open Site
Dis. / Ant. : 10m VBA6106A/UPA6109

Data no. : 5 Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HAUNG

: Flat Panel Color Monitor M/N:320WN6

Power Rating: 120Vac / 60Hz

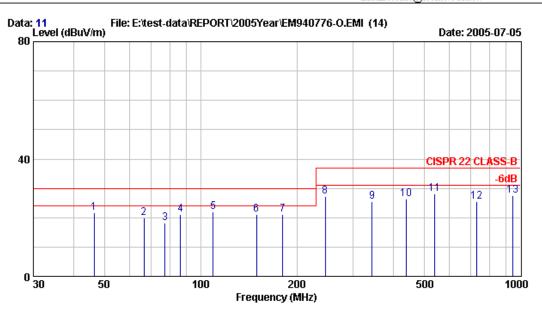
Test Mode : 1360\*768/60Hz ; 48KHz (D-SUB)

S/N:TY0405196

	-	Factor	Loss	Reading	Emission Level (dB $\mu$ V/m)		_	Remark
1	51.159	15.64	0.75	5.15	21.53	30.00	8.47	
2	83.525	14.74	0.97	5.75	21.45	30.00	8.55	
3	115.876	17.76	1.10	3.47	22.33	30.00	7.67	
4	148.252	20.20	1.35	1.89	23.44	30.00	6.56	
5	180.619	21.47	1.50	0.17	23.13	30.00	6.87	
6	212.969	21.91	1.50	0.01	23.41	30.00	6.59	
7	245.336	23.00	1.64	3.27	27.91	37.00	9.09	
8	277.707	24.03	1.73	1.94	27.70	37.00	9.30	
9	342.415	14.30	2.08	7.33	23.71	37.00	13.29	
10	439.511	16.89	2.32	5.10	24.31	37.00	12.69	
11	536.591	19.26	2.51	4.02	25.79	37.00	11.21	
12	633.694	20.20	2.85	3.32	26.37	37.00	10.63	
13	730.760	22.33	3.13	1.79	27.25	37.00	9.75	
14	827.862	24.26	3.34	0.36	27.96	37.00	9.04	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





: NO.4 Open Site Site no.

Data no. : 11 Ant. pol. : HORIZONTAL Dis. / Ant. : 10m VBA6106A/UPA6109

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

: Flat Panel Color Monitor M/N:320WN6

Power Rating: 120Vac / 60Hz

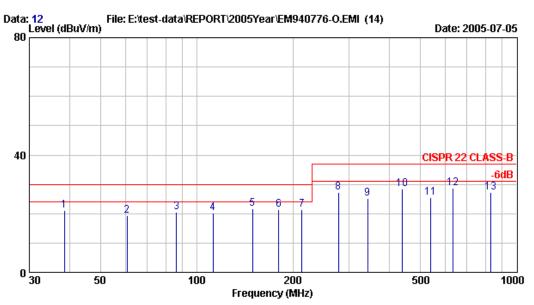
Test Mode : 640\*480/60Hz ; 31KHz (DVI)

S/N:TY0405196

		Ant.	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	$(\mathtt{dB}\mu\mathtt{V})$	$(\mathtt{dB}\mu\mathtt{V/m})$	$(dB \mu V/m)$	(dB)	
1	46.530	17.47	0.71	3.55	21.72	30.00	8.28	
2	66.565	12.65	0.87	6.45	19.97	30.00	10.03	
3	77.443	13.66	0.93	3.54	18.13	30.00	11.87	
4	86.553	15.52	0.99	4.55	21.05	30.00	8.95	
5	109.544	18.58	1.11	2.24	21.92	30.00	8.08	
6	149.435	20.85	1.35	-1.16	21.04	30.00	8.96	
7	180.550	21.10	1.50	-1.59	21.01	30.00	8.99	
8	245.535	22.97	1.65	2.55	27.17	37.00	9.83	
9	343.534	14.53	2.08	8.96	25.57	37.00	11.43	
10	439.457	16.52	2.32	7.55	26.39	37.00	10.61	
11	537.546	18.48	2.52	7.02	28.02	37.00	8.98	
12	730.335	22.19	3.12	0.31	25.62	37.00	11.38	
13	945.335	25.56	3.44	-1.46	27.54	37.00	9.46	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





Site no. : NO.4 Open Site Data no. : 12
Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

EUT : Flat Panel Color Monitor M/N:320WN6

Power Rating : 120Vac / 60Hz

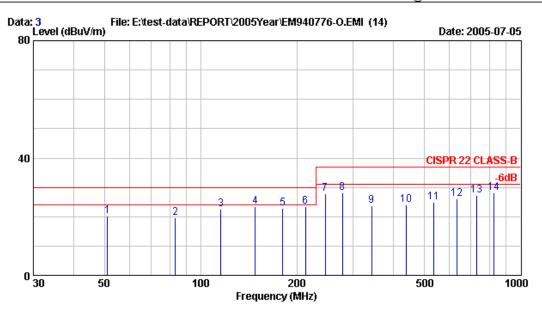
Test Mode : 640\*480/60Hz ; 31KHz (DVI)

