APPLICATION FOR CERTIFICATION
(Class II Permissive Change)
On Behalf of
Philips Electronics Industries (Taiwan) Ltd.
LCD TV
Model No.：20PF5120
Brand : Philips Magnavox
FCC ID: A3KM136

Prepared for : Philips Electronics Industries (Taiwan) Ltd.
5, Tze Chiang 1 Rd, Chungli Ind. Park,
Chungli, Taoyuan Hsien, Taiwan, R.O.C.

Prepared By : AUDIX Corporation
Technical Division EMC Department
No. 53-11, Tin-Fu Tsun, Lin-Kou,
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File Number	：	EM940774
Report Number	：	EM-F940142
Date of Test	：	Jun. 29 ~ 30, 2005
Date of Report	：	Jul. 04, 2005

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TEST REPORT CERTIFICATION

(Class II Permissive Change)

Applicant	:	Philips Electronics Industries (Taiwan) Ltd.
Manufacturer	:	Philips Electronics Industries (Taiwan) Ltd.
Factory	:	Philips Consummer Electronics Co., of Suzhou Ltd.
EUT Description	:	LCD TV
FCC ID	:	A3KM136
	(A) MODEL NO.	: 20PF5120
	(B) SERIAL NO.	: TY0405209
	(C) BRAND NAME	: Philips Magnavox
	(D) POWER SUPPLY	: 16VDC, 3.0A
	(E) TEST VOLTAGE	: AC 120V/60Hz (Via Power Adapter)

Measurement Standards and Methods Used :

FCC CFR 47 Part15 / Jan. 2005 and CISPR 22/1997 and 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 (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 : Jun. 29 ~ 30, 2005

Prepared by : May Chen Jul. 08. 2005
(May Chen/Assistant)

Test Engineer : Jul. 08. 2005
(Jason Lin/Supervisor)

Approved & Authorized Signer : Leon Liu Jul 8 2005
(Leon Liu/Senior Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	LCD TV (The TV Tuner & AV Functions & HD Functions are not available in this test report)
Model Number	:	20PF5120
Serial Number	:	TY0405209
FCC ID.	:	A3KM136
Brand	:	Philips Magnavox
Applicant	:	Philips Electronics Industries (Taiwan) Ltd. 5, Tze Chiang 1 Rd, Chungli Ind. Park, Chungli, Taoyuan Hsien, Taiwan, R.O.C.
Manufacturer	:	Philips Electronics Industries (Taiwan) Ltd. 5, Tze Chiang 1 Rd, Chungli Ind. Park, Chungli, Taoyuan Hsien, Taiwan, R.O.C.
Factory	:	Philips Consummer Electronics Co., of Suzhou Ltd. No. 161, Zhujiang Road, New District, Suzhou 215011, PROC
LCD Panel	:	AUO, Type No. A201SN02
Scanning Frequency	:	Horizontal: 30-40kHz Vertical: 56-62Hz
Max Resolution	:	800*600/60Hz
DVI-A Data Cable	:	Shielded, Detachable, 1.8m Bonded two ferrite core
Power Adapter	:	Philips, EADP-60FB B AC Input: 100-240V~, 50-60Hz, 2A DC Output: 16V, 3.75A Cable: Shielded, Undetachable, 1.8m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.8m

Date of Test	:	Jun. 27, 2005
Data of Receipt of Sample	:	Jun. 29 ~ 30, 2005

Remark：
This EUT is a modified version of original FCC ID A3KM136, the differences are as follows:
(1) To Add a new model number (20PF5120)
(2) To Add a new Cabinets.
(3) To Add a new Cable (DVI-A Cable)

1.2. Tested Supporting System Details

1.2.1. PC SYSTEM

Model Name	:	Dell Dim 4600PC
Model Number	:	DMC
Serial Number	:	N/A
FCC ID.	:	by FCC DoC
BSMI ID	:	R33002
Manufacturer	:	DELL
VGA Card	:	Nvidia GF FX5200 Card
Power Cord	:	Non-shielded, Detachable, 1.8m

1.2.2. KEYBOARD

Model Number	:	SK-8110
Serial Number	:	N/A
BSMI ID	:	T3A002
FCC ID	:	by DoC
Manufacturer	:	DELL
Data Cable	:	Non-Shielded, Undetachable, 2m

1.2.3. PS2 MOUSE

Model Number	:	MO71KC
Serial Number	:	406012041
BSMI ID	:	R41108
FCC ID	:	by DoC
Manufacturer	:	DELL
Data Cable	:	Non-Shielded, Undetachable, 2m

1.2.4. PRINTER

Model Number	:	KX-P2135
Serial Number	:	8DMCNC02139
BSMI ID	:	3872A371
FCC ID	:	ACJ5Z6KX-P2135
Manufacturer	:	Matsushita (Brand: Panasonic)
Data Cable	:	Non-Shielded, Detachable, 1.5m
Power Cord	:	Non-Shielded, Undetachable, 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	:	HA08715
Manufacturer	:	Panasonic
Data Cable	:	Non-Shielded, Detachable, 1.8m

1.2.7. MICRO VAULT (USB STORAGE MEDIA)

Model Number	:	USM128U2
Serial Number	:	N/A
FCC ID	:	By DoC
BSMI ID	:	D33021
Manufacturer	:	SONY
Data Cable	:	Non-Shielded, Detachable, 2.0m

1.2.8. EARPHONE (Link to EUT)

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

1.2.9. COLOUR TV PATTERN GENERATOR (Link to EUT)

Model Number	:	PM5418TDSI
Type Number	:	LO646252
Manufacturer	:	Philips
Coaxial Cable	:	Shielded, Detachable, 1.5m
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.3. Description of Test Facility

Name of Firm	:	**Audix Corporation** Technical Division EMC Department No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei County, Taiwan, R.O.C.
Test Facility & Location (C3/R4)	:	**No. 3 Shielded Room** No. 67-4, Tin-Fu Tsun, Lin-Kou Hsiang, Taipei County 24443, Taiwan, R.O.C. **No. 4 Open Area Test Site** No. 67-4, Tin-Fu Tsun, Lin-Kou, Taipei County, Taiwan, R.O.C. March 31, 2003 Renewal on Federal Communication Commission Registration Number: 90991
NVLAP Lab. Code	:	200077-0
(NVLAP is a NATA accredited body under Mutual Recognition Agreement)		
DAR-Registration No.	:	DAT-P-145/03-01

1.4. Measurement Uncertainty

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

Remark：Uncertainty = $ku_c(y)$

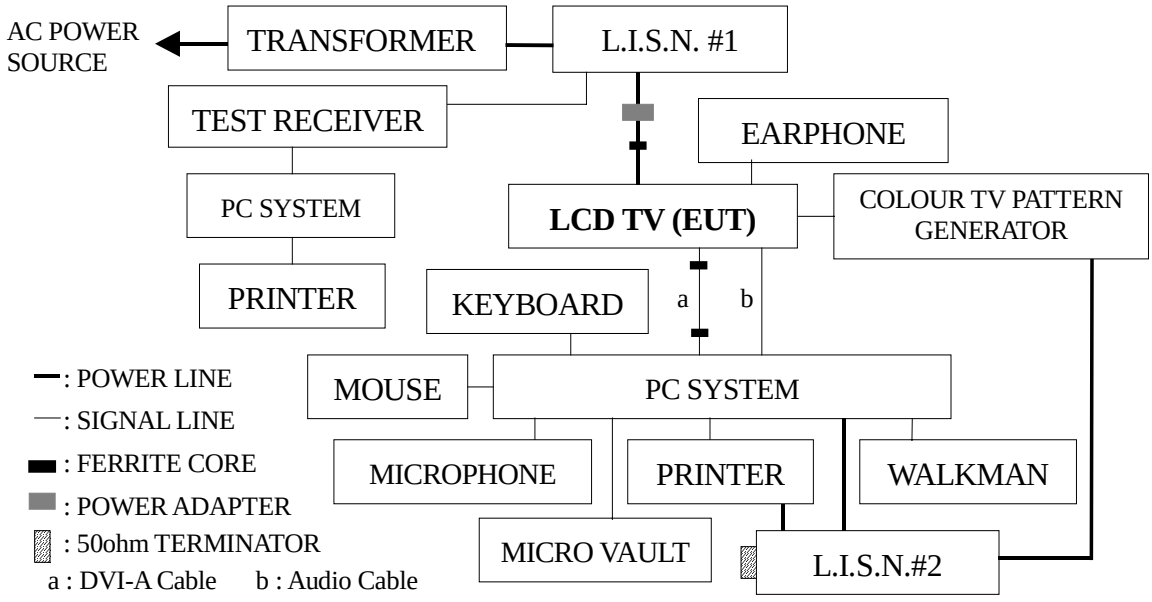
2. CONDUCTED DISTURBANCE MEASUREMENT

2.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCS 30	825442/020	Aug.05, 04’	Aug.04, 05’
2.	L.I.S.N. # 1	Kyoritsu	KNW-407	8-1539-2	Nov.18, 04’	Nov.17, 05’
3.	L.I.S.N. # 2	Kyoritsu	KNW-407	8-1539-3	Nov.18, 04’	Nov.17, 05’
4.	Pulse Limiter	R & S	ESH3-Z2	100041	Apr.09, 05’	Apr.08, 06’

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 ~ 56 dBμV	56 ~ 46 dBμV
500kHz ~ 5MHz	56 dBμV	46 dBμV
5MHz ~ 30MHz	60 dBμV	50 dBμV

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

2.4. EUT's Configuration during Compliance Measurement

The following equipments were installed on RF LINE VOLTAGE measurement to meet the Commission requirement and operating in a manner which tended to maximize its emission characteristics in a normal application.

