## TEST REPORT FOR CERTIFICATION

Class II Permissive Change
On Behalf for

Philips Electronics Industries (Taiwan) Ltd.

**Display Color Monitor** 

Model No.: (1)202P70 (2)202P73 (3)202P75

FCC ID.: A3KM107 Brand: PHILIPS

Prepared for: Philips Electronics Industries (Taiwan) Ltd.

5, Tze Chiang 1 Road, Chungli Industrial Park

Chungli, Taoyuan, 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 : EM940322 Report Number : EM-F940062 Date of Test : Mar.  $16 \sim 17,2005$ 

Date of Report : Mar. 22, 2005

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APPENDIX I (RADIATED EMISSION TEST DATA AT SIMPLE ANECHOIC CHAMBER)

## TEST REPORT CERTIFICATION

(Class II Permissive Change)

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 Monitors Manufacturing Hungary

EUT Description : Display Color Monitor

FCC ID. : A3KM107

(A) MODEL NO. : (1)202P70 (2)202P73 (3)202P75

(B) BRAND : PHILIPS

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

(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(a)(g) Class B limits both conducted and radiated emissions.

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 compliance with the FCC official limits.

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

The applicant to claim product endorsement by NVLAP or any agency of the U.S. Government must not use this report.

Date of Test: Mar.  $16 \sim 17,2005$ 

Prepared by: Mar, >9, 2005

(Nita Lee/Assistant Administrator)

Test Engineer: //www

(Allen Wang/ Manager)

Approved & Authorized Signer: Won Un Mar. 30 2005

(Leon Liu/Senior Manager)

## 1. GENERAL INFORMATION

## 1.1. Description of Device

Description : Display Color Monitor

Model Number : (1)202P70 (2)202P73 (3)202P75

Above all models have the same PCB and circuit,

the details of differences are follows as:

Model No.	Co	lor
	Front Cabinet	Back Cover
202P70	White Color	White Color
202P73	Silver Color	Black Color
202P75	Black Color	Black Color

The Model Number 202P70 is representative selected in the test and included in this report.

Brand : PHILIPS

Applicant : Philips Electronics Industries (Taiwan) Ltd.

5, Tze Chiang 1 Road, Chungli Industrial Park

Chungli, Taoyuan, 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, PROC

Factory #3 : Philips Monitors Manufacturing Hungary

Free Trade Zone Limited Liability Company (PMM LLC) H-9700 Szombathely, Puskas

tivadar u. 10., HUNGARY

CRT : Samsung, M/N M51QEV991X001

Scanning Frequency : Horizontal: 30kHz-130kHz

Vertical: 50Hz-160Hz

Max. Resolution : 2048\*1536

D-Sub Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

BNC Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

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

Date of Receipt of Sample : Mar. 15, 2005

Date of Test : Mar.  $16 \sim 17,2005$ 

#### Remark:

This EUT is an upgrade version of original FCC ID A3KM107. The different are as follows:

(1) CRT changed from Mitsubishi to Samsung.

(2) Slight circuit modifications and slight PCB re-layout to fulfill this new CRT implement.

## 1.2. Tested Supporting System Details

#### 1.2.1. PC SYSTEM

Model Name : AS6400-I73-H17B

Serial Number : N/A
FCC ID : By DoC
BSMI ID : 3882B216
Manufacturer : ACER

VGA Card : Matrox G450

Power Cord : Non-Shielded, Detachable, 1.8m

1.2.2. KEYBOARD

Model Number : 7932
Serial Number : N/A
FCC ID : By DoC
BSMI ID : 3862A470
Manufacturer : BTC

Data Cable : Shielded, Undetachable, 1.8m

Bonded a ferrite core

#### 1.2.3. MOUSE

Model Number : M-U48A
Serial Number : N/A
FCC ID : By DoC
BSMI ID : 4882A177
Manufacturer : ACER

Data Cable : Non-Shielded, Undetachable, 1.8m

#### 1.2.4. DOT MATRIX PRINTER

Model Number : KX-P2135 Serial Number : 8DMCNC02144 FCC ID : ACJ5Z6KX-P2135

BSMI ID : 3872A371

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

#### 1.2.5. MICROPHONE

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

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

#### 1.2.6. WALKMAN

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

Data Cable : Non-Shielded, Detachable, 1.8m

#### 1.2.7. EARPHONE

Model Number : N/A

Manufacturer : Panasonic

Earphone Cable : Non-Shielded, Undetachable, 1.1m

## 1.3. Description of 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 Location & Facility

(C5/AC/R3)

No. 5 Shielded Room & Simple Anechoic Chamber

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

No. 3 Open Area Test Site

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

February 10, 2003 Re-File on

Federal Communication Commission

Registration Number: 90996

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		
Radiation Test	30MHz~300MHz	± 2.91dB		
(Distance: 3m)	300MHz~1000MHz	± 2.94dB		

Remark: Uncertainty =  $ku_c(y)$ 

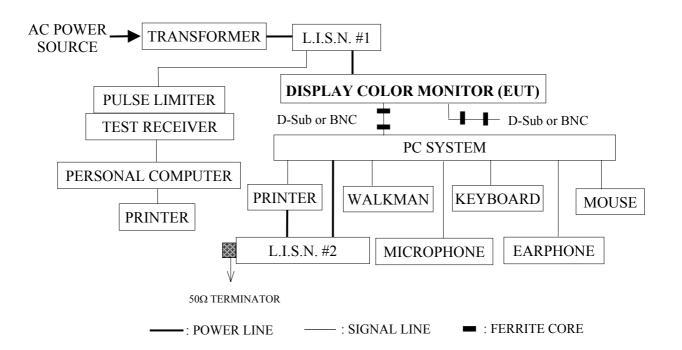
## 2. POWERLINE CONDUCTED EMISSION MEASUREMENT

## 2.1. Test Equipment

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

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCS30	100039	Jun. 21, 04'	Jun. 20, 05'
2.	L.I.S.N. #1	Kyoritsu	KNW-407	8-1539-2	May 11. 04'	May 10. 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. 29, 04'	Apr. 28, 05'

## 2.2. Block Diagram of Test Setup



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

Frequency	Maximum RF Line Voltage		
	Quasi-Peak Level	Average Level	
150kHz ~ 500kHz	$66 \sim 56 \ dB\mu V$	$56 \sim 46 \text{ dB}\mu\text{V}$	
$500kHz \sim 5MHz$	56 dBμV	46 dBμV	
5MHz ~ 30MHz	60 dBμV	50 dBμV	

Remark1.: 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 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. Display Color Monitor (EUT)

Model Number : 202P70 Brand : PHILIPS

Manufacturer : Philips Electronics Industries (Taiwan) Ltd.

CRT : Samsung, M/N M51QEV991X001

Scanning Frequency : Horizontal: 30kHz-130kHz

Vertical: 50Hz-160Hz

Max. Resolution : 2048\*1536

D-Sub Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

BNC Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

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

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 equipment.
- 2.5.3. The PC system running the self-test program "TESTPA 1.8" sent character "H" to the Display Color Monitor (EUT) through VGA card and the screen displayed and filled with pattern "H" by EUT's resolution via the D-Sub or BNC input.
- 2.5.4. 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 simulators of the interface cables were manipulated according to FCC ANSI C63.4-2003 during 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.

The all 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. Powerline Conducted Emission Measurement Results

**PASSED.** (All the emissions not reported below are too low against the prescribed limits. Because the QP values have met both Q.P & Average limits, it's unnecessary to measure with Average detector.)

EUT with following test modes were performed during conducted testing and all the test results are attached in next pages.