S/N:TY0405196

		Ant.	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	$(\mathtt{dB}\mu\mathtt{V})$	$(dB \mu V/m)$	$(dB \mu V/m)$	(dB)	
1	38.546	20.38	0.64	0.16	21.18	30.00	8.82	
2	60.545	14.02	0.85	4.54	19.42	30.00	10.58	
3	86.533	15.02	0.99	4.55	20.56	30.00	9.44	
4	112.566	17.56	1.11	1.55	20.21	30.00	9.79	
5	149.546	20.25	1.35	0.11	21.72	30.00	8.28	
6	180.560	21.47	1.50	-1.47	21.49	30.00	8.51	
7	213.433	21.91	1.50	-2.10	21.30	30.00	8.70	
8	277.557	24.03	1.73	1.57	27.33	37.00	9.67	
9	342.865	14.40	2.08	8.66	25.14	37.00	11.86	
10	440.530	16.86	2.32	9.21	28.39	37.00	8.61	
11	537.457	19.31	2.52	3.56	25.38	37.00	11.62	
12	634.434	20.22	2.86	5.54	28.61	37.00	8.39	
13	830.546	24.42	3.35	-0.45	27.32	37.00	9.68	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





Site no. : NO.4 Open Site Data no. : 3

Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

EUT : Flat Panel Color Monitor M/N:320WN6

Power Rating : 120Vac / 60Hz

Test Mode : 1280\*768/60Hz ; 48KHz (DVI)

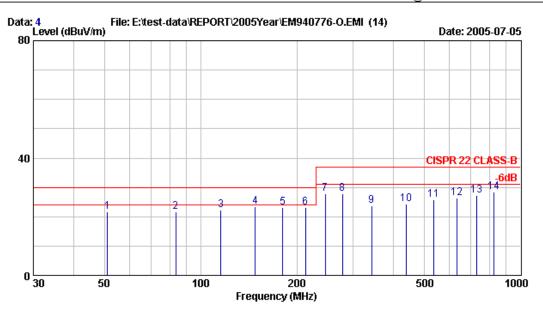
S/N:TY0405196

	-	Factor	Loss	Reading	Emission Level (dB $\mu$ V/m)		_	Remark
1	51.085	15.50	0.75	4.09	20.34	30.00	9.66	
2	83.467	15.09	0.97	3.66	19.71	30.00	10.29	
3	115.847	18.92	1.10	2.66	22.69	30.00	7.31	
4	148.190	20.81	1.35	1.24	23.39	30.00	6.61	
5	180.569	21.10	1.50	0.36	22.96	30.00	7.04	
6	212.922	21.51	1.50	0.49	23.49	30.00	6.51	*
7	245.300	22.97	1.64	3.25	27.86	37.00	9.14	
8	277.663	24.39	1.73	2.09	28.21	37.00	8.79	
9	342.407	14.44	2.08	7.22	23.74	37.00	13.26	
10	439.496	16.52	2.32	5.10	23.94	37.00	13.06	
11	536.594	18.45	2.51	4.06	25.02	37.00	11.98	
12	633.677	20.74	2.85	2.60	26.19	37.00	10.81	
13	730.761	22.19	3.13	2.08	27.40	37.00	9.60	
14	827.856	24.17	3.34	0.74	28.26	37.00	8.74	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

- 2. The emission levels that are 20dB below the official limit are not reported.
- 3. The worst emission was detected at 212.922MHz with corrected signal level of 23.49dBmV/m (limit was 30dBmV/m) when the antenna was at horizontal polarization and was at 4m high and the turn table was at  $165\,^{\circ}$ .
- 4. 0 °is the table front facing the antenna. Degree is calculated from 0 °clockwise facing the antenna.