2.4.1. LCD TV (EUT)

Model Number	:	20PF5120
Serial Number	:	TY0405209
FCC ID	:	A3KM136
Manufacturer	:	Philips Electronics Industries (Taiwan) Ltd.
LCD Panel	:	AUO, Type No. A201SN02
Scanning Frequency	:	Horizontal: 30-40kHz Vertical: 56-62Hz
Max Resolution	:	800*600/60Hz
DVI-A Cable	:	Shielded, Detachable, 1.8m Bonded two ferrite cores
Power Adapter	:	Philips, EADP-60FB B AC Input: 100-240V~, 50-60Hz, 2A DC Output: 16V, 3.75A Cable: Shielded, Undetachable, 1.8m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.8m

2.4.2. Supporting System : As in Section 1.2

2.5. Operating Condition of EUT

2.5.1. Setup the EUT and simulator as shown on 2.2.

2.5.2. Turned on the power of all equipments.

2.5.3. Personal computer read data from disk.

2.5.4. The PC System running the test program "Testpatvl" by Windows XP and the screen of EUT displayed "H" pattern by EUT's resolution via DVI Input.

2.5.5. Set the PC System to send the "H" pattern to EUT via DVI Input, and send the "Color Bar" image to EUT via RF Input. The screen of EUT display "H" pattern and the "Color Bar" image at same time during PIP mode testing.

2.5.6. The PC System running the program "Windows Media Player" and sent the sound to earphone of EUT during all testing.

2.5.7. The PC System read data from FDD and then wrote data into FDD, same operation from HDD.

2.5.8. The other peripheral devices were drove and operated in turn during all testing.

2.5.9. Repeat above procedure from 2.5.3 to 2.5.8.

2.6. Test Procedure

The EUT was connected to the power mains through a line impedance stabilization network (L.I.S.N. #1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N. #2). This provided a 50ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)
Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to FCC ANSI C63.4-2003 on conducted measurement.

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

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

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

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

EUT **:** LCD TV Model No.**:** 20PF5120

Test Date: Jun. 29, 2005 Temperature: 26 °C Humidity: 54 %

The details of test modes are as follows:

Mode	Input Port	Frequency / Resolution, Image	Reference Test Data No.	
			Neutral	Line
1.	DVI	640*480/60Hz, 31kHz; H Pattern	# 3	# 4
2.		800*600/60Hz, 38kHz; H Pattern	# 2	# 1
3.	DVI + RF	H Pattern + Image “Color Bar” (PIP Mode)	# 6	# 5

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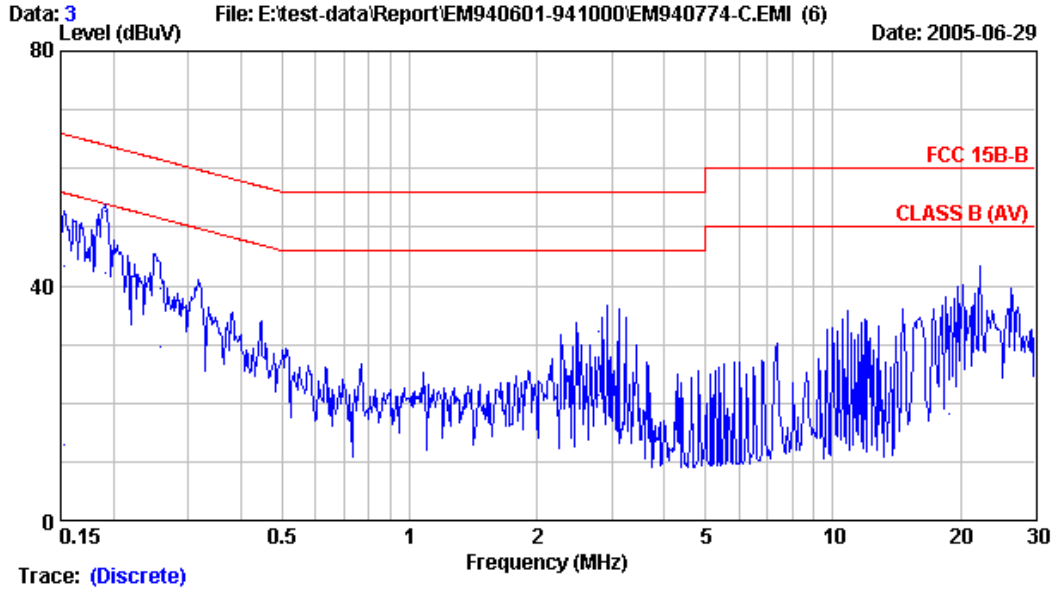

Site : NO.3 Shielded Room
Condition : KNW-407
Limit : FCC 15B-B
Env. / Ins. : 26*C/54% ESCS30
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac/60Hz
Test Mode : 640*480/60Hz/31KHz

Data : 3
Phase : NEUTRAL

Engineer: JAMES CHOU

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.152	0.29	0.20	42.87	43.36	65.87	22.51	QP
2	0.152	0.29	0.20	12.38	12.87	55.87	42.99	AVERAGE
3	0.192	0.21	0.20	52.39	52.80	63.97	11.16	QP
4	0.192	0.21	0.20	41.86	42.27	53.96	11.69	AVERAGE
5	0.259	0.16	0.20	39.31	39.67	61.47	21.79	QP
6	0.259	0.16	0.20	29.12	29.48	51.46	21.98	AVERAGE
7	2.800	0.10	0.40	31.86	32.36	56.00	23.64	QP
8	2.801	0.10	0.40	20.90	21.40	46.00	24.60	AVERAGE
9	3.249	0.10	0.40	33.19	33.69	56.00	22.31	QP
10	3.250	0.10	0.40	22.11	22.61	46.00	23.39	AVERAGE
11	18.732	0.28	0.70	31.49	32.47	60.00	27.53	QP
12	18.734	0.28	0.70	17.29	18.27	50.00	31.73	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector ,the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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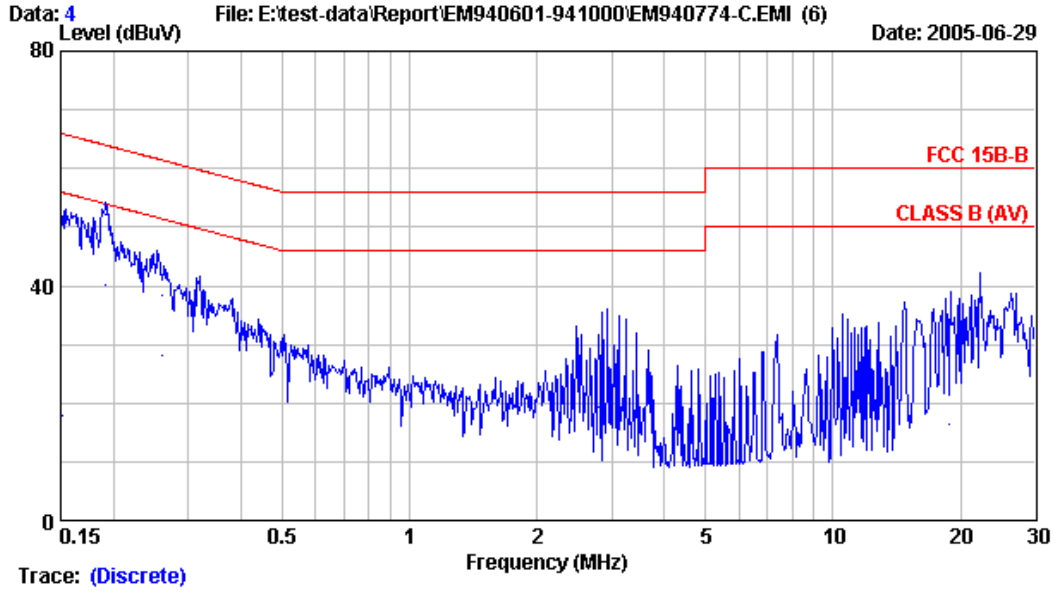

