### TEST REPORT FOR CERTIFICATION

On Behalf for

Philips Electronics Industries (Taiwan) Ltd.

20" Flat Panel Color Monitor

Model No.: 200P7

FCC ID.: A3KM148

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 : EM941312 Report Number : EM-F940273

Date of Test : Nov.  $16 \sim 17,2005$ Date of Report : Nov. 22,2005

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### TEST REPORT CERTIFICATION

Applicant : Philips Electronics Industries (Taiwan) Ltd.
 Manufacturer : Philips Electronics Industries (Taiwan) Ltd.
 Factory #1 : Philips Consumer Elec. Co. of Suzhou Ltd.

Factory #2 : TPV Electronics (Fujian) Co.,Ltd EUT Description : 20" Flat Panel Color Monitor

FCC ID. : A3KM148

(A) MODEL NO. : 200P7

(B) SERIAL NO. : TY0405334 (C) BRAND : PHILIPS

(D) POWER SUPPLY : AC  $100V-240V \sim 60-50Hz$ 

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

Measurement Procedure Used:

FCC CFR 47 Part 15 Subpart B/Sep. 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 section §15.107 (a) and §15.109 (a)(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 compliance with the FCC official limits.

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

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

Prepared by: ////// CEE NOV. 10:10

(Nita Lee/Assistant Administrator)

Test Engineer: / My Deng Nov. 28. 3005

(Alex Deng/Section Manager)

Approved & Authorized Signer: Klan Vin Nov. 28 2005

(Leon Liu/Senior Manager)

## 1. GENERAL INFORMATION

## 1.1. Description of Device

Description : 20" Flat Panel Color Monitor

FCC ID : A3KM148

Model Number : 200P7

Serial Number : TY0405334

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 : Philips Consumer Elec. Co. of Suzhou Ltd.

No. 161, Zhujiang Road, New District, Suzhou

215011, PRC

Factory #2 : TPV Electronics (Fujian) Co.,Ltd

Shangzheng, Yuanhong Road, Fuqing, Fujian,

China

LCD Panel : LPL, M/N LM201U04-SL02

Scanning Frequency : Horizontal: 30-93kHz

Vertical: 56-85Hz

Max Resolution : 1600\*1200/75Hz (D-Sub)

1600\*1200/60Hz (DVI)

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

Bonded two ferrite cores

DVI Data Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

USB Data Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

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

Date of Receipt of Sample : Nov. 16, 2005

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

## 1.2. Tested Supporting System Details

#### 1.2.1. PC SYSTEM

Model Number : DMC (Dell Dim 4600PC)

FCC ID : By DoC Manufacturer : Dell : R33002

VGA Card : Nvidia FX5200

Power Cord : Non-Shielded, Detachable, 1.8m

#### 1.2.2. KEYBOARD

Model Number : SK-8110 FCC ID : By DoC BSMI ID : T3A002 Manufacturer : Dell

Data Cable : Shielded, Undetachable, 1.5m

### 1.2.3. MOUSE

Model Number : M071KC
FCC ID : By DoC
BSMI ID : R41108
Manufacturer : Dell

Data Cable : Non-Shielded, Undetachable, 1.8m

#### 1.2.4. DOT MATRIX PRINTER

Model Number : KX-P2135 Serial Number : 8DMCN02139 FCC ID : ACJ5Z6KX-P2135

BSMI ID : 3872A371

Manufacturer : Matsushita (Brand: Panasonic)
Data Cable : Shielded, Detachable, 1.5m
Power Cord : Non-Shielded, Detachable, 1.8m

#### 1.2.5. MODEM

Model Number : DM-1414 Serial Number : 980034395 FCC ID : IFAXDM1414

Manufacturer : Aceex

Data Cable : Shielded, Detachable, 1.2m Power Adapter : Amigo, Model AM-91000A

Non-Shielded, Undetachable, 1.8m

#### 1.2.6. MICROPHONE

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

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

#### 1.2.7. USB2.0 EXTERNAL HARD DISK DRIVE #1 - LINK TO EUT

Model Number : F12-U

Serial Number : A0100214-4B90009

FCC ID : By DoC
BSMI ID : 3902C223
Manufacturer : TeraSys

Data Cable : Shielded, Detachable, 1.0m AC Adapter : YHI, M/N YS-1015-U12

BSMI ID 4872A185

I/P: 100-240VAC, 60/50Hz, 0.45A

O/P: +12VDC, 1.25A

Cord: Non-Shielded, Undetachable, 1.5m

Bonded a ferrite core

#### 1.2.8. USB2.0 EXTERNAL HARD DISK DRIVE #2 - LINK TO EUT

Model Number : F12

Serial Number : A0100214-5910010

FCC ID : By DoC BSMI ID : 3902C223 Manufacturer : TeraSys

Data Cable : Shielded, Detachable, 1.0m AC Adapter : YHI, M/N YS-1015-U12

BSMI ID 4872A185

I/P: 100-240VAC, 60/50Hz, 0.45A

O/P: +12VDC, 1.25A

Cord: Non-Shielded, Undetachable, 1.5m

Bonded a ferrite core

## 1.2.9. USB2.0 EXTERNAL HARD DISK DRIVE #3 - LINK TO EUT

Model Number : F12

Serial Number : A0100214-5780005

FCC ID : By DoC
BSMI ID : 3902C223
Manufacturer : TeraSys

Data Cable : Shielded, Detachable, 1.0m AC Adapter : YHI, M/N YS-1015-U12

**BSMI ID 4872A185** 

I/P: 100-240VAC, 60/50Hz, 0.45A

O/P: +12VDC, 1.25A

Cord: Non-Shielded, Undetachable, 1.5m

Bonded a ferrite core

#### 1.2.10.USB2.0 EXTERNAL HARD DISK DRIVE #4 - LINK TO EUT

Model Number : F12-U

Serial Number : A0100214-4CG0011

FCC ID : By DoC
BSMI ID : 3902C223
Manufacturer : TeraSys

Data Cable : Shielded, Detachable, 1.0m AC Adapter : YHI, M/N YS-1015-U12

BSMI ID 4872A185

I/P: 100-240VAC, 60/50Hz, 0.45A

O/P: +12VDC, 1.25A

Cord: Non-Shielded, Undetachable, 1.5m

Bonded a ferrite core

1.2.11. WALKMAN

Model Number : RQ-P35LT-K Serial Number : HA08697 Manufacturer : Panasonic

Data Cable : Non-Shielded, Detachable, 1.8m

1.2.12. SPEAKER

Model Number : J-008

Serial Number : 97-C-008923-T

Manufacturer : (J-S) JAZZ HIPSTER

Data Cable : Non-Shielded, Undetachable, 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 : No. 4 Shielded Room

(C4/R3/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.

Feb. 10, 2003 Re-File on

Federal Communication Commission

Registration Number: 90996

**Simple Anechoic Chamber** 

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

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 =  $ku_c(y)$ 

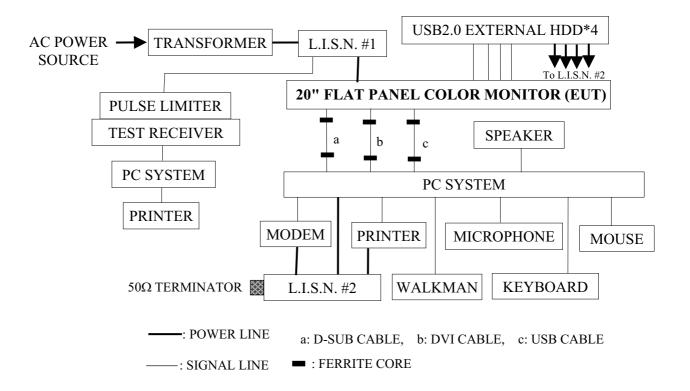
## 2. CONDUCTED EMISSION MEASUREMENT

## 2.1. Test Equipment

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

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESHS10	844591/015	Mar. 05, 05'	Mar. 04, 06'
2.	L.I.S.N. #1	Kyoritsu	KNW-407	8-1430-5	Sep. 27, 05'	Sep. 26, 06'
3.	L.I.S.N. #2	Kyoritsu	KNW-407	8-1430-6	Sep. 27, 05'	Sep. 26, 06'
4.	Pulse Limiter	R & S	ESH3Z2	004	Apr. 09, 05'	Apr. 08, 06'

## 2.2. Block Diagram of Test Setup



## 2.3. Limits for Conducted Emission (§15.107(a), Class B)

Frequency	Maximum F	RF Line Voltage		
	Quasi-Peak Level	Average Level		
150kHz ~ 500kHz	66 ~ 56 dBμV	$56 \sim 46 \; dB \mu V$		
500kHz ~ 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. 20" Flat Panel Color Monitor (EUT)

Model Number : 200P7
Brand : PHILIPS
FCC ID. : A3KM148

Manufacturer : Philips Electronics Industries (Taiwan) Ltd.