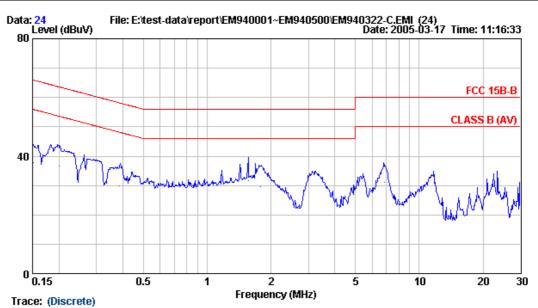
EUT: Display Color Monitor Model: 202P70

Test Date: Mar. 17, 2005 Temperature: 20°C Humidity: 69%

The details of test modes are as follows:

Mode	Input	Resolution/ Frequency	Reference Test Data No.		
	Input	Resolution/ Frequency	Line	Neutral	
1.		800*600/60Hz, 38kHz	# 24	# 23	
2.		1280*1024/75Hz, 80kHz	# 21	# 22	
3.	D-Sub	1600*1200/85Hz, 106.5kHz	# 20	# 19	
4.		1920*1440/85Hz, 128.5kHz	# 17	# 18	
5.		2048*1536/80Hz, 130kHz	# 16	# 15	
6.	BNC	2048*1536/80Hz, 130kHz	# 13	# 14	





Site : NO.5 Shielded room Data : 24 Condition : KNW-407(8-1539-2) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

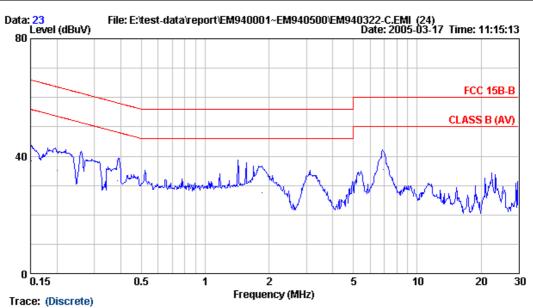
Test Mode : 800\*600/60Hz ; 38KHz (D-SUB)

s/N:TY0405050

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V)	Limits (dB $\mu$ V)	Margin (dB)	Remark
1	0.152	0.30	0.20	37.26	37.76	65.91	28.15	QP
2	0.200	0.10	0.20	36.31	36.61	63.62	27.01	QP
3	0.387	0.10	0.20	29.57	29.87	58.12	28.25	QP
4	1.560	0.10	0.40	31.15	31.65	56.00	24.35	QP
5	1.790	0.10	0.40	29.17	29.67	56.00	26.33	QP
6	6.841	0.15	0.60	30.40	31.15	60.00	28.85	QP

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





Site : NO.5 Shielded room Data : 23 Condition : KNW-407(8-1539-2) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

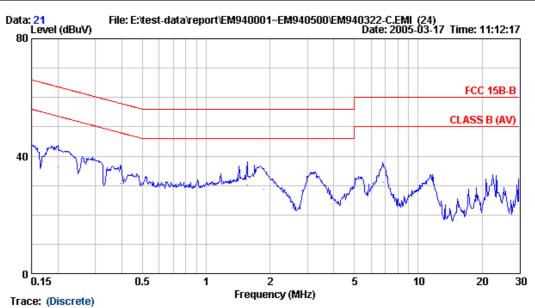
Test Mode : 800\*600/60Hz ; 38KHz (D-SUB)

s/N:TY0405050

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading	Emission Level (dB $\mu$ V)		Margin (dB)	Remark
1	0.152	0.20	0.20	37.93	38.33	65.91	27.58	QP
2	0.200	0.10	0.20	34.93	35.23	63.62	28.39	QP
3	0.387	0.10	0.20	31.43	31.73	58.12	26.39	QP
4	1.426	0.10	0.40	29.11	29.61	56.00	26.39	QP
5	1.858	0.10	0.40	27.15	27.65	56.00	28.35	QP
6	6.914	0.15	0.60	34.81	35.56	60.00	24.44	QP

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





Site : NO.5 Shielded room Data : 21 Condition : KNW-407(8-1539-2) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

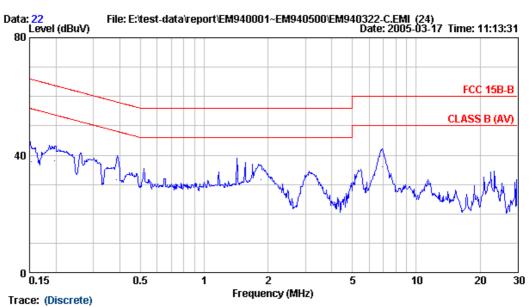
Test Mode : 1280\*1024/75Hz ; 80KHz (D-SUB)

s/N:TY0405050

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading	Emission Level (dB $\mu$ V)		Margin (dB)	Remark
1 2	0.150 0.201	0.30 0.10	0.20 0.20	36.77 35.97	37.27 36.27	66.00 63.58	28.73 27.31	QP QP
3	0.396	0.10	0.20	30.55	30.85	57.95	27.10	QP
4	1.560	0.10	0.40	29.71	30.21	56.00	25.79	QP
5	1.868	0.10	0.40	28.11	28.61	56.00	27.39	QP
6	6.841	0.15	0.60	30.35	31.09	60.00	28.91	QP

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





Site : NO.5 Shielded room Data : 22 Condition : KNW-407(8-1539-2) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

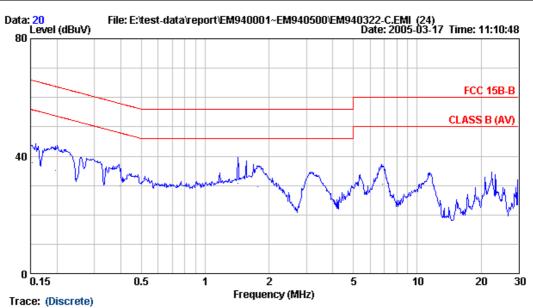
Test Mode : 1280\*1024/75Hz ; 80KHz (D-SUB)

s/N:TY0405050

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading	Emission Level (dB $\mu$ V)	Limits (dB $\mu$ V)	Margin (dB)	Remark
1	0.152	0.20	0.20	37.41	37.81	65.87	28.06	QP
2	0.198	0.10	0.20	37.72	38.02	63.71	25.69	QP
3	0.387	0.10	0.20	31.31	31.61	58.12	26.51	QP
4	1.426	0.10	0.40	31.49	31.99	56.00	24.01	QP
5	1.858	0.10	0.40	31.13	31.63	56.00	24.37	QP
6	6.914	0.15	0.60	35.40	36.15	60.00	23.85	QP

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





Site : NO.5 Shielded room Data : 20 Condition : KNW-407(8-1539-2) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

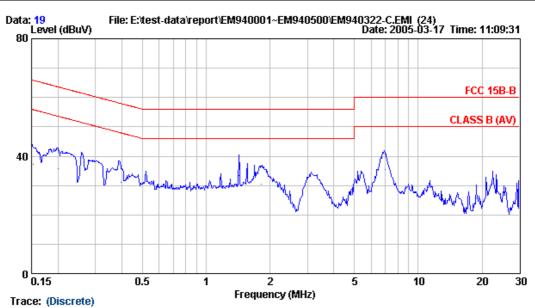
Test Mode : 1600\*1200/85Hz ; 106.5KHz (D-SUB)

s/N:TY0405050

_		Freq. (MHz)	LISN Factor (dB)		_	Emission Level (dB $\mu$ V)		Margin (dB)	Remark	
	1	0.152	0.30	0.20	37.16	37.66	65.87	28.20	QP	
	2 3	0.198 0.396	0.10 0.10	0.20 0.20	34.81 29.54	35.11 29.84	63.71 57.95	28.60 28.11	QP QP	
	4	1.426	0.10	0.40	30.15	30.65	56.00	25.35	QP	
	5	1.762	0.10	0.40	29.17	29.67	56.00	26.33	QP	
	6	6.841	0.15	0.60	29.70	30.45	60.00	29.55	QP	

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





Site : NO.5 Shielded room Data : 19 Condition : KNW-407(8-1539-2) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