Site : NO.3 Shielded Room
Condition : KNW-407
Limit : FCC 15B-B
Env. / Ins. : 26*C/54% ESCS30
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac/60Hz
Test Mode : 640*480/60Hz/31KHz

Data : 4
Phase : LINE

Engineer: JAMES CHOU

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.151	0.30	0.20	44.90	45.40	65.96	20.57	QP
2	0.151	0.30	0.20	17.28	17.78	55.96	38.18	AVERAGE
3	0.192	0.21	0.20	51.71	52.12	63.95	11.83	QP
4	0.192	0.21	0.20	39.80	40.21	53.95	13.73	AVERAGE
5	0.259	0.16	0.20	37.94	38.30	61.46	23.15	QP
6	0.259	0.16	0.20	27.82	28.18	51.45	23.27	AVERAGE
7	2.803	0.10	0.40	28.60	29.10	56.00	26.90	QP
8	2.804	0.10	0.40	18.81	19.31	46.00	26.69	AVERAGE
9	3.248	0.10	0.40	33.27	33.77	56.00	22.23	QP
10	3.249	0.10	0.40	23.18	23.68	46.00	22.32	AVERAGE
11	18.731	0.28	0.70	30.74	31.72	60.00	28.28	QP
12	18.733	0.28	0.70	15.35	16.33	50.00	33.67	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector ,the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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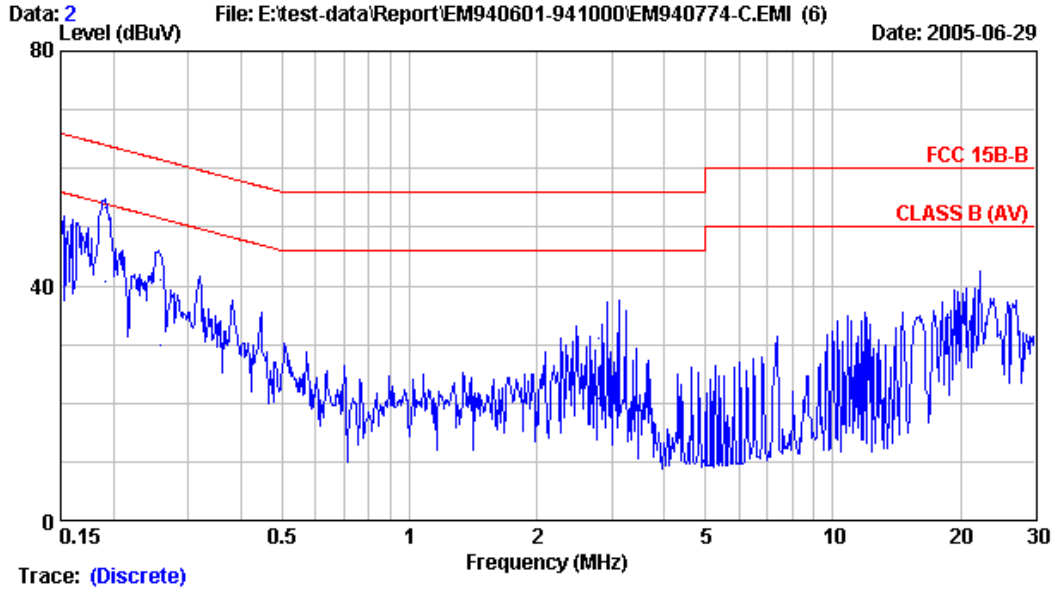

Site : NO.3 Shielded Room
Condition : KNW-407
Limit : FCC 15B-B
Env. / Ins. : 26*C/54% ESCS30
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac/60Hz
Test Mode : 800*600/60Hz/38KHz

Data : 2
Phase : NEUTRAL

Engineer: JAMES CHOU

	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	43.05	43.55	65.99	22.44	QP
2	0.150	0.30	0.20	14.73	15.23	55.98	40.75	AVERAGE
3	0.191	0.21	0.20	53.03	53.44	63.99	10.55	QP
4	0.191	0.21	0.20	40.39	40.80	53.99	13.18	AVERAGE
5	0.258	0.16	0.20	40.55	40.91	61.48	20.57	QP
6	0.259	0.16	0.20	29.66	30.02	51.48	21.46	AVERAGE
7	2.803	0.10	0.40	30.67	31.17	56.00	24.83	QP
8	2.803	0.10	0.40	20.23	20.73	46.00	25.27	AVERAGE
9	3.250	0.10	0.40	33.90	34.40	56.00	21.60	QP
10	3.251	0.10	0.40	21.40	21.90	46.00	24.10	AVERAGE
11	18.729	0.28	0.70	33.58	34.56	60.00	25.44	QP
12	18.730	0.28	0.70	24.65	25.63	50.00	24.37	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector ,the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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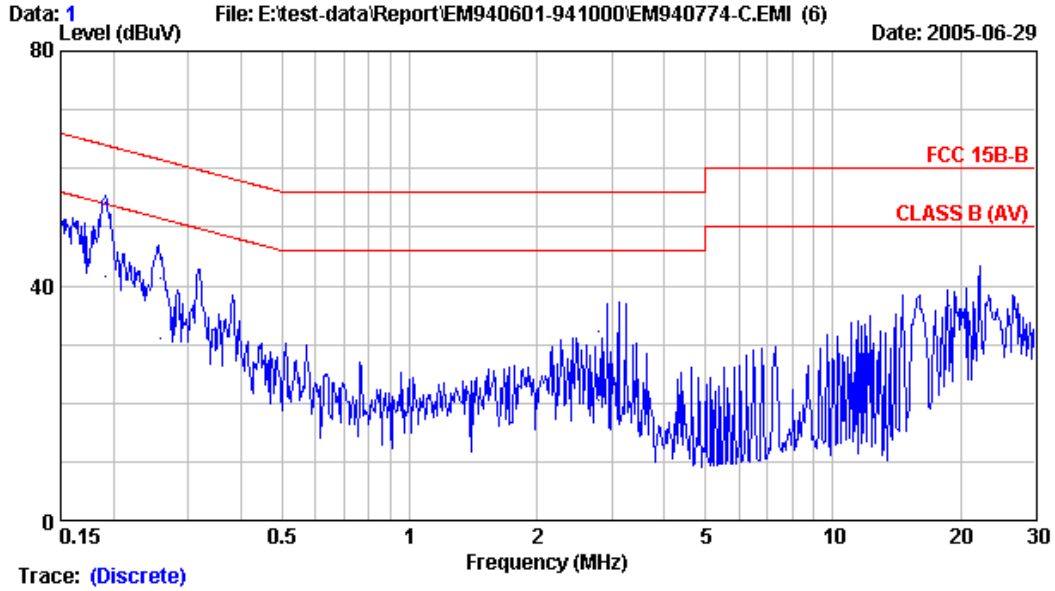

Site : NO.3 Shielded Room
Condition : KNW-407
Limit : FCC 15B-B
Env. / Ins. : 26*C/54% ESCS30
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac/60Hz
Test Mode : 800*600/60Hz/38KHz

