Philips Electronics Industries (Taiwan) Ltd - EMC Lab. 5, Tze Chiang 1 Road, Chungli Industrial Park, Chungli, Taoyuan, Taiwan Tel.: +886-3-454-9862 Fax.: +886-3-454-9887 E-mail: ronnie.yang@philips.com	FCC Test Report	Report No.: TYR87-2051 Date : 14 July, 2003 Page : Page 1 of 32

Customer : Philips Electronics Industries

Name : Mr. S.T. Huang – EE LCD
Address : 5, Tze Chiang 1 Road,
Zip/City : Chungli Industrial Park,
Country : Chungli, Taiwan, R.O.C.

Equipment Under Test (including peripherals) :

FCC ID. : A3KM117
Model Name : 150X4
Serial Number : TY0304285
Description : 15" XGA LCD color monitor, Max. resolution 1024x768/75Hz

EMC Standards : FCC Part 15 of October 01,1999 Class B
ANSI C63.4-1992

Result : PASSED the limits/test-levels in the standards.

Note : The results in this report apply only to the sample(s) and mode(s) tested. It is the manufacturer's responsibility to assume the continued EMC compliance of production models.

Date of receipt of EUT : 07 Jul. 2003

Date of performance of test : 09 Jul., 2003 to 12 Jul., 2003

C.C. Wu - EMC Test Engineer

Ronnie Yang - EMC Manager

Table of contents

1. Summary of test results

Test	Standard	Result	Note
Emission, ANSI C63.4-1992			
Conducted emission	FCC Part 15	**Passed**	
Radiated emission	FCC Part 15	**Passed**	

Remark:

The test sample fully complies with the requirements set forth in : FCC Part 15 Class B.

2. General Information of EUT

The EUT, 15" color monitor :

Model No. : 150X4
FCC ID : A3KM117
Brand : PHILIPS

The color monitor automatically scans horizontal frequencies between 30KHz and 61KHz , and vertical frequencies between 56Hz and 76Hz. This color monitor displays sharp and brilliant images of text and graphics with a maximum resolution up to 1024x768 pixels.

The monitor has 14 factory-preset modes as indicated in the following table:

Mode	Resolution	H. freq. / V. freq	Standard
1.	640 x 350	31.469Khz/70.087Hz	VGA
2.	720 x 400	31.469Khz/70.087Hz	VGA
3.	640 x 480	31.469Khz/59.940Hz	VGA
4.	640 x 480	35.000Khz/66.667Hz	Macintosh
5.	640 x 480	37.861Khz/72.809Hz	VESA
6.	640 x 480	37.500Khz/75.000Hz	VESA
7.	800 x 600	35.156Khz/56.250Hz	VESA
8.	800 x 600	37.879Khz/60.317Hz	VESA
9.	800 x 600	48.077Khz/72.188Hz	VESA
10.	800 x 600	46.875Khz/75.000Hz	VESA
11.	832 x 624	49.700Khz/75.000Hz	Macintosh
12.	1024 x 768	48.363Khz/60.004Hz	VESA
13.	1024 x 768	56.476Khz/70.069Hz	VESA
14.	1024 x 768	60.023Khz/75.029Hz	VESA

3. Test Equipment

Test equipment used for line Conducted and Radiated emissions as following.
All equipment were calibrated according to ANSI C63.4-1992 and ISO-9000 requirement unless otherwise specified.
Traceability to R.O.C. and international standards is assured by using calibrated all equipment.

- For Conducted Emissions Test:

Test Equipment	Model No.	Serial No.	Last Calibrate	Next Calibrate
Spectrum	HP8568B	2928A04640	02/27/2003	02/27/2004
EMI Receiver	R & S ESVS30	841977/006	02/27/2003	02/27/2004
LISN	EMCO 3825/2	9311-2153	06/16/2003	06/16/2004
LISN	EMCO 3825/2	9311-2154	06/16/2003	06/16/2004
RF Cable	8-meter	N/A	09/15-2002	09/15/2003

- For Radiated Emissions Test:

Test Equipment	Model No.	Serial No.	Last Calibrate	Next Calibrate
Spectrum	HP8568B	2928A04640	09/02/2002	09/02/2003
RF Preselector	HP85685A	2620A00338	09/02/2002	09/02/2003
QP Adapter	HP85650A	2811A01324	09/02/2002	09/02/2003
EMI Receiver	R & S ESVS30	841977/006	02/27/2003	02/27/2004
Biconical Antenna	EMCO 3110B	3224	09/19/2002	09/19/2003
Log-Periodic Antenna	EMCO 3146A	1425	09/19/2002	09/19/2003
Turn Table	EMCO 1060	1068	09/15/2002	09/15/2003
Antenna Tower	EMCO 1050	1113	09/15/2002	09/15/2003
RF Cable	M17/75-RG214-NE	N/A	09/15/2002	09/15/2003