LCD Panel : LPL, M/N LM201U04-SL02

Scanning Frequency : Horizontal: 30-93kHz

Vertical: 56-85Hz

Max Resolution : 1600\*1200/75Hz (D-Sub)

1600\*1200/60Hz (DVI)

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

Bonded two ferrite cores

DVI Data Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

USB Data Cable : Shielded, Detachable, 1.8m

Bonded two ferrite cores

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 equipment.
- 2.5.3. The PC system read data from disk.
- 2.5.4. The PC system running the EMI self-test program "IBM Pattern" by windows XP and sent "H" character to 20" Flat Panel Color Monitor (EUT) through VGA card, the screen displayed and filled with "H" pattern by EUT's resolution via D-Sub or DVI input.
- 2.5.5. The PC system read data from external HDDs and then wrote data into external HDDs via USB inputs.
- 2.5.6. Repeat the above procedures from 2.5.4. to 2.5.5.
- 2.5.7. 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 ESHS10 was set at 10kHz.

The frequency range from 0.15MHz 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. Conducted Emission Measurement Results

#### PASSED.

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

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

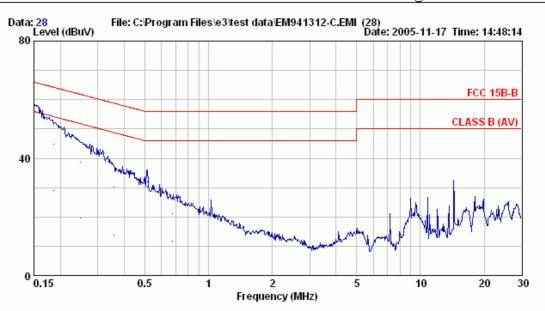
EUT: 20" Flat Panel Color Monitor M/N: 200P7

Test Date: Nov. 17, 2005 Temperature: 21°C Humidity: 60%

The details of test modes are as follows:

Mode	Input Port	Resolution/ Frequency	Panel Position	Reference Test Data No.		
1,1000	111p ## 1 010	resolution/Trequency	1 and 1 osmon	Line	Neutral	
1.		640*480/60Hz, 31kHz	0°/Horizontal	# 28	# 27	
2.	D-Sub	1280*1024/85Hz, 91kHz	0°/Horizontal	# 25	# 26	
3.		1600*1200/75Hz, 94kHz	0°/Horizontal	# 24	# 23	
5.		640*480/60Hz, 31kHz	0°/Horizontal	# 17	# 18	
6.	DVII	1280*1024/75Hz, 80kHz	0°/Horizontal	# 20	# 19	
7.	DVI	1600*1200/60Hz, 75kHz	0°/Horizontal	# 21	# 22	
8.		1200*1600/60Hz	90°/Vertical	# 16	# 15	





Site : NO.4 Shielded Room Data : 28 Condition : KNW-407 Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

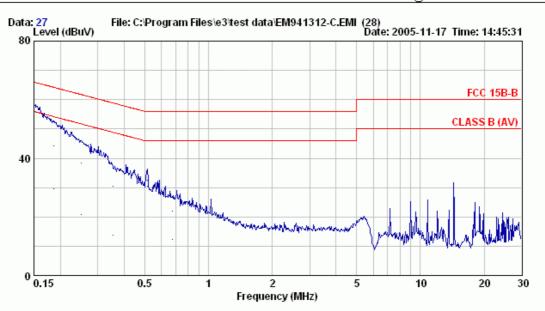
Power Rating : 120Vac / 60Hz

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	0.150	0.30	0.20	51.11	51.61	65.98	14.37	QP
2	0.150	0.30	0.20	35.20	35.70	55.98	20.28	AVERAGE
3	0.187	0.22	0.21	44.27	44.70	64.19	19.49	QP
4	0.187	0.22	0.21	28.48	28.91	54.19	25.28	AVERAGE
5	0.248	0.17	0.22	38.17	38.56	61.82	23.26	QP
6	0.248	0.17	0.22	19.28	19.67	51.82	32.15	AVERAGE
7	0.357	0.12	0.25	29.76	30.13	58.80	28.67	QP
8	0.357	0.12	0.25	13.30	13.67	48.80	35.13	AVERAGE
9	0.513	0.10	0.29	31.60	31.99	56.00	24.01	QP
10	0.513	0.10	0.29	29.72	30.11	46.00	15.89	AVERAGE
11	0.678	0.10	0.32	20.82	21.24	56.00	34.76	QP
12	0.678	0.10	0.32	11.24	11.66	46.00	34.34	AVERAGE

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





Site : NO.4 Shielded Room Data : 27 Condition : KNW-407 Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

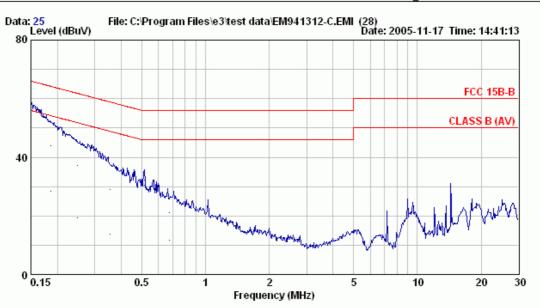
Power Rating : 120Vac / 60Hz

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

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.150	0.30	0.20	50.83	 51.33	65.98	14.65	OP
2	0.150	0.30	0.20	36.53	37.03	55.98	18.95	AVERAGE
3	0.185	0.23	0.21	43.83	44.26	64.25	19.98	QP
4	0.185	0.23	0.21	29.11	29.54	54.25	24.70	AVERAGE
5	0.250	0.17	0.22	37.89	38.28	61.75	23.47	QP
6	0.250	0.17	0.22	20.55	20.94	51.75	30.81	AVERAGE
7	0.354	0.12	0.25	29.98	30.35	58.86	28.51	QP
8	0.354	0.12	0.25	13.41	13.78	48.86	35.08	AVERAGE
9	0.515	0.10	0.29	32.08	32.47	56.00	23.53	QP
10	0.515	0.10	0.29	30.04	30.43	46.00	15.57	AVERAGE
11	0.678	0.10	0.32	21.44	21.86	56.00	34.14	QP
12	0.678	0.10	0.32	11.85	12.27	46.00	33.73	AVERAGE

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





Site : NO.4 Shielded Room Data : 25 Condition : KNW-407 Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

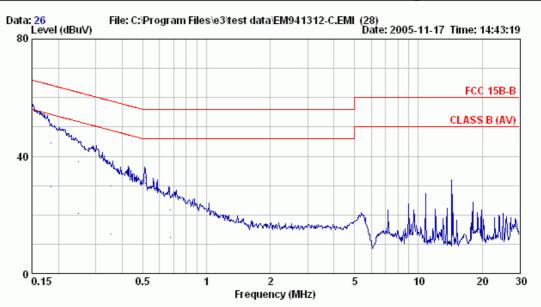
Power Rating : 120Vac / 60Hz

Test Mode : 1280\*1024 / 85Hz; 91KHz(D-SUB)