Site no. : NO.4 Open Site Data no. : 4

Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

EUT : Flat Panel Color Monitor M/N:320WN6

Power Rating : 120Vac / 60Hz

Test Mode : 1280\*768/60Hz ; 48KHz (DVI)

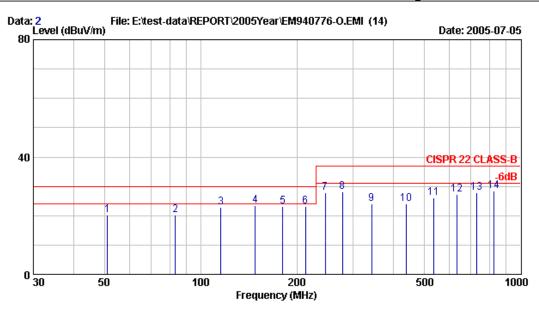
S/N:TY0405196

	Freq.	Factor	Loss	Reading	Emission Level (dB $\mu$ V/m)		_	Remark
1	51.143	15.64	0.75	5.30	21.68	30.00	8.32	
2	83.515	14.74	0.97	5.97	21.67	30.00	8.33	
3	115.869	17.76	1.10	3.51	22.37	30.00	7.63	
4	148.239	20.20	1.35	1.90	23.45	30.00	6.55	*
5	180.598	21.47	1.50	0.15	23.11	30.00	6.89	
6	212.961	21.91	1.50	-0.12	23.28	30.00	6.72	
7	245.318	23.00	1.64	3.15	27.79	37.00	9.21	
8	277.687	24.03	1.73	2.17	27.93	37.00	9.07	
9	342.408	14.30	2.08	7.37	23.75	37.00	13.25	
10	439.506	16.89	2.32	5.08	24.29	37.00	12.71	
11	536.601	19.26	2.51	4.09	25.86	37.00	11.14	
12	633.676	20.20	2.85	3.43	26.47	37.00	10.53	
13	730.771	22.33	3.13	1.73	27.19	37.00	9.81	
14	827.851	24.26	3.34	0.71	28.31	37.00	8.69	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

- 2. The emission levels that are 20dB below the official limit are not reported.
- 3. The worst emission was detected at 148.239MHz with corrected signal level of 23.45dBmV/m (limit was 30dBmV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 305 $^{\circ}$ .
- 4. 0 °is the table front facing the antenna. Degree is calculated from 0 °clockwise facing the antenna.





Site no. : NO.4 Open Site Data no. : 2

Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

EUT : Flat Panel Color Monitor M/N:320WN6

Power Rating : 120Vac / 60Hz

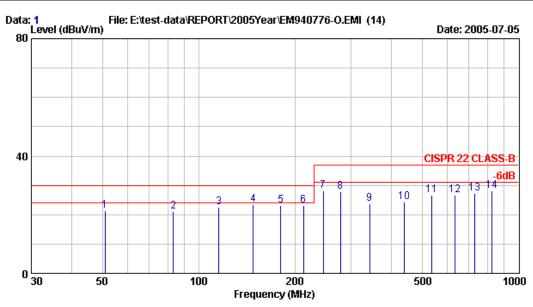
Test Mode : 1360\*768/60Hz ; 48KHz (DVI)

S/N:TY0405196

	-	Factor	Loss	_			Margin Remark (dB)	
1	51.108	15.50	0.75	4.04	20.29	30.00	9.71	
2	83.442	15.09	0.97	4.26	20.31	30.00	9.69	
3	115.835	18.85	1.10	3.04	23.00	30.00	7.00	
4	148.219	20.81	1.35	1.24	23.39	30.00	6.61	
5	180.567	21.10	1.50	0.63	23.23	30.00	6.77	
6	212.936	21.51	1.50	0.15	23.15	30.00	6.85	
7	245.284	22.97	1.64	3.14	27.75	37.00	9.25	
8	277.651	24.39	1.73	2.07	28.19	37.00	8.81	
9	342.373	14.44	2.08	7.46	23.98	37.00	13.02	
10	439.466	16.52	2.32	5.24	24.08	37.00	12.92	
11	536.541	18.45	2.51	4.98	25.94	37.00	11.06	
12	633.634	20.74	2.85	3.53	27.12	37.00	9.88	
13	730.709	22.19	3.13	2.56	27.88	37.00	9.12	
14	827.803	24.02	3.34	1.04	28.41	37.00	8.59	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





Site no. : NO.4 Open Site Data no. : 1

Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

EUT : Flat Panel Color Monitor M/N:320WN6

Power Rating : 120Vac / 60Hz

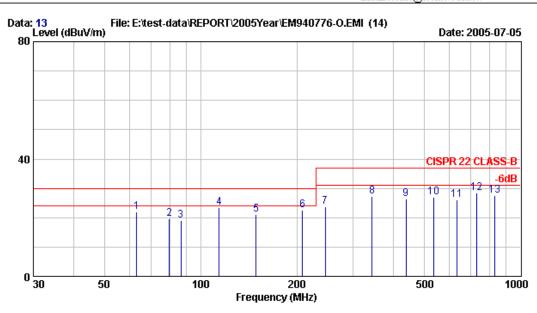
Test Mode : 1360\*768/60Hz ; 48KHz (DVI)