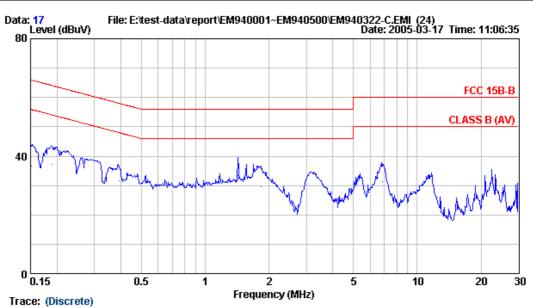
Test Mode : 1600\*1200/85Hz ; 106.5KHz (D-SUB)

s/N:TY0405050

_		Freq. (MHz)	LISN Factor (dB)		_	Emission Level (dB $\mu$ V)		Margin (dB)	Remark
	1	0.152	0.20	0.20	36.69	37.09	65.87	28.78	QP
	2	0.200	0.10	0.20	35.36	35.66	63.62	27.96	QP
	3	0.396	0.10	0.20	30.90	31.20	57.95	26.75	QP
	4	1.426	0.10	0.40	32.90	33.40	56.00	22.60	QP
	5	1.819	0.10	0.40	30.04	30.54	56.00	25.46	QP
	6	6.951	0.15	0.60	34.62	35.37	60.00	24.63	QP

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





Site : NO.5 Shielded room Data : 17 Condition : KNW-407(8-1539-2) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

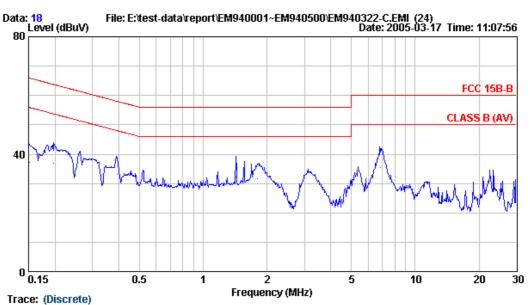
Test Mode : 1920\*1440/85Hz ; 128.5KHz (D-SUB)

s/N:TY0405050

	Freq. (MHz)	LISN Factor (dB)		Reading	Emission Level (dB $\mu$ V)		Margin (dB)	Remark
1	0.152	0.30	0.20	36.18	36.68	65.91	29.23	QP
2	0.189	0.20	0.20	36.80	37.20	64.06	26.86	QP
3	0.391	0.10	0.20	31.26	31.56	58.03	26.48	QP
4	1.426	0.10	0.40	32.99	33.49	56.00	22.51	QP
5	1.839	0.10	0.40	29.14	29.64	56.00	26.36	QP
6	6.841	0.15	0.60	30.54	31.29	60.00	28.71	QP

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





Site : NO.5 Shielded room Data : 18 Condition : KNW-407(8-1539-2) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

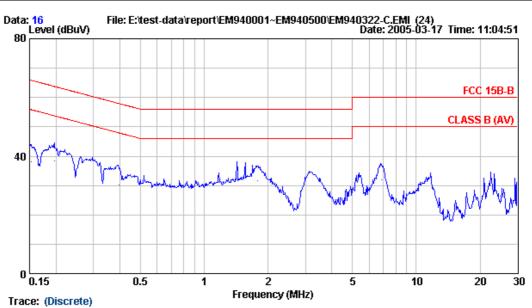
Test Mode : 1920\*1440/85Hz ; 128.5KHz (D-SUB)

s/N:TY0405050

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading	Emission Level (dB $\mu$ V)		Margin (dB)	Remark
1	0.152	0.20	0.20	36.76	37.16	65.91	28.75	QP
2	0.198	0.10	0.20	36.67	36.97	63.71	26.74	QP
3	0.391	0.10	0.20	32.67	32.97	58.03	25.06	QP
4	1.426	0.10	0.40	31.65	32.15	56.00	23.85	QP
5	1.810	0.10	0.40	31.19	31.69	56.00	24.31	QP
6	6.878	0.15	0.60	34.85	35.60	60.00	24.40	QP

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





Site : NO.5 Shielded room Data : 16 Condition : KNW-407(8-1539-2) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

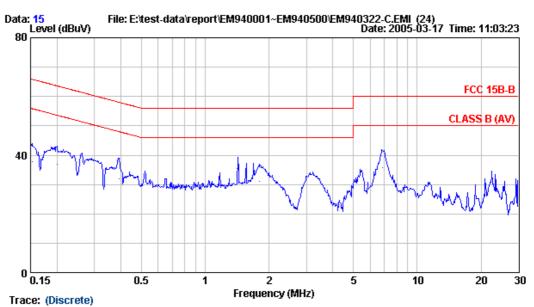
Test Mode : 2048\*1536/80Hz ; 130KHz (D-SUB)

s/N:TY0405050

		Freq.	LISN Factor (dB)		_	Emission Level (dB $\mu$ V)		Margin (dB)	Remark
	1	0.152	0.30	0.20	37.57	38.07	65.87	27.79	QP
:	2	0.197	0.10	0.20	38.21	38.51	63.76	25.25	QP
;	3	0.396	0.10	0.20	29.76	30.06	57.95	27.89	QP
	4	1.426	0.10	0.40	34.59	35.09	56.00	20.91	QP
,	5	1.790	0.10	0.40	31.03	31.53	56.00	24.47	QP
	6	6.841	0.15	0.60	31.32	32.07	60.00	27.93	QP

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





Site : NO.5 Shielded room Data : 15 Condition : KNW-407(8-1539-2) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

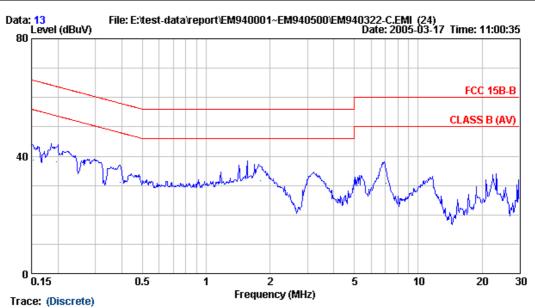
Test Mode : 2048\*1536/80Hz ; 130KHz (D-SUB)

s/N:TY0405050

	Freq. (MHz)	LISN Factor (dB)		Reading	Emission Level (dB $\mu$ V)		_	Remark
1	0.152	0.20	0.20	37.54	37.94	65.87	27.93	QP
2	0.200	0.10	0.20	36.72	37.02	63.62	26.60	QP
3	0.391	0.10	0.20	31.61	31.91	58.03	26.12	QP
4	1.418	0.10	0.40	34.87	35.37	56.00	20.63	QP
5	1.810	0.10	0.40	30.50	31.00	56.00	25.00	QP
6	6.841	0.15	0.60	34.98	35.72	60.00	24.28	QP

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





Site : NO.5 Shielded room Data : 13 Condition : KNW-407(8-1539-2) Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

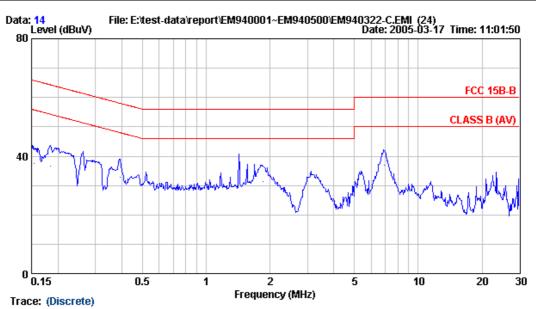
Test Mode : 2048\*1536/80Hz ; 130KHz (BNC)

s/N:TY0405050

 	Freq. (MHz)	LISN Factor (dB)		_	Emission Level (dB $\mu$ V)		Margin (dB)	Remark
1	0.152	0.30	0.20	38.29	38.79	65.87	27.07	QP
2	0.198	0.10	0.20	37.68	37.98	63.71	25.73	QP
3	0.391	0.10	0.20	30.67	30.97	58.03	27.06	QP
4	1.560	0.10	0.40	34.75	35.25	56.00	20.75	QP
5	1.810	0.10	0.40	31.09	31.59	56.00	24.41	QP
6	7.025	0.15	0.60	30.14	30.89	60.00	29.11	QP