	Freq.	LISN Factor	Cable Loss	Reading	Emission Level	Limits	Margin	Remark	
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV) 	(dBµV)	(dB)		_
1	0.150	0.30	0.20	50.66	51.16	65.99	14.83	QP	
2	0.150	0.30	0.20	35.45	35.95	55.99	20.04	AVERAGE	
3	0.186	0.22	0.21	43.39	43.82	64.20	20.38	QP	
4	0.186	0.22	0.21	28.03	28.46	54.20	25.74	AVERAGE	
5	0.249	0.17	0.22	36.77	37.16	61.80	24.64	QP	
6	0.249	0.17	0.22	18.87	19.26	51.80	32.54	AVERAGE	
7	0.354	0.12	0.24	28.63	28.99	58.87	29.88	QP	
8	0.354	0.12	0.24	13.35	13.71	48.87	35.16	AVERAGE	
9	0.514	0.10	0.29	31.82	32.21	56.00	23.79	QP	
10	0.514	0.10	0.29	30.18	30.57	46.00	15.43	AVERAGE	
11	0.678	0.10	0.32	20.74	21.16	56.00	34.84	QP	
12	0.678	0.10	0.32	11.29	11.71	46.00	34.29	AVERAGE	

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





Site : NO.4 Shielded Room Data : 26 Condition : KNW-407 Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

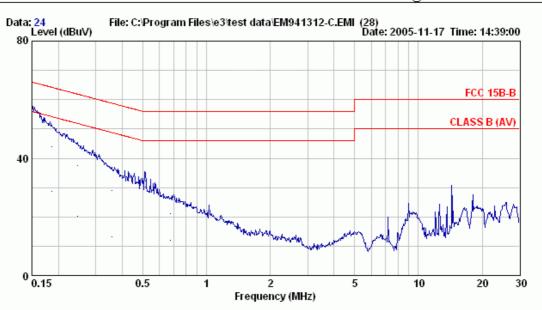
Power Rating : 120Vac / 60Hz

Test Mode : 1280\*1024 / 85Hz; 91KHz(D-SUB)

		LISN	Cable		Emission				
	Freq. (MHz)	Factor (dB)	Loss (dB)	Reading (dBµV)	Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark	
1 2	0.150 0.150	0.30 0.30	0.20 0.20	50.91 36.59	51.41 37.09	65.98 55.98	14.57 18.89	QP AVERAGE	
3	0.184	0.23	0.21	43.99	44.42	64.30	19.88	QP	
4	0.184	0.23	0.21	29.02	29.45	54.30	24.85	AVERAGE	
5	0.249	0.17	0.22	37.63	38.02	61.81	23.79	QP	
6	0.249	0.17	0.22	20.09	20.48	51.81	31.33	AVERAGE	
7	0.356	0.12	0.25	29.55	29.92	58.83	28.91	QP	
8	0.356	0.12	0.25	13.18	13.55	48.83	35.28	AVERAGE	
9	0.513	0.10	0.29	32.32	32.71	56.00	23.29	QP	
10	0.513	0.10	0.29	30.38	30.77	46.00	15.23	AVERAGE	
11	0.675	0.10	0.32	21.36	21.78	56.00	34.22	QP	
12	0.675	0.10	0.32	12.01	12.43	46.00	33.57	AVERAGE	

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





Site : NO.4 Shielded Room Data : 24 Condition : KNW-407 Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

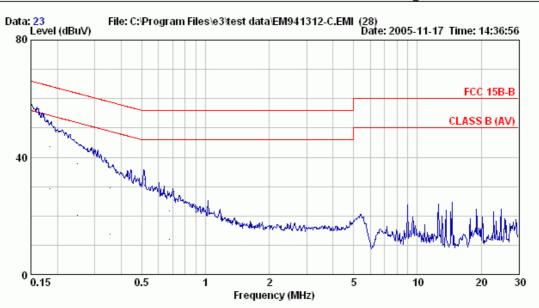
Power Rating : 120Vac / 60Hz

Test Mode : 1600\*1200 / 75Hz; 94KHz(D-SUB)

			LISN	Cable		Emission			
		Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
_		(MHz)	(dB) 	(dB) 	(dBμV) 	(dBµV)	(dBµV)	(dB)	
	1	0.150	0.30	0.20	50.70	51.20	65.98	14.78	QP
	2	0.150	0.30	0.20	35.72	36.22	55.98	19.76	AVERAGE
	3	0.185	0.23	0.21	43.49	43.92	64.25	20.33	QP
	4	0.185	0.23	0.21	28.23	28.66	54.25	25.59	AVERAGE
	5	0.245	0.17	0.22	37.17	37.56	61.92	24.35	QP
	6	0.245	0.17	0.22	19.96	20.35	51.92	31.56	AVERAGE
	7	0.359	0.12	0.25	28.57	28.94	58.74	29.81	QP
	8	0.359	0.12	0.25	12.78	13.15	48.74	35.60	AVERAGE
	9	0.515	0.10	0.29	31.72	32.11	56.00	23.89	QP
	10	0.515	0.10	0.29	29.69	30.08	46.00	15.92	AVERAGE
	11	0.677	0.10	0.32	20.82	21.24	56.00	34.76	QP
	12	0.677	0.10	0.32	11.50	11.92	46.00	34.08	AVERAGE

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





Site : NO.4 Shielded Room Data : 23 Condition : KNW-407 Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

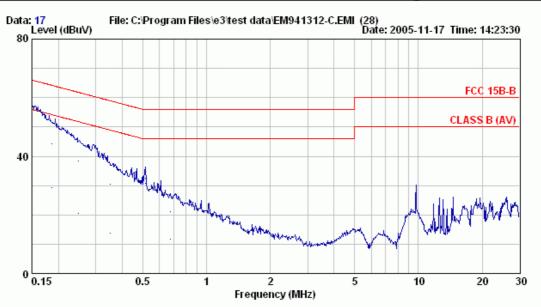
Power Rating : 120Vac / 60Hz

Test Mode : 1600\*1200 / 75Hz; 94KHz(D-SUB)

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1 2	0.150 0.150	0.30 0.30	0.20 0.20	50.93 36.71	51.43 37.21	66.00 56.00	14.57 18.79	QP AVERAGE
3	0.185	0.23	0.21	43.37	43.80	64.27	20.46	QP
4 5	0.185 0.247	0.23 0.17	0.21 0.22	28.95 37.45	29.38 37.84	54.27 61.84	24.88 24.00	AVERAGE
6	0.247	0.17	0.22	19.88	20.27	51.84	31.57	QP AVERAGE
7	0.356	0.12	0.25	29.25	29.62	58.83	29.21	QP
8	0.356	0.12	0.25	13.34	13.71	48.83	35.12	AVERAGE
9	0.513	0.10	0.29	32.00	32.39	56.00	23.61	QP
10	0.513	0.10	0.29	30.08	30.47	46.00	15.53	AVERAGE
11 12	0.678 0.678	0.10 0.10	0.32 0.32	21.30 11.61	21.72 12.03	56.00 46.00	34.28 33.97	QP AVERAGE

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





Site : NO.4 Shielded Room Data : 17 Condition : KNW-407 Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