S/N:TY0405196

		Ant.	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	$(dB \mu V)$	$(dB \mu V/m)$	$(dB \mu V/m)$	(dB)	
1	51.055	15.64	0.75	5.06	21.44	30.00	8.56	
2	83.422	14.74	0.97	5.42	21.12	30.00	8.88	
3	115.780	17.62	1.10	3.91	22.64	30.00	7.36	
4	148.157	20.20	1.35	1.92	23.47	30.00	6.53	
5	180.535	21.47	1.50	0.20	23.16	30.00	6.84	
6	212.894	21.91	1.50	-0.35	23.05	30.00	6.95	
7	245.275	23.00	1.64	3.35	27.99	37.00	9.01	
8	277.628	24.03	1.73	2.18	27.94	37.00	9.06	
9	342.360	14.30	2.08	7.25	23.63	37.00	13.37	
10	439.444	16.89	2.32	5.15	24.36	37.00	12.64	
11	536.551	19.26	2.51	4.88	26.65	37.00	10.35	
12	633.634	20.20	2.85	3.65	26.70	37.00	10.30	
13	730.738	22.33	3.13	1.65	27.11	37.00	9.89	
14	827.818	24.15	3.34	0.64	28.14	37.00	8.86	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





: NO.4 Open Site Site no.

Data no. : 13 Ant. pol. : HORIZONTAL Dis. / Ant. : 10m VBA6106A/UPA6109

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

: Flat Panel Color Monitor M/N:320WN6

Power Rating: 120Vac / 60Hz

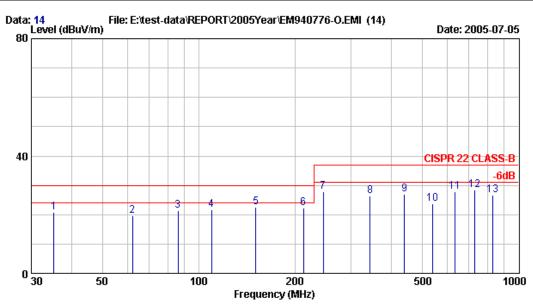
Test Mode : PIP

S/N:TY0405196

		Ant.	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	$(\mathtt{dB}\mu\mathtt{V})$	$(\mathtt{dB}\mu\mathtt{V/m})$	$(dB \mu V/m)$	(dB)	
1	63.205	13.36	0.86	7.68	21.91	30.00	8.09	
2	79.727	13.86	0.94	4.94	19.74	30.00	10.26	
3	86.802	15.65	0.99	2.45	19.09	30.00	10.91	
4	114.297	18.80	1.10	3.43	23.33	30.00	6.67	
5	149.104	20.85	1.35	-1.06	21.14	30.00	8.86	
6	208.238	21.62	1.53	-0.71	22.45	30.00	7.55	
7	245.296	22.97	1.64	-0.76	23.85	37.00	13.15	
8	343.309	14.53	2.08	10.51	27.12	37.00	9.88	
9	438.304	16.56	2.32	7.39	26.27	37.00	10.73	
10	536.283	18.45	2.51	5.94	26.90	37.00	10.10	
11	632.612	20.68	2.85	2.64	26.17	37.00	10.83	
12	731.285	22.24	3.13	2.92	28.29	37.00	8.71	
13	830.627	24.39	3.35	-0.18	27.57	37.00	9.43	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.





Site no. : NO.4 Open Site Data no. : 14

Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 30\*C / 54% ESVS 10 Engineer : ALEX HUANG

EUT : Flat Panel Color Monitor M/N:320WN6

Power Rating : 120Vac / 60Hz

Test Mode : PIP

S/N:TY0405196

	-	Factor		Reading	Emission Level (dB $\mu$ V/m)		_	Remark
1	35.241	21.84	0.59	-1.66	20.77	30.00	9.23	
2	62.204	13.97	0.86	4.81	19.64	30.00	10.36	
3	86.182	15.02	0.99	5.52	21.53	30.00	8.47	
4	109.675	17.34	1.11	3.13	21.57	30.00	8.43	
5	150.716	20.48	1.35	0.71	22.54	30.00	7.46	
6	213.076	21.91	1.50	-1.00	22.40	30.00	7.60	
7	245.183	23.00	1.64	3.20	27.84	37.00	9.16	
8	343.144	14.40	2.08	9.99	26.47	37.00	10.53	
9	440.618	16.86	2.32	7.66	26.84	37.00	10.16	
10	537.185	19.31	2.52	1.94	23.76	37.00	13.24	
11	632.531	20.19	2.85	4.73	27.77	37.00	9.23	
12	729.420	22.23	3.12	3.02	28.37	37.00	8.63	
13	829.234	24.31	3.34	-0.99	26.66	37.00	10.34	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

# 4. DEVIATION TO TEST SPECIFICATIONS

[NONE]