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





Site : NO.5 Shielded room Data : 14 Condition : KNW-407(8-1539-2) Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : (20\*C/69%) / ESCS30 Engineer: ALEX HUANG

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

Test Mode : 2048\*1536/80Hz ; 130KHz (BNC)

s/N:TY0405050

	Freq. (MHz)	LISN Factor (dB)		Reading	Emission Level (dB $\mu$ V)		Margin (dB)	Remark
1	0.154	0.20	0.20	37.04	37.44	65.78	28.34	QP
2	0.184	0.15	0.20	36.36	36.71	64.28	27.58	QP
3	0.391	0.10	0.20	32.63	32.93	58.03	25.10	QP
4	1.426	0.10	0.40	35.35	35.85	56.00	20.15	QP
5	1.858	0.10	0.40	30.99	31.49	56.00	24.51	QP
6	6.914	0.15	0.60	36.08	36.83	60.00	23.17	QP

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

## 3. RADIATED EMISSION MEASUREMENT

## 3.1. Test Equipment

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

## 3.1.1. For 30MHz~1000MHz Frequency at Simple Anechoic Chamber

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00248	Oct. 04, 04'	Oct. 03, 05'
2.	Pre-Amplifier	HP	8447D	2944A06669	Jul. 27, 04'	Jul. 26, 05'
3.	Bilog Antenna	Schwarzbeck	CBL6112B	2818	May 18, 04'	May 17, 05'

#### 3.1.2. For 30MHz~1000MHz Frequency (At No. 3 Open Area Test Site)

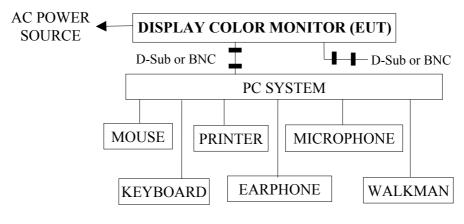
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCS30	100338	May 06, 04'	May 05, 05'
2.	Biconical Antenna	Chase	VBA6106A	1227	Nov. 15, 04'	Nov. 14, 05'
3.	Log Periodic Antenna	Chase	UPA6109	1027	Nov. 15, 04'	Nov. 14, 05'

## 3.1.3. For 1GHz~2GHz Frequency (At No. 3 Open Area Test Site)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00272	Jun. 07, 04'	Jun. 07, 05'
2.	Amplifier	HP	8449B	3008A01284	Jul. 02, 04'	Jul. 02, 05'
3.	Horn Antenna	EMCO	3115	9609-4927	Jul. 06, 04'	Jul. 06, 05'

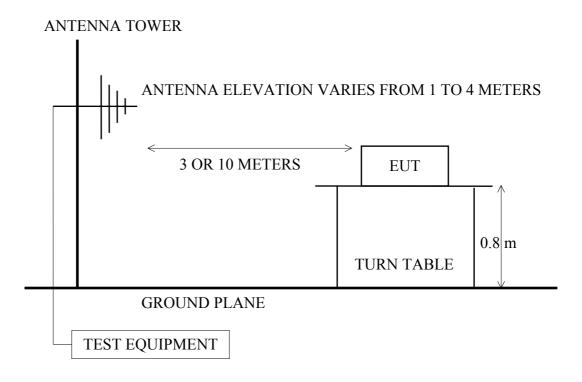
## 3.2. Block Diagram of Test Setup

## 3.2.1. Block Diagram of connection between EUT and simulators

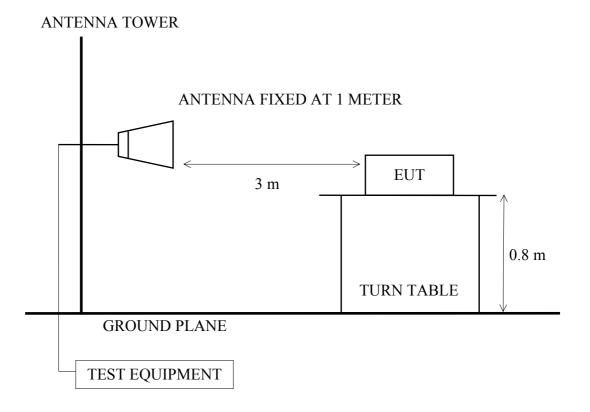


**■**: FERRITE CORE

3.2.2. Simple Anechoic Chamber (3m) & Open Area Test Site (10m) Setup Diagram for 30-1000MHz



3.2.3. Open Area Test Site Setup Diagram (3m) for 1-2GHz



## 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:

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS
(MHz)	(Meters)	(dBµV/m)
30 ~ 230	10	30
230 ~ 1000	10	37
1000 ~ 2000	3	54.0 (Average)
1000 ~ 2000	3	74.0 (Peak)

Note: (1) The tighter limit applies 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) There is no over 1GHz limits in CISPR 22 standard. Therefor, a FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.109 (g).
- (4) The 3m limit apply relation: L2 = L1(d1/d2)

## 3.4. EUT's Configuration during Compliance Measurement

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

## 3.5. Operating Condition of EUT

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

#### 3.6. Test Procedure

3.6.1. For Frequency Range 30MHz-1000MHz measurement at distance of 10m at No. 4 open area test site and 3m at simple anechoic chamber:

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set to 10 meters (or 3 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 C63.4-2003 and CISPR 22 on radiated measurement.

The bandwidth of the R&S Test Receiver ESCS30 was set at 120kHz.

The frequency range from 30MHz to 1000MHz was checked with Peak detector at simple anechoic chamber and all final readings of measurement were with Quasi-Peak detector at open area test site.

# 3.6.2. For Frequency Range 1GHz-2GHz measurement at distance of 3m at No. 5 open area test site:

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The turn table rotated 360 degrees to determine the position of the maximum emission level, EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. The antenna was fixed at 1 meter high (maximum emission level receiving position) above the ground. A calibrated Horn Antenna was used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement, and both average and peak emission level were recorded form spectrum analyzer. In order to find the maximum emission level, all the interface cables were manipulated according to ANSI C63.4-2003 on radiated measurement.

The resolution bandwidth of spectrum analyzer 8593EM was set at 1MHz.

The frequency range from 1GHz to 2GHz was checked and all final readings of measurement were with Peak detector and Average detector at open area test site.

#### 3.7. Radiated Emission Measurement Results

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

#### For 30MHz~1000MHz frequency range

EUT with the following test modes and were measured within Simple Anechoic Chamber and all the scanning waveform were attached within Appendix I, which include:

EUT: Display Color Monitor Model: 202P70

Test Date: Mar. 16, 2005 Temperature: 24°C Humidity: 40%

The details of test modes are as follows:

Mode	Input	Resolution/ Frequency	Reference Test Data No.		
Mode imput		Resolution/ 1 requeitey	Horizontal	Vertical	
1.		800*600/60Hz, 38kHz	# 10	# 9	
2.		1280*1024/75Hz, 80kHz	# 7	# 8	
3.	D-Sub	1600*1200/85Hz, 106.5kHz	# 6	# 5	
4.		1920*1440/85Hz, 128.5kHz	# 3	# 4	
5.		2048*1536/80Hz, 130kHz	# 2	# 1	
6.	BNC	2048*1536/80Hz, 130kHz	# 11	# 12	

Finally, re-measured two test modes [Mode 5 & 6] at No. 3 open area test site and all the test results are attached in section 3.7.1.

Test Date: Mar. 17, 2005 Temperature: 24°C Humidity: 51%

The details of test modes are as follows:

Mode	Input	Resolution/ Frequency	Reference Test Data No.		
Wiode Imp	трис	Resolution/ Frequency	Horizontal	Vertical	
5.*	D-Sub	2048*1536/80Hz, 130kHz	# 16	# 15	
6.	BNC	2048*1536/80Hz, 130kHz	# 13	# 14	

(\*mode for maximum detected emission)

## For 1-2GHz frequency range

To select two worst test modes [Mode 4 & 6] performed measurement at No. 3 open area test site from 1GHz to 2GHz frequency range and all the test results are attached in section 3.7.2.