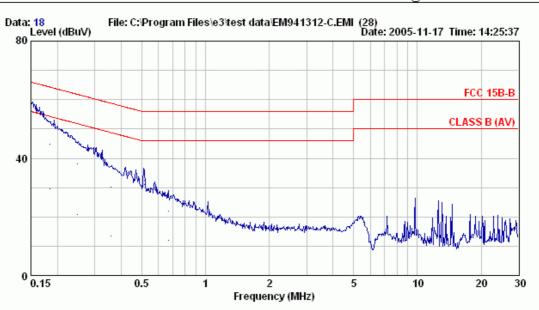
Power Rating : 120Vac / 60Hz

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

	_	LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading		Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.150	0.30	0.20	50.93	51.43	65.98	14.55	QP
2	0.150	0.30	0.20	35.92	36.42	55.98	19.56	AVERAGE
3	0.186	0.23	0.21	43.89	44.32	64.23	19.91	QP
4	0.186	0.23	0.21	28.79	29.22	54.23	25.01	AVERAGE
5	0.248	0.17	0.22	37.91	38.30	61.81	23.51	QP
6	0.248	0.17	0.22	20.02	20.41	51.81	31.40	AVERAGE
7	0.351	0.12	0.24	30.14	30.50	58.93	28.43	QP
8	0.351	0.12	0.24	13.40	13.76	48.93	35.17	AVERAGE
9	0.513	0.10	0.29	32.08	32.47	56.00	23.53	QP
10	0.513	0.10	0.29	30.24	30.63	46.00	15.37	AVERAGE
11	0.675	0.10	0.32	20.80	21.22	56.00	34.78	QP
12	0.675	0.10	0.32	11.41	11.83	46.00	34.17	AVERAGE

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





Site : NO.4 Shielded Room Data : 18 Condition : KNW-407 Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

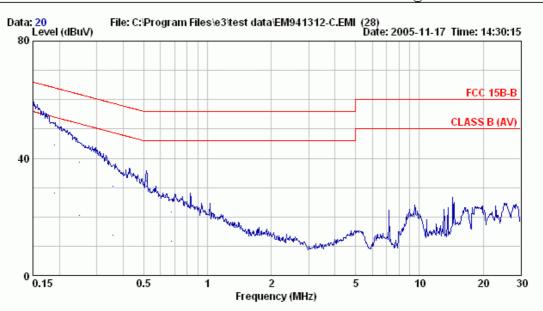
Power Rating : 120Vac / 60Hz

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

		LISN	Cable		Emission			
	Freq. (MHz)	Factor (dB)	Loss (dB)	Reading (dBµV)	Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.150	0.30	0.20	50.97	51.47	65.98	14.51	QP
2	0.150	0.30	0.20	36.48	36.98	55.98	19.00	AVERAGE
3	0.185	0.23	0.21	44.41	44.84	64.26	19.42	QP
4	0.185	0.23	0.21	29.19	29.62	54.26	24.64	AVERAGE
5	0.249	0.17	0.22	37.59	37.98	61.80	23.82	QP
6	0.249	0.17	0.22	20.47	20.86	51.80	30.94	AVERAGE
7	0.357	0.12	0.25	29.80	30.17	58.81	28.64	QP
8	0.357	0.12	0.25	13.16	13.53	48.81	35.28	AVERAGE
9	0.513	0.10	0.29	32.12	32.51	56.00	23.49	QP
10	0.513	0.10	0.29	30.56	30.95	46.00	15.05	AVERAGE
11	0.672	0.10	0.32	21.52	21.94	56.00	34.06	QP
12	0.672	0.10	0.32	11.68	12.10	46.00	33.90	AVERAGE

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





Site : NO.4 Shielded Room Data : 20 Condition : KNW-407 Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

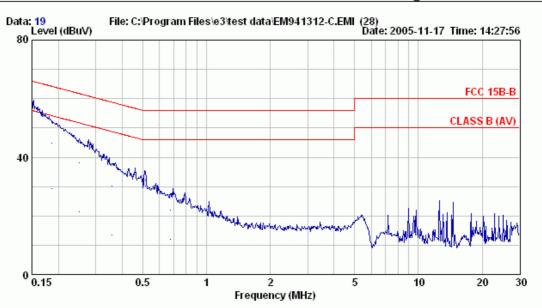
Power Rating : 120Vac / 60Hz

Test Mode : 1280\*1024 / 75Hz;80KHz(DVI)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBμV)	(dBµV)	(dBµV)	(dB)	
1	0.150	0.30	0.20	50.97	51.47	65.98	14.51	QP
2	0.150	0.30	0.20	35.81	36.31	55.98	19.67	AVERAGE
3	0.189	0.22	0.21	44.25	44.68	64.09	19.42	QP
4	0.189	0.22	0.21	27.70	28.13	54.09	25.97	AVERAGE
5	0.248	0.17	0.22	38.15	38.54	61.83	23.29	QP
6	0.248	0.17	0.22	20.01	20.40	51.83	31.43	AVERAGE
7	0.357	0.12	0.25	29.98	30.35	58.81	28.46	QP
8	0.357	0.12	0.25	13.37	13.74	48.81	35.07	AVERAGE
9	0.513	0.10	0.29	31.90	32.29	56.00	23.71	QP
10	0.513	0.10	0.29	30.23	30.62	46.00	15.38	AVERAGE
11	0.675	0.10	0.32	21.26	21.68	56.00	34.32	QP
12	0.675	0.10	0.32	11.24	11.66	46.00	34.34	AVERAGE

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





Site : NO.4 Shielded Room Data : 19 Condition : KNW-407 Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

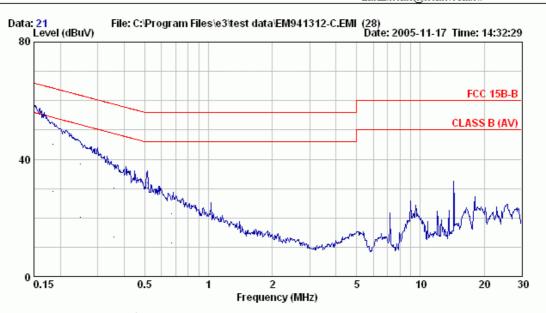
Power Rating : 120Vac / 60Hz

Test Mode : 1280\*1024 / 75Hz;80KHz(DVI)

			LISN	Cable		Emission			
		Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
		(MHz)	(dB)	(dB)	(dBμV)	(dBμV)	(dBμV)	(dB)	
-	1	0.150	0.30	0.20	51.45	51.95	66.00	14.05	OP
	2	0.150	0.30	0.20	36.82	37.32	56.00	18.68	AVERAGE
	3	0.187	0.22	0.21	44.29	44.72	64.19	19.47	QP
	4	0.187	0.22	0.21	29.01	29.44	54.19	24.75	AVERAGE
	5	0.251	0.17	0.22	37.67	38.06	61.71	23.65	QP
	6	0.251	0.17	0.22	21.03	21.42	51.71	30.29	AVERAGE
	7	0.357	0.12	0.25	29.84	30.21	58.80	28.59	QP
	8	0.357	0.12	0.25	13.10	13.47	48.80	35.33	AVERAGE
	9	0.516	0.10	0.29	31.80	32.19	56.00	23.81	QP
	10	0.516	0.10	0.29	29.67	30.06	46.00	15.94	AVERAGE
	11	0.672	0.10	0.32	21.62	22.04	56.00	33.96	QP
	12	0.672	0.10	0.32	11.69	12.11	46.00	33.89	AVERAGE

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





Site : NO.4 Shielded Room Data : 21 Condition : KNW-407 Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

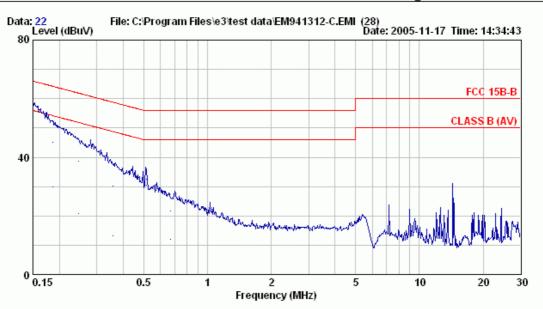
Power Rating : 120Vac / 60Hz

Test Mode : 1600\*1200 / 60Hz;75KHz(DVI)

		LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBµV)	(dBµV)	(dBµV)	(dB)	
1	0.150	0.30	0.20	50.99	51.49	65.98	14.49	QP
2	0.150	0.30	0.20	35.56	36.06	55.98	19.92	AVERAGE
3	0.185	0.23	0.21	44.57	45.00	64.26	19.26	QP
4	0.185	0.23	0.21	28.57	29.00	54.26	25.26	AVERAGE
5	0.248	0.17	0.22	38.09	38.48	61.83	23.35	QP
6	0.248	0.17	0.22	19.75	20.14	51.83	31.69	AVERAGE
7	0.358	0.12	0.25	29.84	30.21	58.78	28.58	QP
8	0.358	0.12	0.25	13.02	13.39	48.78	35.40	AVERAGE
9	0.515	0.10	0.29	31.52	31.91	56.00	24.09	QP
10	0.515	0.10	0.29	29.73	30.12	46.00	15.88	AVERAGE
11	0.671	0.10	0.32	20.88	21.30	56.00	34.70	QP
12	0.671	0.10	0.32	11.00	11.42	46.00	34.58	AVERAGE

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





Site : NO.4 Shielded Room Data : 22 Condition : KNW-407 Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

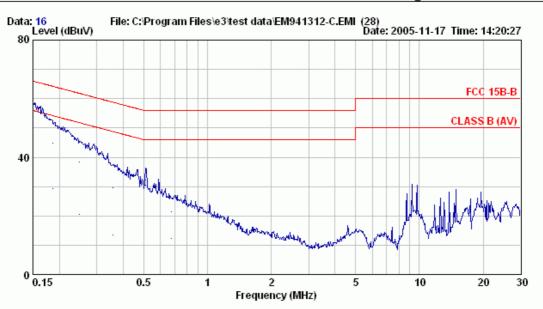
Power Rating : 120Vac / 60Hz

Test Mode : 1600\*1200 / 60Hz;75KHz(DVI)

	_	LISN	Cable		Emission			
	Freq.	Factor	Loss	Reading		Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dΒμV) 	(dBµV)	(dBµV)	(dB)	
1	0.150	0.30	0.20	51.09	51.59	65.97	14.39	QP
2	0.150	0.30	0.20	36.54	37.04	55.97	18.94	AVERAGE
3	0.185	0.23	0.21	44.57	45.00	64.25	19.25	QP
4	0.185	0.23	0.21	29.34	29.77	54.25	24.48	AVERAGE
5	0.247	0.17	0.22	38.29	38.68	61.86	23.18	QP
6	0.247	0.17	0.22	20.46	20.85	51.86	31.01	AVERAGE
7	0.357	0.12	0.25	29.82	30.19	58.80	28.61	QP
8	0.357	0.12	0.25	12.87	13.24	48.80	35.56	AVERAGE
9	0.514	0.10	0.29	32.02	32.41	56.00	23.59	QP
10	0.514	0.10	0.29	29.98	30.37	46.00	15.63	AVERAGE
11	0.670	0.10	0.32	21.12	21.54	56.00	34.46	QP
12	0.670	0.10	0.32	11.64	12.06	46.00	33.94	AVERAGE

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





Site : NO.4 Shielded Room Data : 16 Condition : KNW-407 Phase : LINE

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

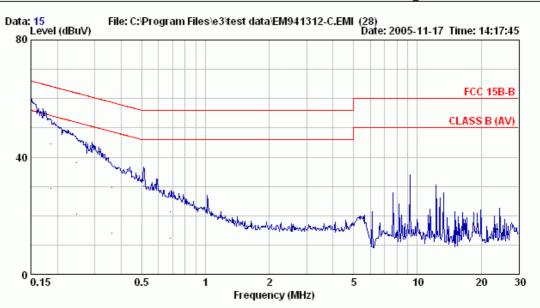
Power Rating : 120Vac / 60Hz

Test Mode : 1200\*1600 / 60Hz(DVI)Rotate

			LISN	Cable		Emission			
		Freq. (MHz)	Factor (dB)	Loss (dB)	Reading (dBµV)	Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
-	1	0.150	0.30	0.20	 51.25	51.75	 65.99	14.24	OP
	2	0.150	0.30	0.20	36.00	36.50	55.99	19.49	AVERAGE
	3	0.186	0.23	0.21	44.51	44.94	64.24	19.29	QP
	4	0.186	0.23	0.21	29.00	29.43	54.24	24.80	AVERAGE
	5	0.249	0.17	0.22	38.13	38.52	61.80	23.28	QP
	6	0.249	0.17	0.22	20.23	20.62	51.80	31.18	AVERAGE
	7	0.359	0.12	0.25	29.13	29.50	58.75	29.26	QP
	8	0.359	0.12	0.25	13.22	13.59	48.75	35.17	AVERAGE
	9	0.512	0.10	0.29	31.84	32.23	56.00	23.77	QP
	10	0.512	0.10	0.29	30.08	30.47	46.00	15.53	AVERAGE
	11	0.675	0.10	0.32	20.84	21.26	56.00	34.74	QP
	12	0.675	0.10	0.32	11.84	12.26	46.00	33.74	AVERAGE

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





Site : NO.4 Shielded Room Data : 15 Condition : KNW-407 Phase : NEUTRAL

Limit : FCC 15B-B

Env. / Ins. : 21\*C / 60% ESHS10 Engineer: Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac / 60Hz

Test Mode : 1200\*1600 / 60Hz(DVI)Rotate

	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.150	0.30	0.20	51.37	51.87	65.98	14.11	QP
2	0.150	0.30	0.20	36.97	37.47	55.98	18.51	AVERAGE
3	0.186	0.22	0.21	44.25	44.68	64.20	19.51	QP
4	0.186	0.22	0.21	28.80	29.23	54.20	24.96	AVERAGE
5	0.245	0.17	0.22	37.83	38.22	61.91	23.69	QP
6	0.245	0.17	0.22	20.03	20.42	51.91	31.49	AVERAGE
7	0.362	0.11	0.25	29.25	29.61	58.69	29.08	QP
8	0.362	0.11	0.25	13.64	14.00	48.69	34.69	AVERAGE
9	0.511	0.10	0.29	31.54	31.93	56.00	24.07	QP
10	0.511	0.10	0.29	29.67	30.06	46.00	15.94	AVERAGE
11	0.681	0.10	0.32	21.02	21.44	56.00	34.56	QP
12	0.681	0.10	0.32	11.93	12.35	46.00	33.65	AVERAGE

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 tests:

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

Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E7405A	MY42000133	Jul. 06, 05'	Jul. 05, 06'
2.	Amplifier	HP	8447D	2944A06669	Aug. 03, 05'	Aug. 02, 06'
3.	Bilog Antenna	Schaffner	CBL6112B	2818	May 17, 05'	May 16, 06'

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

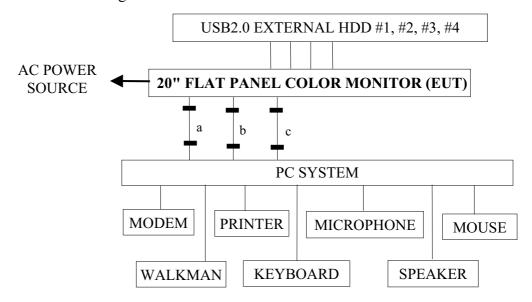
Item	Туре	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8590L	3710A01838	N/A	N/A
2.	Test Receiver	R & S	ESVS10	845165/002	Apr. 22, 05'	Apr. 21, 06'
3.	Amprifer	HP	8447D	2727A05737	N/A	N/A
4.	Biconical Antenna	Chase	VBA6106A	1227	Nov.14, 05'	Nov.13, 06'
5.	Log Periodic	Chase	UPA6109	1027	Nov.14, 05'	Nov.13, 06'
	Antenna					

## 3.1.3. For above 1GHz Frequency (For No. 3 Open Area Test Site)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E7405A	MY42000132	Jun. 04, 05'	Jun. 03, 06'
2.	Amplifier	HP	8449B	3008A00529	Jan. 14, 05'	Jan. 13, 06'
3.	Horn Antenna	EMCO	3115	9609-4927	Jul. 08, 05'	Jul. 07, 06'