Data : 1
Phase : LINE

Engineer: JAMES CHOU

	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	43.89	44.39	66.00	21.61	QP
2	0.150	0.30	0.20	13.15	13.65	55.99	42.34	AVERAGE
3	0.191	0.21	0.20	53.88	54.29	63.99	9.70	QP
4	0.191	0.21	0.20	41.21	41.62	53.99	12.36	AVERAGE
5	0.259	0.16	0.20	40.99	41.35	61.47	20.12	QP
6	0.259	0.16	0.20	30.60	30.96	51.47	20.51	AVERAGE
7	2.802	0.10	0.40	31.76	32.26	56.00	23.74	QP
8	2.803	0.10	0.40	20.10	20.60	46.00	25.40	AVERAGE
9	3.248	0.10	0.40	34.54	35.04	56.00	20.96	QP
10	3.248	0.10	0.40	23.63	24.13	46.00	21.87	AVERAGE
11	18.728	0.28	0.70	35.56	36.54	60.00	23.46	QP
12	18.729	0.28	0.70	28.56	29.54	50.00	20.46	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector ,the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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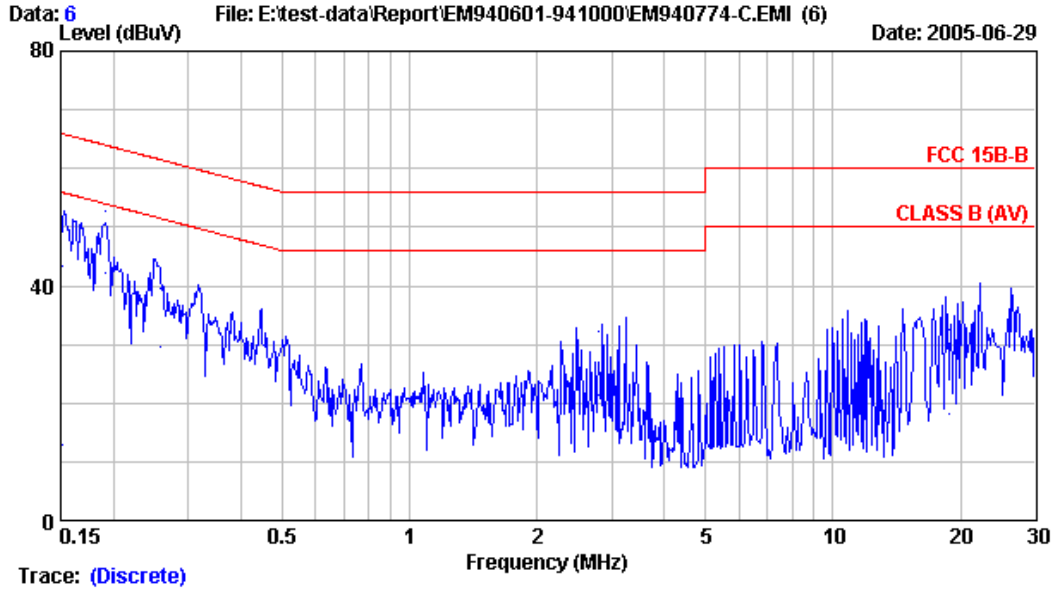

Site : NO.3 Shielded Room
Condition : KNW-407
Limit : FCC 15B-B
Env. / Ins. : 26*C/54% ESCS30
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac/60Hz
Test Mode : PIP

Data : 6
Phase : NEUTRAL

Engineer: JAMES CHOU

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.151	0.30	0.20	42.87	43.36	65.92	22.56	QP
2	0.151	0.30	0.20	12.38	12.87	55.92	43.05	AVERAGE
3	0.192	0.21	0.20	52.39	52.80	63.96	11.16	QP
4	0.192	0.21	0.20	41.86	42.27	53.96	11.69	AVERAGE
5	0.259	0.16	0.20	39.31	39.67	61.47	21.79	QP
6	0.259	0.16	0.20	29.12	29.48	51.47	21.98	AVERAGE
7	2.800	0.10	0.40	31.86	32.36	56.00	23.64	QP
8	2.801	0.10	0.40	20.90	21.40	46.00	24.60	AVERAGE
9	3.250	0.10	0.40	33.19	33.69	56.00	22.31	QP
10	3.253	0.10	0.40	22.11	22.61	46.00	23.39	AVERAGE
11	18.731	0.28	0.70	31.49	32.47	60.00	27.53	QP
12	18.734	0.28	0.70	17.29	18.27	50.00	31.73	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector ,the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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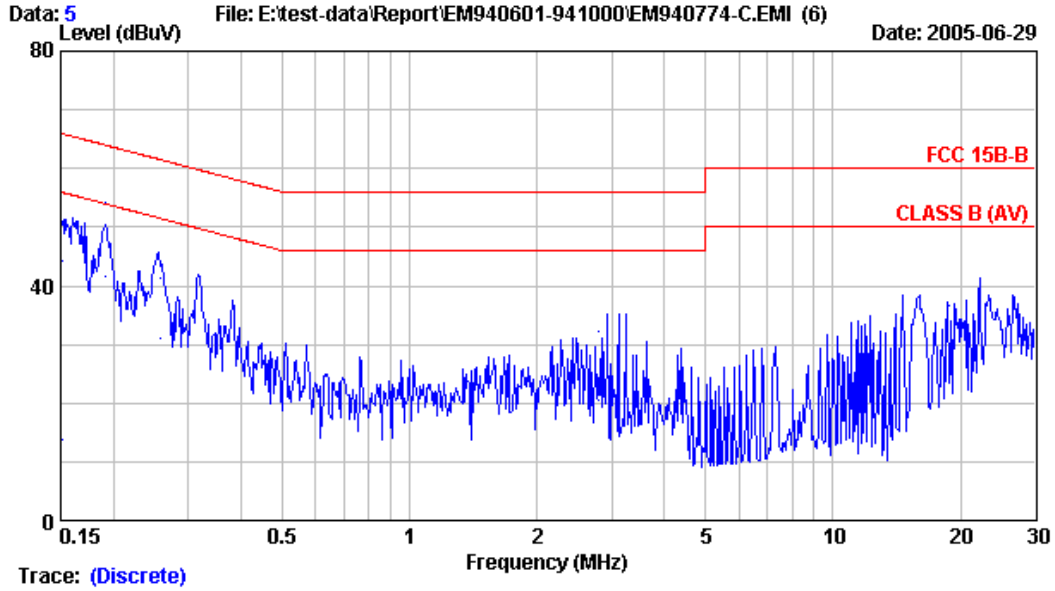


Site : NO.3 Shielded Room
Condition : KNW-407
Limit : FCC 15B-B
Env. / Ins. : 26*C/54% ESCS30
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac/60Hz
Test Mode : PIP

Data : 5
Phase : LINE

Engineer: JAMES CHOU

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.151	0.30	0.20	43.89	44.39	65.94	21.55	QP
2	0.151	0.30	0.20	13.15	13.65	55.94	42.29	AVERAGE
3	0.191	0.21	0.20	53.88	54.29	63.99	9.70	QP
4	0.191	0.21	0.20	41.21	41.62	53.99	12.36	AVERAG
5	0.259	0.16	0.20	40.99	41.35	61.48	20.12	QP
6	0.259	0.16	0.20	30.60	30.96	51.47	20.51	AVERAGE
7	2.800	0.10	0.40	31.76	32.26	56.00	23.74	QP
8	2.803	0.10	0.40	20.10	20.60	46.00	25.40	AVERAGE
9	3.246	0.10	0.40	34.54	35.04	56.00	20.96	QP
10	3.249	0.10	0.40	23.63	24.13	46.00	21.87	AVERAGE
11	18.727	0.28	0.70	35.56	36.54	60.00	23.46	QP
12	18.730	0.28	0.70	28.56	29.54	50.00	20.46	AVERAGE

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector ,the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