Test Date: Mar. 17, 2005 Temperature: 24°C Humidity: 51%

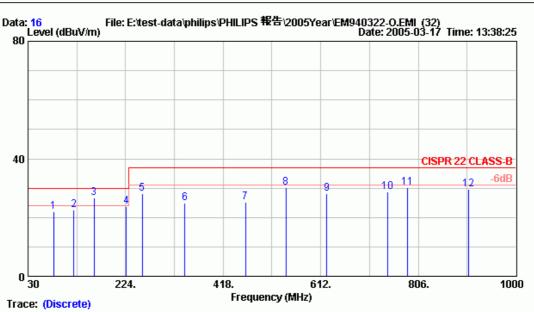
The details of test modes are as follows:

Mode	Innut	Resolution/ Frequency	Reference Test Data No.					
Mode	Input	Resolution/Frequency	Horiz	Horizontal		tical		
4. D-Sub		1920*1440/85Hz, 128.5kHz	Peak	# 29	Peak	# 32		
4.	บ-ธนช		AV	# 30	AV	# 31		
6	BNC	2048*1536/80Hz, 130kHz	Peak	# 27	Peak	# 25		
6. BNC			AV	# 28	AV	# 26		

#### 3.7.1. 30MHz to 1000MHz frequency and at 10 meters distance measurement



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Site no. : NO.3 Open Site Data no. : 16

Dis. / Ant. : 10m 6106A/6109(0104) Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac / 60Hz

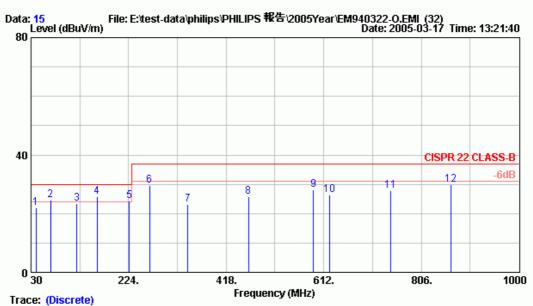
Test Mode : 2048\*1536/80Hz 130KHz (D-SUB)

	-	Factor		Reading	Emission Level (dB $\mu$ V/m)		_	Remark
1	80.475	13.78	1.80	6.30	21.88	30.00	8.12	
2	120.780	18.72	2.20	1.52	22.44	30.00	7.56	
3	160.953	20.69	2.40	3.49	26.58	30.00	3.42	*
4	225.336	21.63	3.20	-0.99	23.84	30.00	6.16	
5	257.527	22.42	3.40	2.31	28.13	37.00	8.87	
6	341.958	14.65	3.80	6.44	24.89	37.00	12.11	
7	462.700	17.28	4.80	3.17	25.25	37.00	11.75	
8	543.195	19.50	5.20	5.52	30.22	37.00	6.78	
9	623.690	20.04	5.60	2.48	28.12	37.00	8.88	
10	744.433	21.77	6.20	0.60	28.57	37.00	8.43	
11	784.680	22.28	6.40	1.38	30.06	37.00	6.94	
12	905.423	23.42	6.80	-0.62	29.60	37.00	7.40	

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 160.953 MHz with corrected signal level of  $26.58 dB\mu V/m$  (limit is  $30.0 dB\mu V/m$ ) when the antenna was at horizontal polarization and was at 4m high and the turn table was at  $310^{\circ}$ .
- 4.  $0^{\circ}$ was the table front facing the antenna. Degree is calculated from  $0^{\circ}$ clockwise facing the antenna.





Site no. : NO.3 Open Site Data no. : 15

Dis. / Ant. : 10m 6106A/6109(0104) Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac / 60Hz

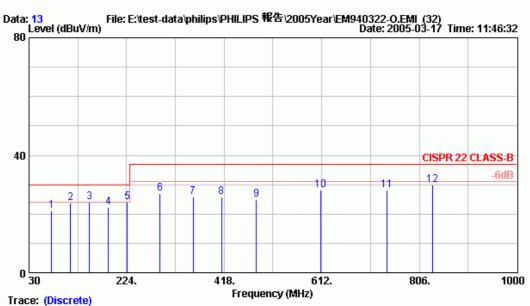
Test Mode : 2048\*1536/80Hz 130KHz (D-SUB)

	Freq. (MHz)	Factor		Reading	Emission Level (dB $\mu$ V/m)		_	Remark	
1	40.250	19.17	1.20	1.72	22.09	30.00	7.91		_
2	69.280	12.87	1.60	10.09	24.56	30.00	5.44		
3	120.729	19.30	2.20	2.07	23.57	30.00	6.43		
4	160.954	19.91	2.40	3.49	25.80	30.00	4.20	*	
5	225.351	20.88	3.20	0.11	24.19	30.00	5.81		
6	265.599	22.46	3.40	3.79	29.65	37.00	7.35		
7	341.990	14.90	3.80	4.40	23.10	37.00	13.90		
8	462.700	18.13	4.80	2.94	25.87	37.00	11.13		
9	591.550	20.56	5.40	2.18	28.14	37.00	8.86		
10	623.638	19.94	5.60	0.93	26.47	37.00	10.53		
11	744.302	21.80	6.20	-0.28	27.72	37.00	9.28		
12	865.176	24.10	6.60	-0.77	29.93	37.00	7.07		

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 160.954 MHz with corrected signal level of  $25.80 dB\mu V/m$  (limit is  $30.0 dB\mu V/m$ ) when the antenna was at vertical polarization and was at 1m high and the turn table was at  $225^{\circ}$ .
- 4.  $0^{\circ}$ was the table front facing the antenna. Degree is calculated from  $0^{\circ}$ clockwise facing the antenna.





Site no. : NO.3 Open Site Data no. : 13

Dis. / Ant. : 10m 6106A/6109(0104) Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

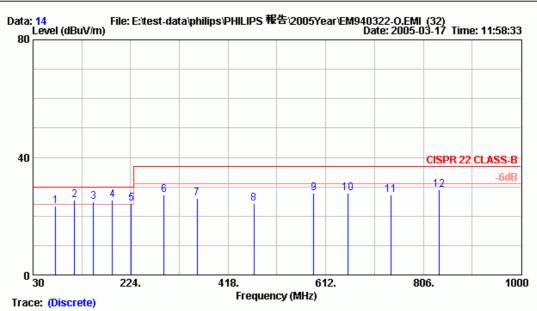
Power Rating : 120Vac / 60Hz

Test Mode : 2048\*1536/80Hz 130KHz (BNC)

	•	Factor		Reading	Emission Level (dB $\mu$ V/m)		Margin Remark ) (dB)	
								-
1	75.034	13.03	1.60	6.50	21.13	30.00	8.87	
2	112.548	18.40	2.00	3.40	23.80	30.00	6.20	
3	150.062	19.87	2.40	1.84	24.11	30.00	5.89	
4	187.577	20.79	2.70	-1.35	22.14	30.00	7.86	
5	225.091	21.63	3.20	-0.79	24.04	30.00	5.96	
6	290.748	24.37	3.40	-0.79	26.98	37.00	10.02	
7	356.391	15.13	3.80	6.91	25.84	37.00	11.16	
8	412.662	16.15	4.20	5.37	25.72	37.00	11.28	
9	482.274	17.84	4.80	2.19	24.83	37.00	12.17	
10	609.624	20.32	5.40	2.39	28.11	37.00	8.89	
11	740.930	21.45	6.00	0.58	28.03	37.00	8.97	
12	832.106	23.10	6.60	0.05	29.75	37.00	7.25	

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





Site no. : NO.3 Open Site Data no. : 14

Dis. / Ant. : 10m 6106A/6109(0104) Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