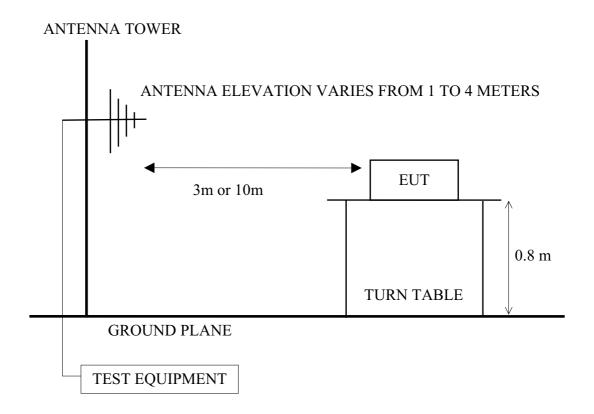
# 3.2. Block Diagram of Test Setup

3.2.1. Block Diagram of connection between EUT and simulators

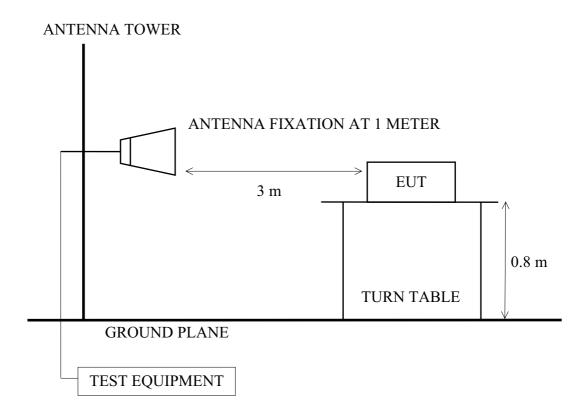


■: FERRITE CORE a: D-SUB CABLE, b: DVI CABLE, c: USB CABLE

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 (3)	30 (40)
230 ~ 1000	10 (3)	37 (47)
Above 1GHz	3	74.0 (Peak)
Above 1GHz	3	54.0 (Average)

- 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 (a), (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 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 at simple anechoic chamber) 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 at open area test site, bilog antenna at simple anechoic chamber) 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 pre-scanned 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 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 to 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 E7405A was set at 1MHz.

The frequency range from 1GHz to 2GHz was checked with Peak & Average detector.

#### 3.7. Radiated Emission Measurement Results

#### PASSED.

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

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

EUT with following test modes were measured at Simple Anechoic chamber and all the scanning waveform were listed in section 3.7.1.

EUT: 20" Flat Panel Color Monitor M/N: 200P7

Test Date: Nov. 17, 2005 Temperature: 20°C Humidity: 59%

The details of test modes are as follows:

Mode	Input Port	Resolution/ Frequency	Panel Position	Reference Test Data No.		
1,1000	IIIp die 1 oft	resolution/ Frequency	T difer I obtain	Horizontal	Vertical	
1.		640*480/60Hz, 31kHz	0°/Horizontal	# 5	# 6	
2.	D-Sub	1280*1024/85Hz, 91kHz	0°/Horizontal	# 4	# 3	
3.		1600*1200/75Hz, 94kHz	0°/Horizontal	# 1	# 2	
5.		640*480/60Hz, 31kHz	0°/Horizontal	# 8	# 7	
6.	DVII	1280*1024/75Hz, 80kHz	0°/Horizontal	# 9	# 10	
7.	DVI	1600*1200/60Hz, 75kHz	0°/Horizontal	# 12	# 11	
8.		1200*1600/60Hz	90°/Vertical	# 13	# 14	

Finally, selected the worst test modes [Mode 7] were measured at No. 3 open area test site and all the test results are listed in 3.7.2.

Test Date: Nov. 16, 2005 Temperature: 22°C Humidity: 63%

The details of test modes are as follows:

Mode	Input Port	Resolution/ Frequency	Panel Position	Reference Test Data No.	
				Horizontal	Vertical
7.*	DVI	1600*1200/60Hz, 75kHz	0°/Horizontal	# 3	# 4

(\*mode for maximum detected emission)

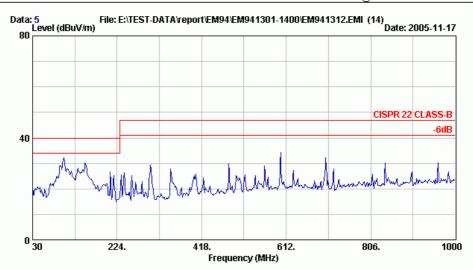
### For 1GHz~2GHz frequency range:

The EUT was measured with the spectrum analyzer from 1GHz to 2GHz, and found the noise from EUT was lower than ambient, therefore there is no data was attached, Please refer to section 5.4. for the photos of testing setup.

### 3.7.1. 30-1000MHz Frequency Range Radiated Emission Measurement Results at Simple Anechoic Chamber



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: AUDIX Mini Chamber Site no.

Data no. : 5
Ant. pol. : HORIZONTAL Dis. / Ant. : 3m CBL6112B(2818)

Limit : CISPR 22 CLASS-B

Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

: 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz

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



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File: E:\TEST-DATA\report\EM94\EM941301-1400\EM941312.EMI (14)
Date: 2005-11-17 Level (dBuV/m) ខ្លា CISPR 22 CLASS-B 1000 Frequency (MHz)

: AUDIX Mini Chamber Data no. : 6

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

Limit : CISPR 22 CLASS-B

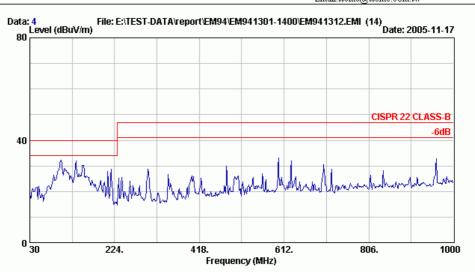
: 20\*C / 59% Agilent E7405Angineer : Tony Chen Env. / Ins.

: 20" Flat Panel Color Monitor M/N:200P7 EUT

Power Rating: 120Vac/60Hz

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





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

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

Limit : CISPR 22 CLASS-B

Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating: 120Vac/60Hz

Test Mode : 1280\*1024 / 85Hz;91KHz(D-SUB)



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

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

Limit : CISPR 22 CLASS-B

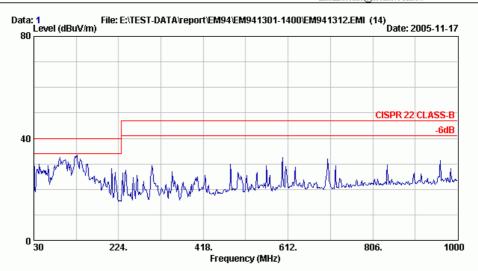
Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz

Test Mode : 1280\*1024 / 85Hz;91KHz(D-SUB)





Site no. : AUDIX Mini Chamber Data no. : 1

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

Limit : CISPR 22 CLASS-B

Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz

Test Mode : 1600\*1200 / 75Hz;94KHz(D-SUB)



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Email:ttemc@ttemc.com.tw

Data: 2 | File: E:\TEST-DATA/report\EM94\EM941301-1400\EM941312.EMI (14) | Date: 2005-11-17 | Date: 2005-11-

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

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

Limit : CISPR 22 CLASS-B

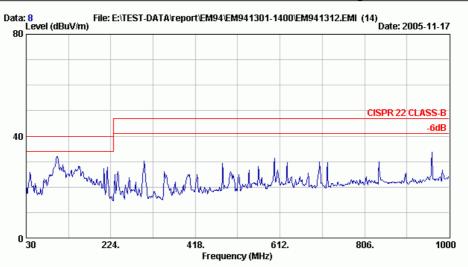
Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz

Test Mode : 1600\*1200 / 75Hz;94KHz(D-SUB)