3. RADIATED DISTURBANCE MEASUREMENT

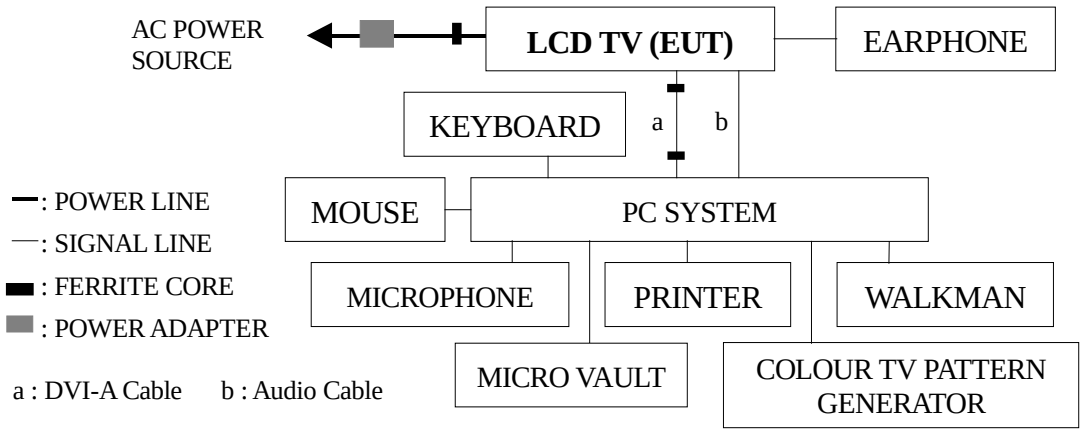
3.1. Test Equipment

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

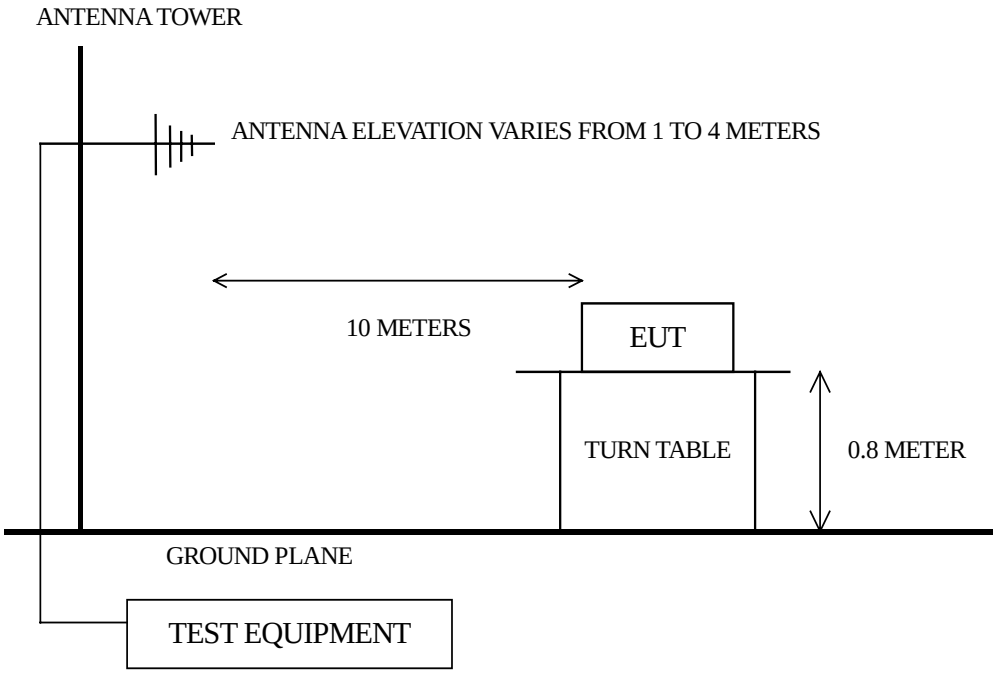
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8590L	3624A01446	N/A	N/A
2.	Test Receiver	R & S	ESVS10	845165/018	Jun. 08, 05’	Jun. 07, 06’
3.	Amplifier	HP	8447D	1937A02488	N/A	N/A
4.	Broadband Antenna	Chase	VBA6106A	1231	Nov.15, 04’	Nov.14, 05’
5.	Log Periodic Antenna	Chase	UPA6109	1020	Nov.15, 04’	Nov.14, 05’

3.2. Block Diagram of Test Setup

3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Open Area Test Site Setup Diagram



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 (MHz)	DISTANCE (Meters)	FIELD STRENGTHS LIMITS (dBμV/m)
30 ~ 230	10	30
230 ~ 1000	10	37

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.

3.4. EUT's Configuration during Compliance Measurement

The configuration of EUT and its simulators were the same as those used in conducted measurement. Please refer to 2.4.

3.5. Operating Condition of EUT

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

3.6. Test Procedure

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table rotate 360 degrees to determine the position of the maximum emission level. EUT was set 10 meters away from the receiving antenna which were mounted on a antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated biconical and log periodical antenna) and dipole antenna were used as receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-2003 and CISPR 22 on radiated measurement.

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

The frequency range from 30MHz to 1000MHz was pre-scanned with a peak detector and the all final readings from test receiver were measured with Quasi-Peak detector.

3.7. Radiated Emission Measurement Results

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

The EUT with following test modes were performed during radiated measurement and all the test results were attached in next pages.

EUT **:** LCD TV Model No.**:** 20PF5120

Test Date: Jun. 30, 2005 Temperature: 32 °C Humidity: 52 %

The details of test modes are as follows:

Mode	Input Port	Frequency / Resolution, Image	Reference Test Data No.	
			Horizontal	Vertical
1.	**DVI**	640*480/60Hz, 31kHz; H Pattern	# 3	# 4
※2.		**800*600/60Hz, 38kHz; H Pattern**	**# 2**	**# 1**
3.	DVI + RF	H Pattern + Image “Color Bar” (PIP Mode)	# 6	# 5

(※ mode for maximum detected emission)

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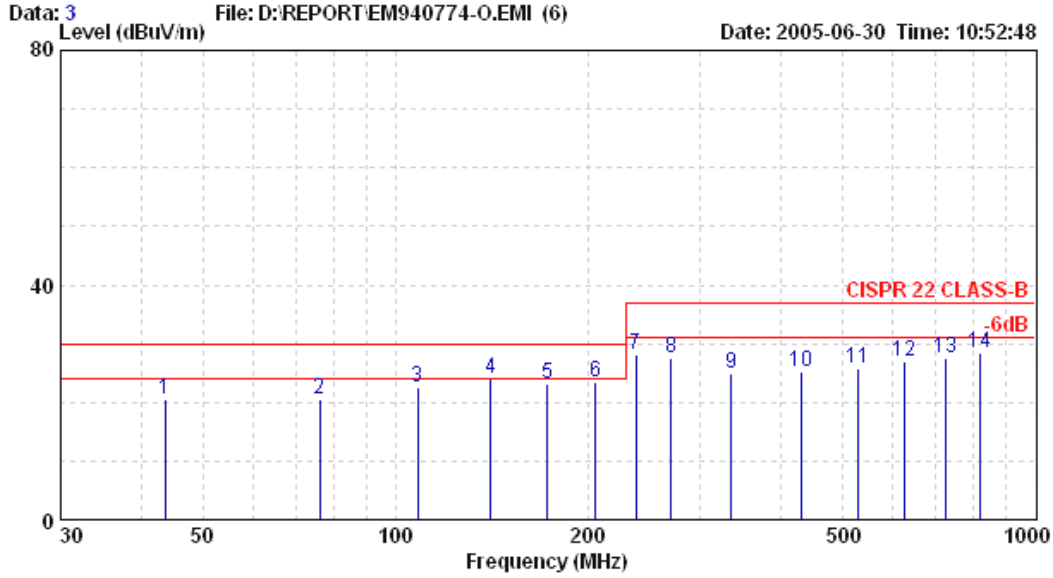

Site no. : NO.4 Open Site Data no. : 3
Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : HORIZONTAL
Limit : CISPR 22 CLASS-B
Env. / Ins. : 32*C / 52% ESVS 10 Engineer : Tony Chen
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac / 60Hz
Test Mode : 640*480 / 60Hz;31KHz(DVI-A)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	43.724	18.17	0.70	1.73	20.60	30.00	9.40	
2	76.094	13.54	0.92	6.18	20.64	30.00	9.36	
3	108.455	18.49	1.11	2.93	22.53	30.00	7.47	
4	140.823	20.56	1.31	2.29	24.17	30.00	5.83	
5	173.181	21.22	1.38	0.69	23.29	30.00	6.71	
6	205.552	21.49	1.57	0.25	23.31	30.00	6.69	
7	237.910	22.40	1.61	4.17	28.18	37.00	8.82	
8	270.280	23.81	1.72	2.09	27.62	37.00	9.38	
9	335.027	14.51	2.03	8.40	24.94	37.00	12.06	
10	432.111	16.70	2.30	6.10	25.10	37.00	11.90	
11	529.204	18.27	2.50	5.06	25.83	37.00	11.17	
12	626.289	20.60	2.83	3.66	27.09	37.00	9.91	
13	723.393	21.68	3.10	2.81	27.59	37.00	9.41	
14	820.482	23.52	3.33	1.72	28.56	37.00	8.44	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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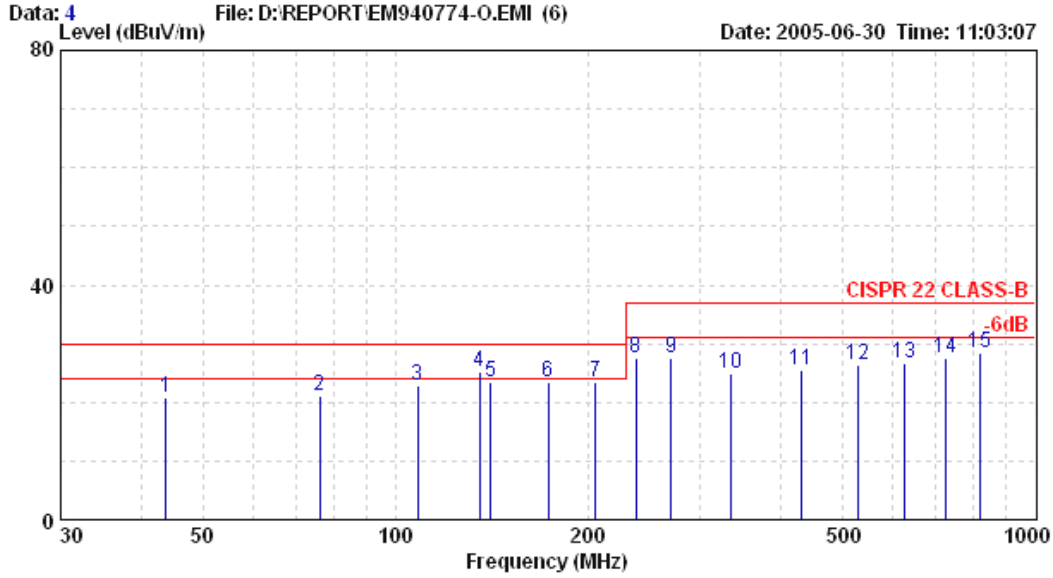