Power Rating: 120Vac / 60Hz

Test Mode : 2048\*1536/80Hz 130KHz (BNC)

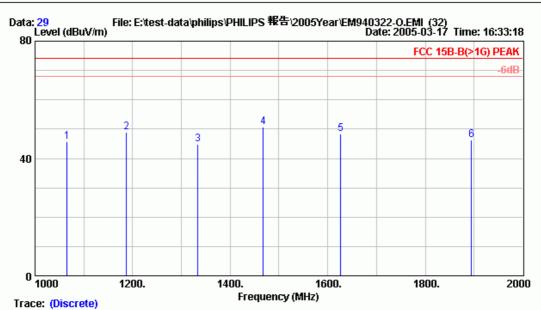
	Freq.			_	Emission Level (dB $\mu$ V/m)		Margin ) (dB)	Remark
1	75.034	13.39	1.60	8.50	23.49	30.00	6.51	
2	112.548	17.99	2.00	5.38	25.37	30.00	4.63	
3	150.062	20.76	2.40	1.84	25.00	30.00	5.00	
4	187.577	21.16	2.70	1.65	25.51	30.00	4.49	
5	225.091	20.88	3.20	0.21	24.29	30.00	5.71	
6	290.748	24.71	3.40	-0.75	27.36	37.00	9.64	
7	356.389	15.80	3.80	6.50	26.10	37.00	10.90	
8	468.933	18.28	4.80	1.35	24.43	37.00	12.57	
9	588.340	20.26	5.40	2.19	27.85	37.00	9.15	
10	656.513	20.66	5.60	1.59	27.85	37.00	9.15	
11	740.924	21.69	6.00	-0.36	27.33	37.00	9.67	
12	838.220	23.26	6.60	-0.87	28.99	37.00	8.01	

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

## 3.7.2. Above 1GHz frequency and at 3 meters distance measurement



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Web:www.ttemc.com



Site no. : NO.3 Open Site Data no. : 29

Dis. / Ant. : 3m HORN ANT Ant. pol. : HORIZONTAL

Limit : FCC 15B-B(>1G) PEAK

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

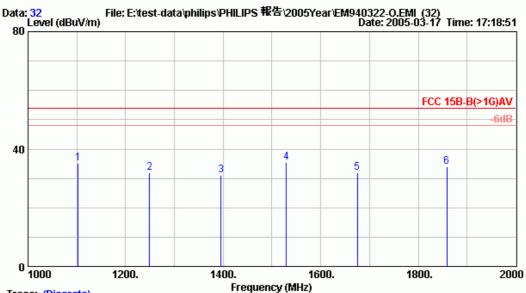
Power Rating: 120Vac / 60Hz

Test Mode : 1920\*1440/85Hz 128.5KHz (D-SUB)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)		Margin ) (dB)	Remark
1 2 3 4 5	1334.009 1468.044	24.80 25.15 25.52 25.82 26.14	2.01 2.03 2.05 2.07 2.08	18.77 21.71 17.39 22.71 20.14	45.58 48.89 44.95 50.59 48.36	74.00 74.00 74.00 74.00 74.00	28.42 25.11 29.05 23.41 25.64	PEAK PEAK PEAK PEAK PEAK
6		26.14	2.00	17.52	46.25	74.00	27.75	PEAK

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





Trace: (Discrete)

Site no. : NO.3 Open Site Data no. : 32

Dis. / Ant. : 3m HORN ANT Ant. pol. : VERTICAL

: FCC 15B-B(>1G)AV Limit

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

: Display Color Monitor M/N:202P70

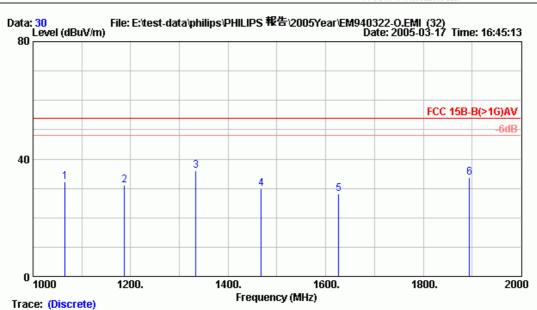
Power Rating : 120Vac / 60Hz

Test Mode : 1920\*1440/85Hz 128.5KHz (D-SUB)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	Margin (dB)	Remark
2 3 4 5	1102.677 1248.897 1395.117 1529.152 1675.372 1858.147	24.91 25.31 25.65 25.95 26.24 26.56	2.02 2.04 2.06 2.07 2.09 2.10	8.24 4.54 3.24 7.31 3.60 5.37	35.17 31.88 30.95 35.33 31.93 34.04	54.00 54.00 54.00 54.00 54.00	18.83 22.12 23.05 18.67 22.07	AVERAGE AVERAGE AVERAGE AVERAGE AVERAGE

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





Site no. : NO.3 Open Site Data no. : 30

Dis. / Ant. : 3m HORN ANT Ant. pol. : HORIZONTAL

Limit : FCC 15B-B(>1G)AV

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

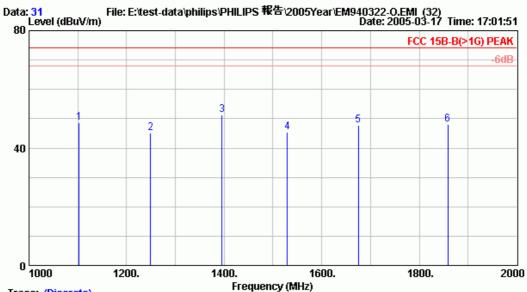
Power Rating : 120Vac / 60Hz

Test Mode : 1920\*1440/85Hz 128.5KHz (D-SUB)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	_	Remark
1	1065.939	24.80	2.01	5.44	32.25	54.00	21.75	AVERAGE
2	1187.789	25.15	2.03	3.93	31.11	54.00	22.89	AVERAGE
3	1334.009	25.52	2.05	8.36	35.92	54.00	18.08	AVERAGE
4	1468.044	25.82	2.07	1.98	29.86	54.00	24.14	AVERAGE
5	1626.449	26.14	2.08	-0.23	27.99	54.00	26.01	AVERAGE
6	1894.519	26.63	2.11	4.90	33.63	54.00	20.37	AVERAGE

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





Trace: (Discrete)

Site no. : NO.3 Open Site Data no. : 31

Dis. / Ant. : 3m HORN ANT Ant. pol. : VERTICAL

Limit : FCC 15B-B(>1G) PEAK

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

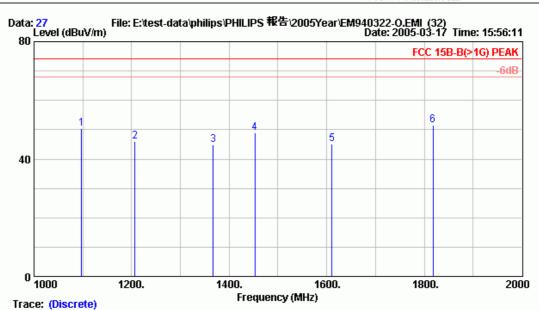
Power Rating : 120Vac / 60Hz

Test Mode : 1920\*1440/85Hz 128.5KHz (D-SUB)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)		_	Remark
1	1102.677	24.91	2.02	21.77	48.70	74.00	25.30	AVERAGE
2	1248.897	25.31	2.04	17.67	45.01	74.00	28.99	AVERAGE
3	1395.117	25.65	2.06	23.46	51.17	74.00	22.83	AVERAGE
4	1529.152	25.95	2.07	17.29	45.31	74.00	28.69	AVERAGE
5	1675.372	26.24	2.09	19.54	47.87	74.00	26.13	AVERAGE
6	1858.147	26.56	2.10	19.48	48.15	74.00	25.85	AVERAGE