Site no. : AUDIX Mini Chamber Data no. : 8

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

Limit : CISPR 22 CLASS-B

Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

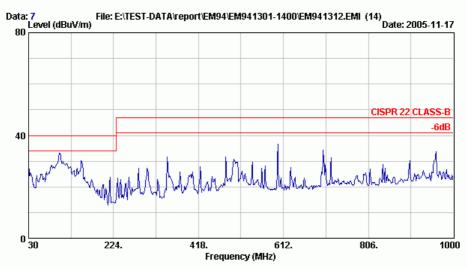
Power Rating : 120Vac/60Hz

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



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Site no. : AUDIX Mini Chamber Data no. : 7

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

Limit : CISPR 22 CLASS-B

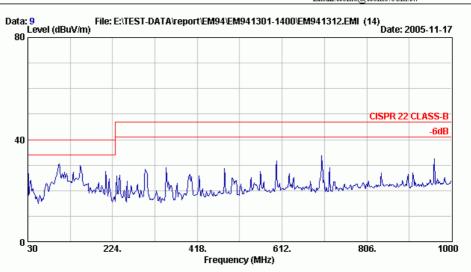
Env. / Ins. :  $20 \pm C$  / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz

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





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

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

Limit : CISPR 22 CLASS-B Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

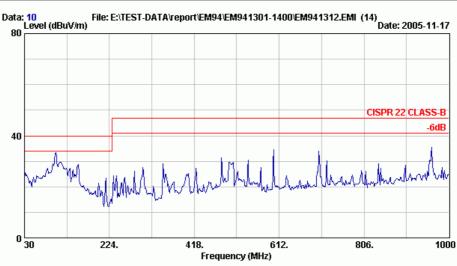
: 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz

Test Mode : 1280\*1024 / 75Hz;80KHz(DVI)



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

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

: CISPR 22 CLASS-B

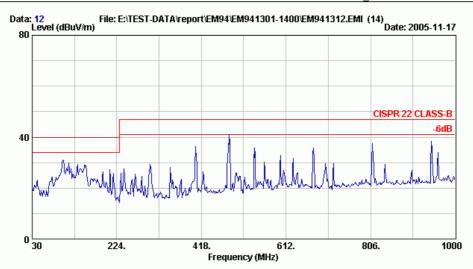
Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

: 20" Flat Panel Color Monitor M/N:200P7

Power Rating: 120Vac/60Hz

Test Mode : 1280\*1024 / 75Hz;80KHz(DVI)





: AUDIX Mini Chamber Site no. Data no. : 12

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

: CISPR 22 CLASS-B Limit

Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

: 20" Flat Panel Color Monitor M/N:200P7

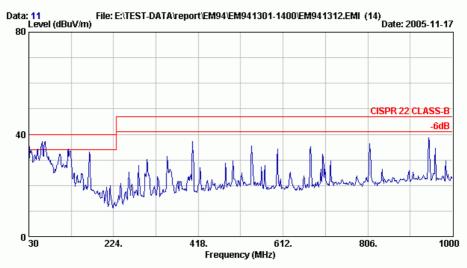
Power Rating : 120Vac/60Hz

Test Mode : 1600\*1200 / 60Hz;75KHz(DVI)



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

Data no. : 11 Ant. pol. : VERTICAL

: CISPR 22 CLASS-B Limit

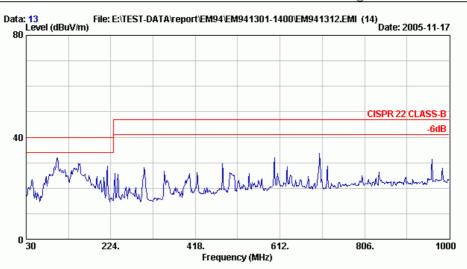
: 20\*C / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz Test Mode : 1600\*1200 / 60Hz;75KHz(DVI)



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Site no. : AUDIX Mini Chamber Data no. : 13

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

Limit : CISPR 22 CLASS-B

Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz

Test Mode : 1200\*1600 / 60Hz(DVI)Rotate



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Email:ttemc@ttemc.com.tw

Data: 14
Level (dBuV/m)

File: E:\TEST-DATA\report\EM94\EM941301-1400\EM941312.EMI (14)
Date: 2005-11-17

CISPR 22 CLASS-B
-6dB

Frequency (MHz)

612.

Site no. : AUDIX Mini Chamber Data no. : 14
Dis. / Ant. : 3m CBL6112B(2818) Ant. pol. : VERTICAL

418.

Limit : CISPR 22 CLASS-B

Env. / Ins. : 20\*C / 59% Agilent E7405Angineer : Tony Chen

EUT : 20" Flat Panel Color Monitor M/N:200P7

Power Rating : 120Vac/60Hz

0 <u>~</u>

Test Mode : 1200\*1600 / 60Hz(DVI)Rotate

224.

1000

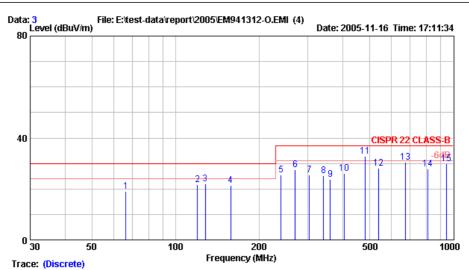
## 3.7.2. 30-1000MHz Frequency Range Radiated Emission Measurement Results at No. 3 Open Area Test Site



Env. / Ins.

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Engineer : ALEX HUANG



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

Dis. / Ant. : 10m 6106A/6109(0104) Ant. pol. : HORIZONTAL Limit : CISPR 22 CLASS-B : 22\*C/63% ESVS 10

: 20" Flat Panel Color Monitor Power Rating: 120Vac / 60Hz M/N:200P7 : 1600\*1200/60Hz ; 75KHz (DVI)

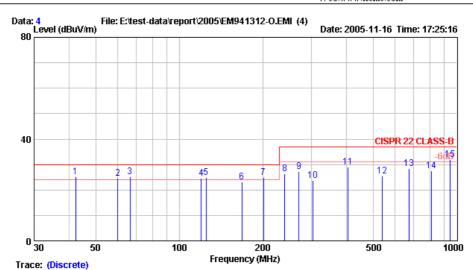
		Ant.	Cable		Emission			
	Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	$(\mathtt{dB}\mu\mathtt{V})$	$(dB \mu V/m)$	$(dB \mu V/m)$	) (dB)	
1	66.388	11.96	1.60	5.54	19.10	30.00	10.90	
2	120.000	18.82	2.20	0.80	21.82	30.00	8.18	
3	128.230	19.39	2.40	0.05	21.84	30.00	8.16	
4	157.960	20.07	2.40	-1.21	21.26	30.00	8.74	
5	240.001	21.92	3.20	0.40	25.52	37.00	11.48	
6	270.019	23.18	3.40	0.82	27.40	37.00	9.60	
7	303.675	13.60	3.60	8.17	25.37	37.00	11.63	
8	341.841	14.70	3.80	6.66	25.16	37.00	11.84	
9	361.232	14.90	4.00	4.89	23.79	37.00	13.21	
10	405.007	16.40	4.20	5.53	26.13	37.00	10.87	
11	482.370	17.84	4.80	10.08	32.72	37.00	4.28	*
12	540.010	19.28	5.20	3.78	28.26	37.00	8.74	
13	675.010	21.25	5.60	3.56	30.41	37.00	6.59	
14	810.009	22.72	6.40	-1.25	27.87	37.00	9.13	
15	945.009	24.48	7.20	-1.83	29.85	37.00	7.15	

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 482.370MHz with corrected signal level of  $32.72 dB\mu V/m$  (limit is  $37.0 dB\mu V/m$ ) when the antenna was at horizontal polarization and was at 1m high and the turn table was
- $\mathbf{4.~0}^{\circ}\mathbf{was}$  the table front facing the antenna. Degree is calculated from 0°clockwise facing the antenna.