Site no. : NO.4 Open Site Data no. : 4
Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : VERTICAL
Limit : CISPR 22 CLASS-B
Env. / Ins. : 32*C / 52% ESVS 10 Engineer : Tony Chen
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac / 60Hz
Test Mode : 640*480 / 60Hz;31KHz(DVI-A)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	43.771	18.72	0.70	1.49	20.90	30.00	9.10	
2	76.134	13.86	0.92	6.34	21.11	30.00	8.89	
3	108.476	17.10	1.11	4.78	22.99	30.00	7.01	
4	135.276	19.87	1.24	4.04	25.16	30.00	4.84	
5	140.847	20.07	1.31	2.03	23.41	30.00	6.59	
6	173.206	21.70	1.38	0.38	23.45	30.00	6.55	
7	205.577	22.43	1.57	-0.52	23.49	30.00	6.51	
8	237.956	22.71	1.61	3.34	27.66	37.00	9.34	
9	270.311	24.11	1.72	1.85	27.68	37.00	9.32	
10	335.046	14.54	2.03	8.32	24.89	37.00	12.11	
11	432.128	17.15	2.30	6.02	25.46	37.00	11.54	
12	529.222	18.92	2.50	5.03	26.45	37.00	10.55	
13	626.305	20.06	2.83	3.74	26.63	37.00	10.37	
14	723.402	21.89	3.10	2.61	27.60	37.00	9.40	
15	820.477	23.91	3.33	1.27	28.51	37.00	8.49	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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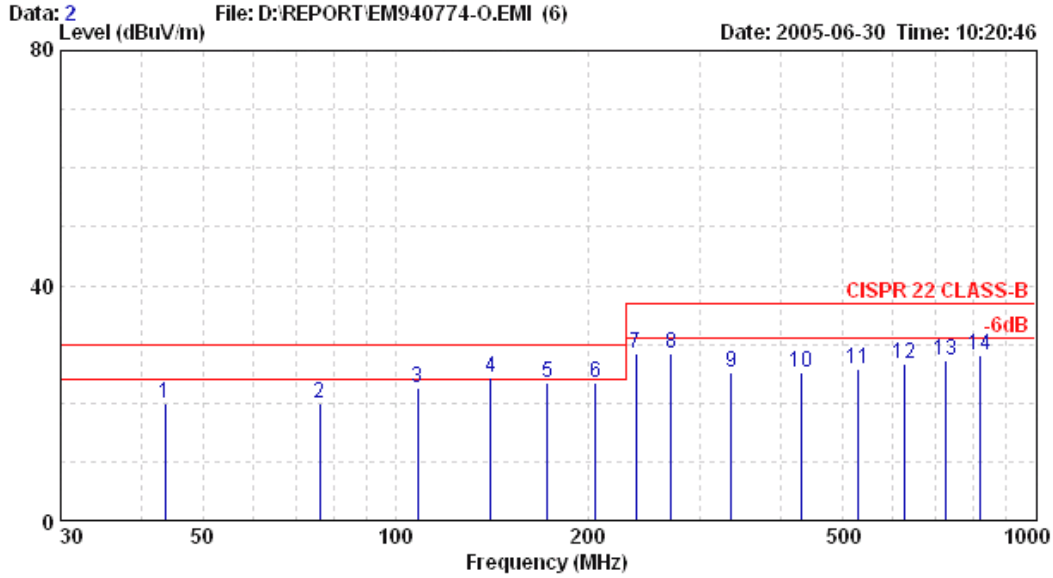

Site no. : NO.4 Open Site Data no. : 2
Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : HORIZONTAL
Limit : CISPR 22 CLASS-B
Env. / Ins. : 32*C / 52% ESVS 10 Engineer : Tony Chen
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac / 60Hz
Test Mode : 800*600 / 60Hz;38KHz(DVI-A)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	43.731	18.17	0.70	1.06	19.93	30.00	10.07	
2	76.099	13.54	0.92	5.61	20.07	30.00	9.93	
3	108.443	18.49	1.11	3.04	22.64	30.00	7.36	
4	140.815	20.56	1.31	2.32	24.20	30.00	5.80	*
5	173.182	21.22	1.38	0.83	23.42	30.00	6.58	
6	205.549	21.49	1.57	0.26	23.31	30.00	6.69	
7	237.916	22.40	1.61	4.29	28.30	37.00	8.70	
8	270.277	23.81	1.72	2.79	28.32	37.00	8.68	
9	335.006	14.51	2.03	8.52	25.06	37.00	11.94	
10	432.100	16.70	2.30	6.19	25.19	37.00	11.81	
11	529.186	18.27	2.50	4.94	25.71	37.00	11.29	
12	626.277	20.60	2.83	3.39	26.81	37.00	10.19	
13	723.348	21.68	3.10	2.53	27.31	37.00	9.69	
14	820.437	23.52	3.33	1.36	28.20	37.00	8.80	

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 140.815MHz with corrected signal level of 24.20dBµV/m (limit is 30.0dBµV/m) when the antenna was at Horizontal polarization and was at 4m high and the turn table was at 285°.

4. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

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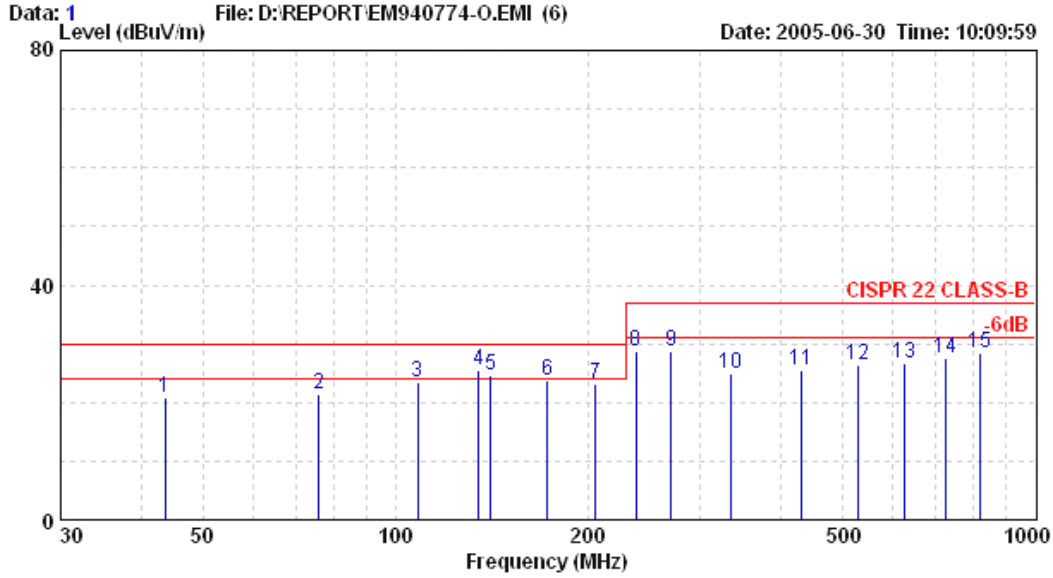

Site no. : NO.4 Open Site Data no. : 1
Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : VERTICAL
Limit : CISPR 22 CLASS-B
Env. / Ins. : 32*C / 52% ESVS 10 Engineer : Tony Chen
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac / 60Hz
Test Mode : 800*600 / 60Hz;38KHz(DVI-A)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	43.707	18.72	0.70	1.46	20.87	30.00	9.13	
2	76.076	13.86	0.92	6.70	21.47	30.00	8.53	
3	108.438	17.10	1.11	5.10	23.31	30.00	6.69	
4	135.115	19.76	1.24	4.59	25.59	30.00	4.41	*
5	140.809	20.07	1.31	3.15	24.53	30.00	5.47	
6	173.168	21.70	1.38	0.61	23.68	30.00	6.32	
7	205.535	22.43	1.57	-0.79	23.21	30.00	6.79	
8	237.894	22.71	1.61	4.29	28.61	37.00	8.39	
9	270.262	24.11	1.72	2.76	28.59	37.00	8.41	
10	334.984	14.54	2.03	8.45	25.02	37.00	11.98	
11	432.073	17.15	2.30	6.14	25.58	37.00	11.42	
12	529.177	18.92	2.50	5.05	26.47	37.00	10.53	
13	626.262	20.06	2.83	3.70	26.59	37.00	10.41	
14	723.356	21.89	3.10	2.57	27.56	37.00	9.44	
15	820.441	23.91	3.33	1.16	28.40	37.00	8.60	