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





Site no. : NO.3 Open Site Data no. : 27

Dis. / Ant. : 3m HORN ANT Ant. pol. : HORIZONTAL

Limit : FCC 15B-B(>1G) PEAK

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

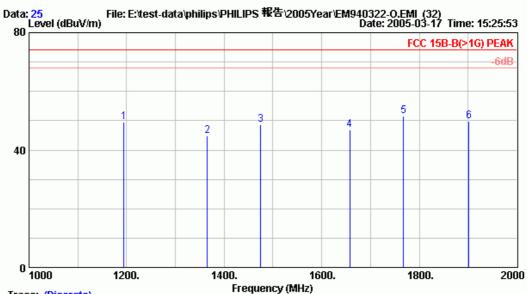
Power Rating : 120Vac / 60Hz

Test Mode : 2048\*1536/80Hz 130KHz (BNC)

	Freq. (MHz)	Ant. Factor (dB/m)		Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)		_	Remark
1	1097.204	24.89	2.02	23.62	50.53	74.00	23.47	PEAK
2	1206.869	25.20	2.03	18.83	46.06	74.00	27.94	PEAK
3	1367.131	25.59	2.05	17.11	44.75	74.00	29.25	PEAK
4	1452.426	25.78	2.06	21.03	48.88	74.00	25.12	PEAK
5	1610.831	26.11	2.08	16.84	45.03	74.00	28.97	PEAK
6	1817.976	26.50	2.10	22.94	51.54	74.00	22.46	PEAK

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





Trace: (Discrete)

Site no. : NO.3 Open Site Data no. : 25

Dis. / Ant. : 3m HORN ANT Ant. pol. : VERTICAL

Limit : FCC 15B-B(>1G) PEAK

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac / 60Hz

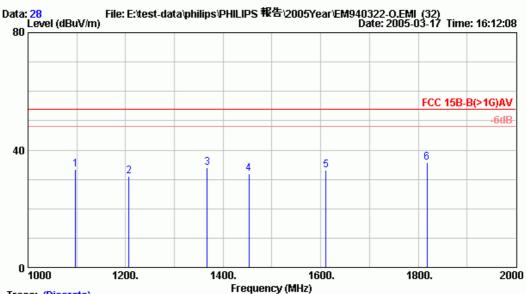
Test Mode : 2048\*1536/80Hz 130KHz (BNC)

	Freq. (MHz)	Ant. Factor (dB/m)		Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)		_	Remark
1	1194.722	25.17	2.03	22.25	49.45	74.00	24.55	PEAK
2	1365.312	25.59	2.05	17.10	44.74	74.00	29.26	PEAK
3	1474.977	25.83	2.07	20.74	48.63	74.00	25.37	PEAK
4	1657.752	26.20	2.09	18.47	46.76	74.00	27.24	PEAK
5	1767.417	26.41	2.10	23.18	51.68	74.00	22.32	PEAK
6	1901.452	26.64	2.11	21.16	49.90	74.00	24.10	PEAK

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

2. The emission levels that are 20dB below the official limit are not reported.





Trace: (Discrete)

Site no. : NO.3 Open Site Data no. : 28

Dis. / Ant. : 3m HORN ANT Ant. pol. : HORIZONTAL

Limit : FCC 15B-B(>1G)AV

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac / 60Hz

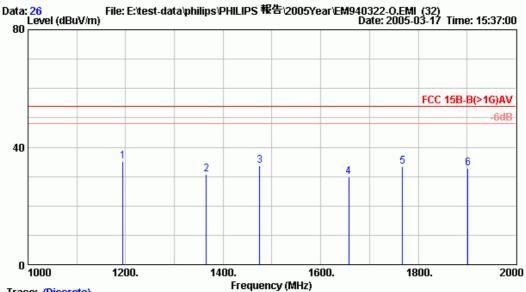
Test Mode : 2048\*1536/80Hz 130KHz (BNC)

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)		Margin (dB)	Remark
1	1097.204	24.89	2.02	6.36	33.27	54.00	20.73	AVERAGE
2	1206.869	25.20	2.03	3.95	31.18	54.00	22.82	AVERAGE
3	1367.131	25.59	2.05	6.29	33.93	54.00	20.07	AVERAGE
4	1452.426	25.78	2.06	4.06	31.91	54.00	22.09	AVERAGE
5	1610.831	26.11	2.08	4.96	33.15	54.00	20.85	AVERAGE
6	1817.976	26.50	2.10	7.19	35.79	54.00	18.21	AVERAGE

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

2. The emission levels that are 20dB below the official limit are not reported.





Trace: (Discrete)

Site no. : NO.3 Open Site Data no. : 26

Dis. / Ant. : 3m HORN ANT Ant. pol. : VERTICAL

Limit : FCC 15B-B(>1G)AV

Env. / Ins. : 24\*C/51% ESCS30 Engineer : Jingo

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac / 60Hz

Test Mode : 2048\*1536/80Hz 130KHz (BNC)

	Freq. (MHz)	Ant. Factor (dB/m)		Reading (dB $\mu$ V)	Emission Level (dB $\mu$ V/m)	Limits (dB $\mu$ V/m)	_	Remark
	1194.722	25.17	2.03	8.01	35.21	54.00	18.79	AVERAGE
	1365.312	25.59	2.05	3.26	30.90	54.00	23.10	AVERAGE
3	1474.977	25.83	2.07	5.78	33.67	54.00	20.33	AVERAGE
4	1657.752	26.20	2.09	1.60	29.89	54.00	24.11	AVERAGE
5	1767.417	26.41	2.10	4.80	33.30	54.00	20.70	AVERAGE
6	1901.452	26.64	2.11	3.94	32.68	54.00	21.32	AVERAGE

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

2. The emission levels that are 20dB below the official limit are not reported.

## 4. DEVIATION TO TEST SPECIFICATIONS

During 1GHz to 2GHz frequency range measurement, due to low loss cable length limitation, the horn antenna couldn't move up and down between 1 to 4 meters. But the test result was not affected due to the worst receiving condition of horn antenna should be at 1 meter high for above 1 GHz radiation measurement.

## 5. PHOTOGRAPHS

5.1. Photos of Conducted Emission Measurement Test Mode: Input--D-Sub



FRONT VIEW OF CONDUCTED MEASUREMENT



BACK VIEW OF CONDUCTED MEASUREMENT



FRONT VIEW OF CONDUCTED MEASUREMENT



BACK VIEW OF CONDUCTED MEASUREMENT

5.2. Photos of Radiated Measurement at Simple Anechoic Chamber (30-1000MHz)

Test Mode: Input--D-Sub



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT

5.3. Photos of Radiated Measurement at Open Area Test Site (30-1000MHz)

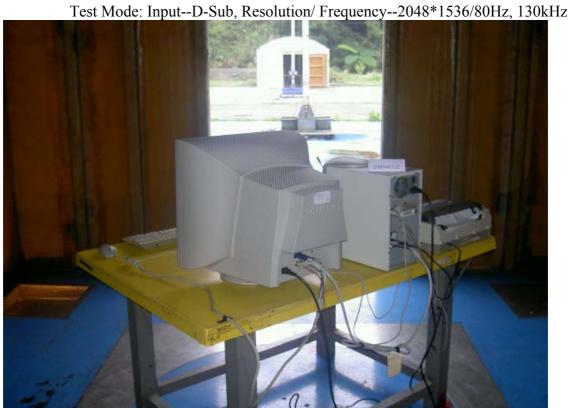
Test Mode: Input--D-Sub



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMEMT



SETUP WITH MAXIMUM DETECTED EMISSION AT HORIZONTAL POLARIZATION



SETUP WITH MAXIMUM DETECTED EMISSION AT VERTICAL POLARIZATION



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMEMT

5.4. Photos of Radiated Measurement at Open Area Test Site (1-2GHz)

Test Mode: Input--D-Sub



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT

Test Mode: Input--D-Sub





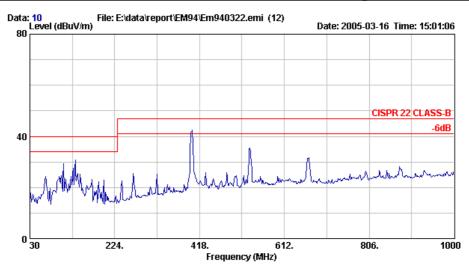
FRONT VIEW OF RADIATED MEASUREMENT

## APPENDIX I

(Radiated Disturbance Test Data at Simple Anechoic Chamber)