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Web:www.ttemc.com



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

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

Limit : CISPR 22 CLASS-B

Env. / Ins. : 22\*C/63% ESVS 10 Engineer : ALEX HUANG

EUT : 20" Flat Panel Color Monitor Power Rating : 120Vac / 60Hz M/N:200P7 Test Mode : 1600\*1200/60Hz ; 75KHz (DVI)

	Freq. (MHz)		Loss	_	Emission Level (dB $\mu$ V/m)		_	Remark
1	42.340	18.47	1.20	5.60	25.27	30.00	4.73	
2	60.023	13.49	1.40	9.62	24.51	30.00	5.49	
3	66.500	13.46	1.60	10.24	25.30	30.00	4.70	*
4	120.015	19.27	2.20	3.22	24.69	30.00	5.31	
5	124.810	19.09	2.20	3.67	24.96	30.00	5.04	
6	168.000	19.90	2.60	0.62	23.12	30.00	6.88	
7	201.170	21.71	2.80	0.26	24.77	30.00	5.23	
8	240.032	20.66	3.20	2.48	26.34	37.00	10.66	
9	270.005	23.00	3.40	0.88	27.28	37.00	9.72	
10	303.649	13.91	3.60	6.13	23.64	37.00	13.36	
11	405.006	16.82	4.20	7.94	28.96	37.00	8.04	
12	540.026	18.96	5.20	1.40	25.56	37.00	11.44	
13	675.029	21.34	5.60	1.53	28.47	37.00	8.53	
14	810.026	22.61	6.40	-1.40	27.61	37.00	9.39	
15	945.029	24.68	7.20	-0.04	31.84	37.00	5.16	

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

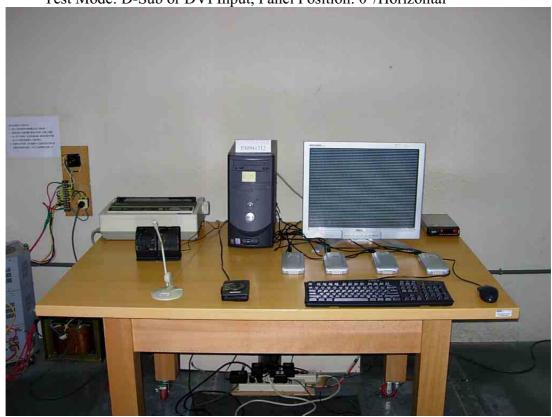
- 2. The emission levels that are 20dB below the official limit are not reported.
- 3. The worst emission was detected at 66.500 MHz with corrected signal level of  $25.30 dB\mu V/m$  (limit is  $30.0 dB\mu V/m$ ) when the antenna was at vertical polarization and was at 1m high and the turn table was at  $90^{\circ}$ .
- 4.  $0^{\circ}was$  the table front facing the antenna. Degree is calculated from  $0^{\circ}clockwise$  facing the antenna.

## 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 Eemission Measurement Test Mode: D-Sub or DVI Input, Panel Position: 0°/Horizontal



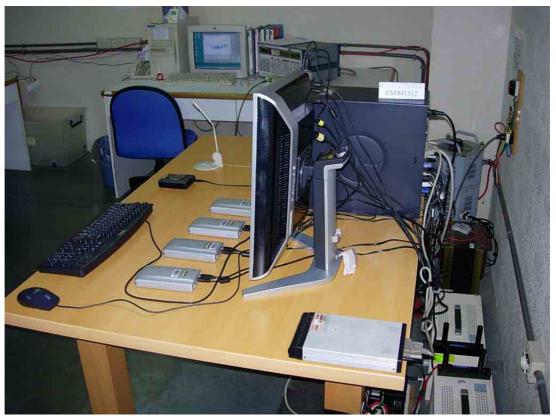
FRONT VIEW OF CONDUCTED MEASUREMENT



BACK VIEW OF CONDUCTED MEASUREMENT

Test Mode: DVI Input, Panel Position: 90°/Vertical





BACK VIEW OF CONDUCTED MEASUREMENT

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

Test Mode: D-Sub or DVI Input, Panel Position: 0°/Horizontal



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT

Test Mode: DVI Input, Panel Position: 90°/Vertical

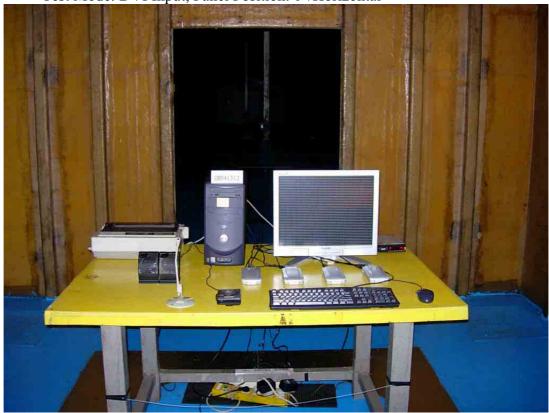




BACK VIEW OF RADIATED MEASUREMENT

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

Test Mode: DVI Input, Panel Position: 0°/Horizontal



FRONT VIEW OF RADIATED MEASUREMENT

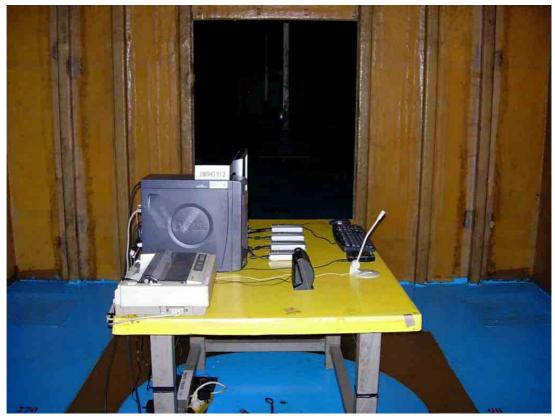


BACK VIEW OF RADIATED MEASUREMENT





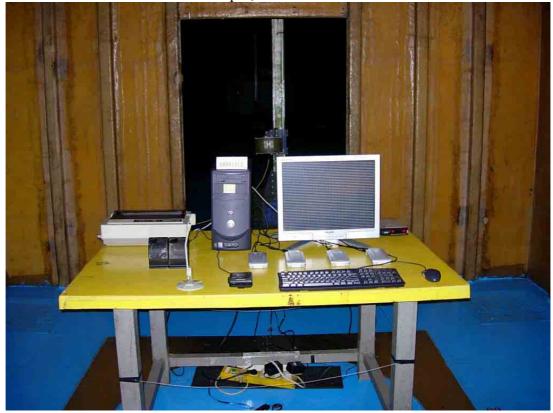
SETUP WITH MAXIMUM DETECTED EMISSION AT HORIZONTAL POLARIZATION



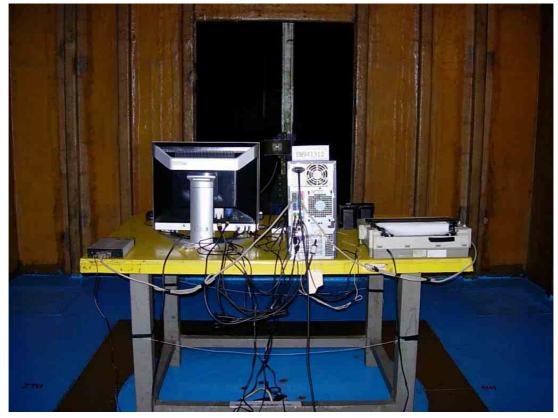
SETUP WITH MAXIMUM DETECTED EMISSION AT VERTICAL POLARIZATION

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

Test Mode: D-Sub or DVI Input, Panel Position: 0°/Horizontal



FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT

Test Mode: DVI Input, Panel Position: 90°/Vertical





BACK VIEW OF RADIATED MEASUREMENT