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 135.115MHz with corrected signal level of 25.59dBµV/m (limit is 30.0dBµV/m) when the antenna was at vertical polarization and was at 1m high and the turn table was at 240°.
4. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

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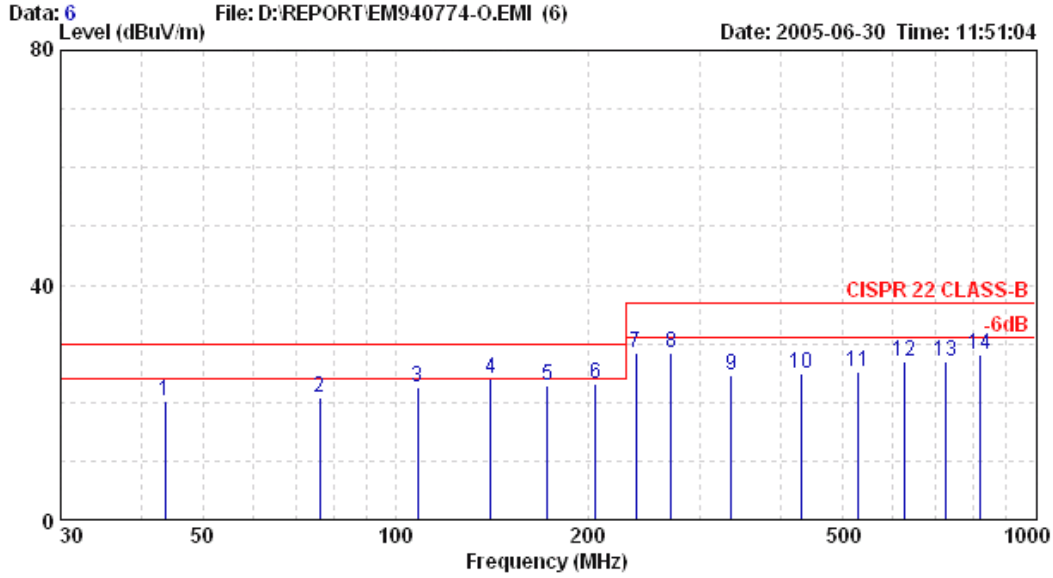

Site no. : NO.4 Open Site Data no. : 6
Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : HORIZONTAL
Limit : CISPR 22 CLASS-B
Env. / Ins. : 32*C / 52% ESVS 10 Engineer : Tony Chen
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac / 60Hz
Test Mode : PIP

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	43.716	18.17	0.70	1.22	20.09	30.00	9.91	
2	76.096	13.54	0.92	6.27	20.73	30.00	9.27	
3	108.456	18.49	1.11	2.96	22.56	30.00	7.44	
4	140.839	20.56	1.31	2.24	24.12	30.00	5.88	
5	173.180	21.22	1.38	0.13	22.73	30.00	7.27	
6	205.555	21.49	1.57	0.23	23.29	30.00	6.71	
7	237.934	22.40	1.61	4.40	28.41	37.00	8.59	
8	270.319	23.81	1.72	2.87	28.40	37.00	8.60	
9	335.068	14.50	2.03	8.17	24.70	37.00	12.30	
10	432.167	16.70	2.30	5.78	24.78	37.00	12.22	
11	529.288	18.27	2.50	4.49	25.26	37.00	11.74	
12	626.387	20.60	2.83	3.42	26.85	37.00	10.15	
13	723.510	21.68	3.11	2.24	27.03	37.00	9.97	
14	820.626	23.52	3.33	1.29	28.13	37.00	8.87	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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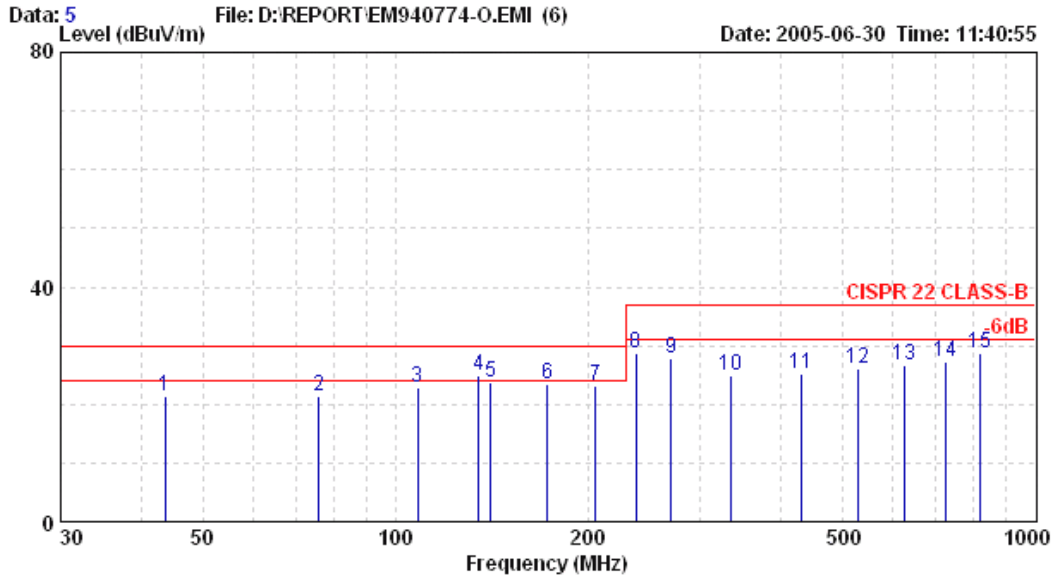


Site no. : NO.4 Open Site Data no. : 5
Dis. / Ant. : 10m VBA6106A/UPA6109 Ant. pol. : VERTICAL
Limit : CISPR 22 CLASS-B
Env. / Ins. : 32*C / 52% ESVS 10 Engineer : Tony Chen
EUT : LCD TV M/N:20PF5120
Power Rating : 120Vac / 60Hz
Test Mode : PIP

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	43.723	18.72	0.70	1.86	21.27	30.00	8.73	
2	76.086	13.86	0.92	6.62	21.39	30.00	8.61	
3	108.465	17.10	1.11	4.61	22.82	30.00	7.18	
4	135.113	19.76	1.24	3.82	24.82	30.00	5.18	
5	140.825	20.07	1.31	2.49	23.87	30.00	6.13	
6	173.204	21.70	1.38	0.42	23.50	30.00	6.50	
7	205.559	22.43	1.57	-0.75	23.25	30.00	6.75	
8	237.935	22.71	1.61	4.34	28.66	37.00	8.34	
9	270.297	24.11	1.72	1.87	27.70	37.00	9.30	
10	335.014	14.54	2.03	8.21	24.78	37.00	12.22	
11	432.127	17.15	2.30	5.87	25.31	37.00	11.69	
12	529.229	18.92	2.50	4.64	26.06	37.00	10.94	
13	626.343	20.06	2.83	3.70	26.60	37.00	10.40	
14	723.454	21.89	3.11	2.36	27.36	37.00	9.64	
15	820.555	23.91	3.33	1.38	28.62	37.00	8.38	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