Total Page: 6 Pages





Site no. : AUDIX Mini Chamber Data no. : 10

Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

Test Mode : 800\*600/60Hz 38KHz (D-SUB)

s/N:TY0405050



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Email:ttemc@ttemc.com.tw

Site no. : AUDIX Mini Chamber Data no. : 9

Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

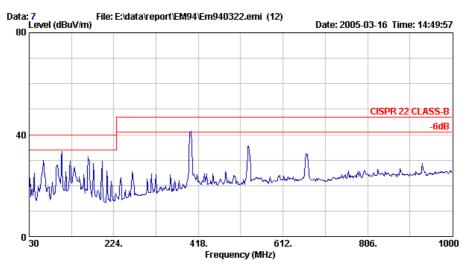
Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

Test Mode : 800\*600/60Hz 38KHz (D-SUB)





: AUDIX Mini Chamber Site no.

Data no. : 7 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m CBL6112B(2818)

: CISPR 22 CLASS-B Limit

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

: Display Color Monitor M/N:202P70

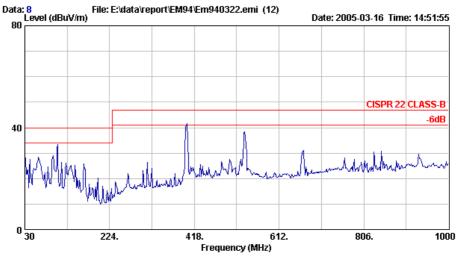
Power Rating: 120Vac/60Hz

: 1280\*1024/75Hz 80KHz (D-SUB) Test Mode

s/N:TY0405050



AUDIX Corp. EMC Laboratory No.53-11, Tin-fu Tsun, Lin-kou Hsiang, Taipei County, Taiwan R.O.C. Post Code:24443 Tel:+886-2-26092133 Fax:+886-2-26099303 Email:ttemc@ttemc.com.tw



Data no. : 8
Ant. pol. : VERTICAL : AUDIX Mini Chamber Dis. / Ant. : 3m CBL6112B(2818)

: CISPR 22 CLASS-B Limit

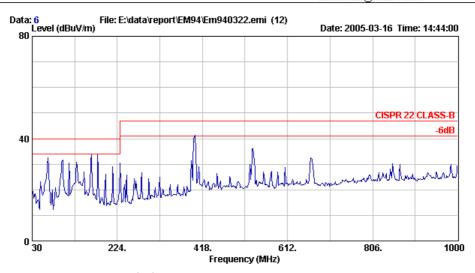
Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

: Display Color Monitor M/N:202P70

Power Rating: 120Vac/60Hz

: 1280\*1024/75Hz 80KHz (D-SUB) Test Mode





Site no. : AUDIX Mini Chamber Data no. : 6

Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

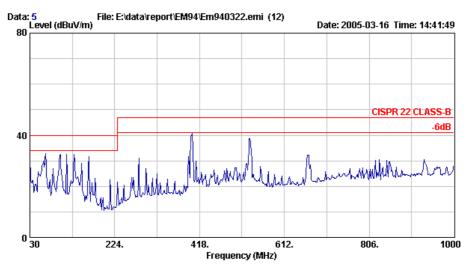
Test Mode : 1600\*1200/85Hz 106KHz (D-SUB)

s/N:TY0405050



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Site no. : AUDIX Mini Chamber Data no. : 5

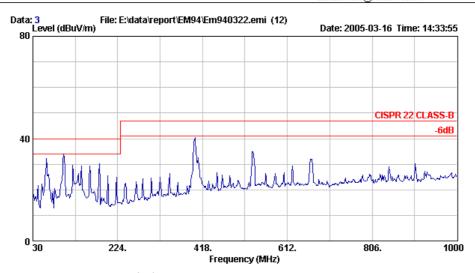
Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : VERTICAL Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

Test Mode : 1600\*1200/85Hz 106KHz (D-SUB)





Site no. : AUDIX Mini Chamber Data no. : 3

Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

EUT : Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

Test Mode : 1920\*1440/85Hz 128.5KHz (D-SUB)

s/N:TY0405050



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Email:ttemc@ttemc.com.tw

Data: 4 File: E:\data\report\EM94\Em940322.emi (12)

Date: 2005-03-16 Time: 14:35:45

CISPR 22 CLASS-B
6dB

0 30 224. 418. 612. 806. 1000
Frequency (MHz)

Site no. : AUDIX Mini Chamber Data no. : 4

Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : VERTICAL

Limit : CISPR 22 CLASS-B

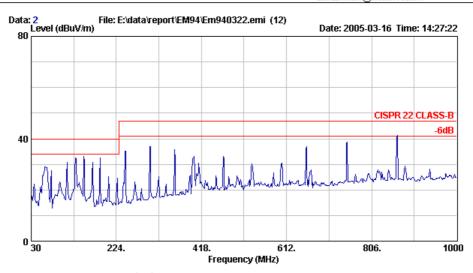
Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

EUT : Display Color Monitor M/N:202P70

Power Rating: 120Vac/60Hz

Test Mode : 1920\*1440/85Hz 128.5KHz (D-SUB)





: AUDIX Mini Chamber Site no. Data no. : 2

Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : HORIZONTAL

Limit : CISPR 22 CLASS-B

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

: Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

Test Mode : 2048\*1536/80Hz 130KHz (D-SUB)

s/N:TY0405050



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File: E:\data\report\EM94\Em940322.emi (12) Data: 1 Level (dBuV/m) Date: 2005-03-16 Time: 14:25:28 80 CISPR 22 CLASS-B 40 0 🗀

Frequency (MHz)

612.

Data no. : 1

Site no. : AUDIX Mini Chamber Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : VERTICAL

418.

: CISPR 22 CLASS-B Limit

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

: Display Color Monitor M/N:202P70

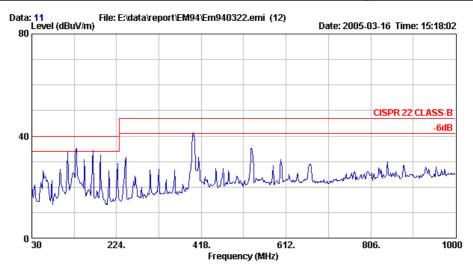
Power Rating: 120Vac/60Hz

Test Mode : 2048\*1536/80Hz 130KHz (D-SUB)

s/N:TY0405050

1000





Site no. : AUDIX Mini Chamber Dis. / Ant. : 3m CBL6112B(2818) Data no. : 11

Ant. pol. : HORIZONTAL

: CISPR 22 CLASS-B Limit

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

: Display Color Monitor M/N:202P70

Power Rating : 120Vac/60Hz

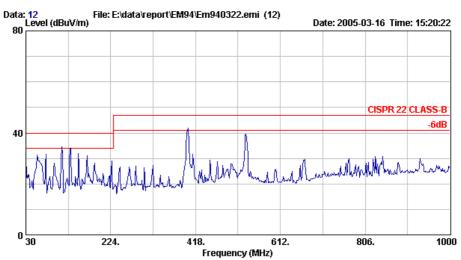
Test Mode : 2048\*1536/80Hz 130KHz (BNC)

s/N:TY0405050



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Email:ttemc@ttemc.com.tw



: AUDIX Mini Chamber Site no. Data no. : 12 Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : VERTICAL

: CISPR 22 CLASS-B Limit

Env. / Ins. : 24\*C/40% E7405A Engineer : kent sun

: Display Color Monitor M/N:202P70 EUT

Power Rating : 120Vac / 60Hz

: 2048\*1536/80Hz 130KHz (BNC) Test Mode