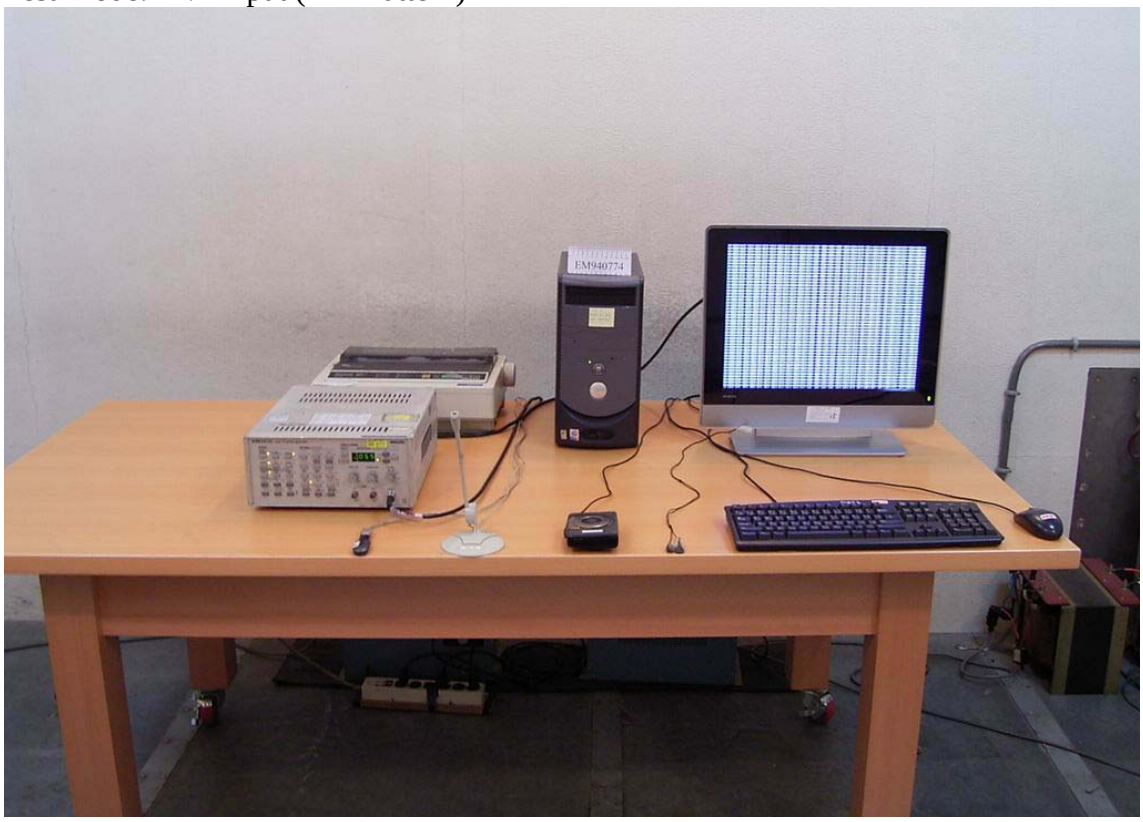
4. DEVIATION TO TEST SPECIFICATIONS

【NONE】

5. PHOTOGRAPHS

5.1. Photos of Powerline Conducted Measurement

Test Mode: DVI Input (“H” Pattern)



FRONT VIEW OF CONDUCTED MEASUREMENT

BACK VIEW OF CONDUCTED MEASUREMENT

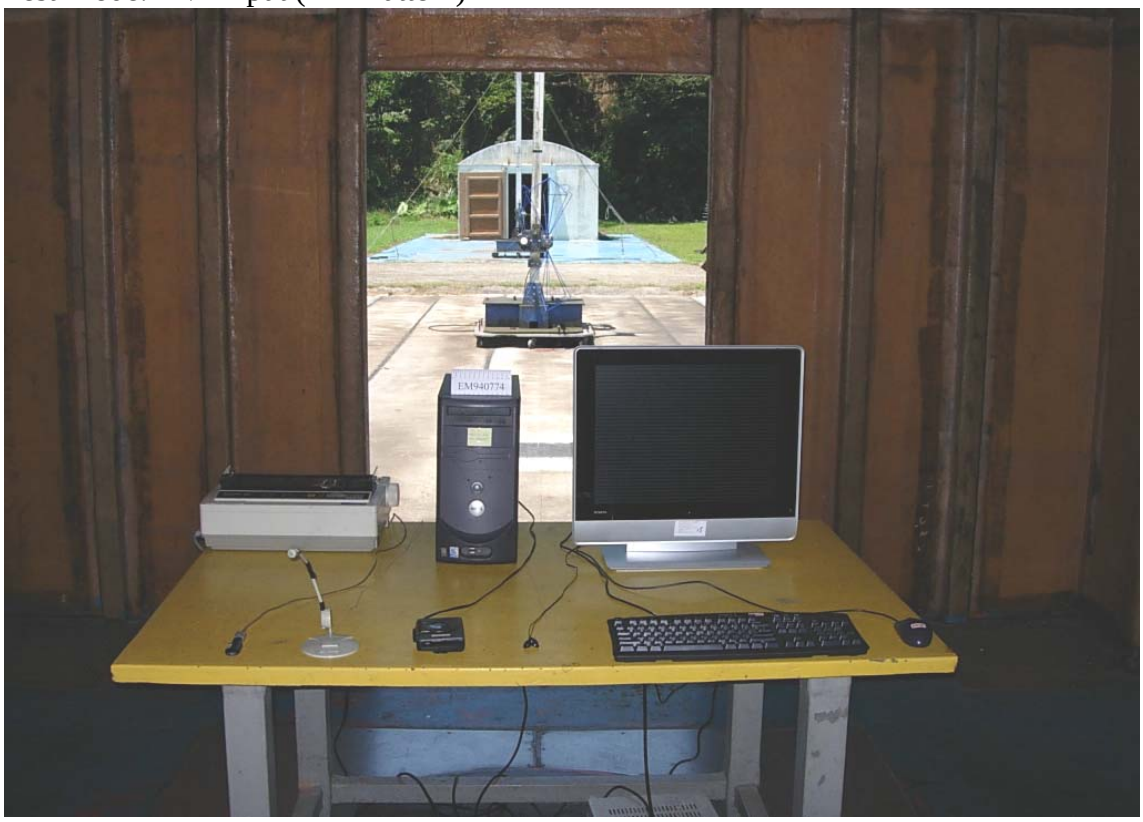
Test Mode: DVI + RF Input (PIP Mode, “H” Pattern + “Color Bar” image)

FRONT VIEW OF CONDUCTED MEASUREMENT

BACK VIEW OF CONDUCTED MEASUREMENT

5.2. Photos of Radiated Measurement at Open Area Test Site

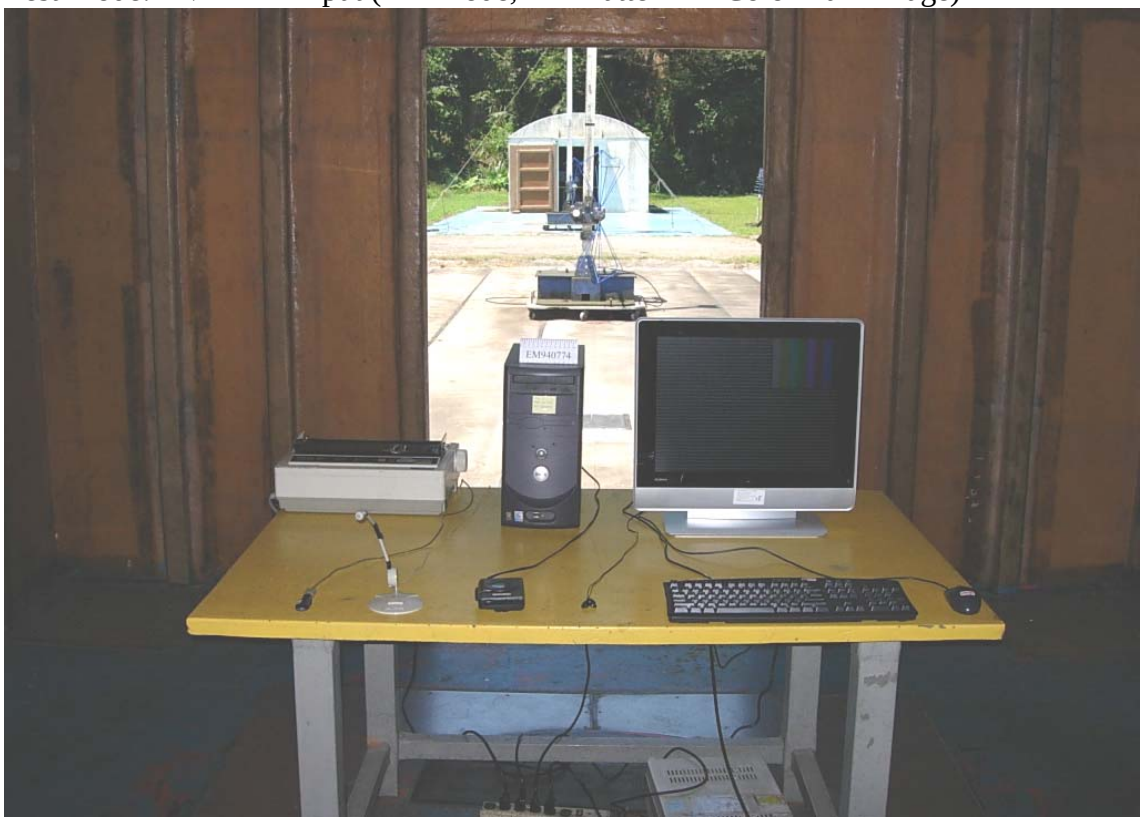
Test Mode: DVI Input (“H” Pattern)



FRONT VIEW OF RADIATED MEASUREMENT

BACK VIEW OF RADIATED MEASUREMENT

Test Mode: DVI + RF Input (PIP Mode, “H” Pattern + “Color Bar” image)



FRONT VIEW OF RADIATED MEASUREMENT

BACK VIEW OF RADIATED MEASUREMENT

Test Mode: DVI Input, 800*600/60Hz, 38kHz; H Pattern

SETUP WITH MAXIMUM DETECTED EMMISSION AT HORIZONTAL POLARIZATION

SETUP WITH MAXIMUM DETECTED EMMISSION AT VERTICAL POLARIZATION