4. Test Configuration of EUT and Peripherals

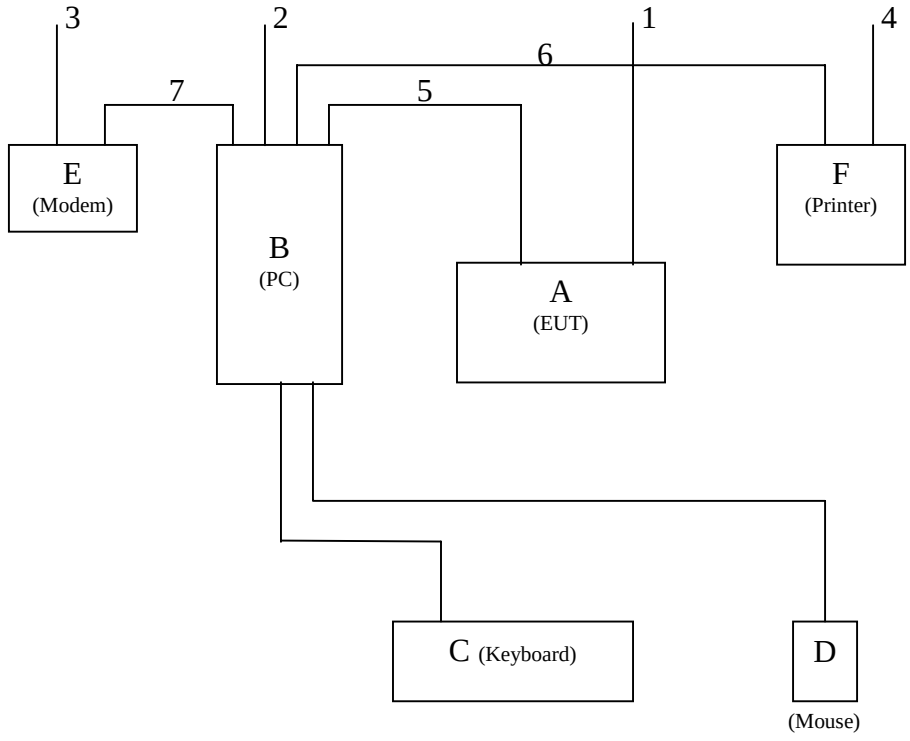
The system was configured for testing in a typical fashion (as a customer would normally use it) according to ANSI C63.4-1992, please see the photographs for detail. For system measurement, the EUT "150X4" were connected to:

	Description	Brand/ Model No.	Serial No.	FCC ID	Remark
A	Monitor	Philips 150X4	TY0304285	A3KM117	EUT
B	PC	Compaq ENC P866	5K15FXHZ2013	FCC Logo	
C	Keyboard	Compaq KB-9963	B26950GGALP13Q	FCC Logo	
D	Mouse	Compaq M-S48a		JNZ201213	
E	Modem	Hayes 231AA	A22231081770	BFJ9D9308US	
F	Printer	HP 2225C	2934S55406	DSI6XU2225	

Connected Cables

No.	Description	Manufacturer	Length	Shielded	Remark
1	Power Cord	Long Shine	1.8 meters	No	for EUT
2	Power Cord	Acer	1.8 meters	No	for PC
3	Power Cord	Aceex	2.0 meters	No	for Modem
4	Power Cord	HP	1.8 meters	No	for Printer
5	Video Cable	Long Shine	1.5 meters	Yes	
6	Printer Cable	HP	1.8 meters	Yes	
7	Modem Cable	Aceex	1.5 meters	Yes	

System Block Diagram of Test Configuration



5. Test Procedure

Test was performed by:

PHILIPS ELECTRONICS INDUSTRIES (TAIWAN) LTD.
CONSUMER ELECTRONICS DIVISION
- EMC LAB

5, Tze Chiang 1 Road, Chungli Industrial Park
P.O. Box 123, Chungli, Taoyuan, Taiwan
Tel : 886-3-4549862 Fax : 886-3-4549887
Internet: ronnie.yang@philips.com

The test was performed in accordance with ANSI C63.4-1992, "AMERICAN NATIONAL STANDARD FOR MEASUREMENT OF RADIO-NOISE EMISSION FROM LOW-VOLTAGE ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE RANGE OF 9KHz TO 40GHz"

Both conducted and radiated testing were performed according to the procedure in ANSI C63.4-1992. Conducted testing was performed in screen room and radiated testing was performed in open site at an antenna to EUT distance of 3-meter on horizontal and vertical polarization.

First, pre-scan all modes in screen room then select 2 higher modes (worst case) were tested and reported.

The line conductive interference was tested with 110VAC and 220VAC receptively.

Unshielded power cord was used during test.
D-sub I/F cable with two ferrite cores was used.

Tested and reported modes as following:

Test Item	File No.	Resolution	Frequencies	I/F Cable
Conducted	EMI03-030-C	1024x768	60KHz/75Hz	D-sub
		800x600	47KHz/75Hz	D-sub
Radiated	EMI03-030-R	1024x768	60KHz/75Hz	D-sub
		800x600	47KHz/75Hz	D-sub

Set up the EUT and all peripherals as chapter 6 of ANSI C63.4-1992 for AC power line conducted emissions testing and radiated emissions testing.

Turn on the power of EUT and all peripherals, select an appropriate displaying mode using the "setup" software. Then run an EMI test program "HTEST.EMI" as a basic software to execute the EUT operating under test. A pattern of scrolling H's should be displayed on the monitor.

Step 1 : Run the "HTEST.EMI" on personal computer then sends "H" character to monitor continuously until full screen.

Step 2 : Personal computer sends a complete line of continuously repeating "H" to HP 2225C printer.

Step 3 : Personal computer sends a file of "H" pattern to floppy disk then read a file of "H" pattern from floppy disk.

Step 4 : Personal computer sends a file of "H" pattern to hard disk then read a file of "H" pattern from hard disk.

Step 5 : Personal computer sends a file of "H" patter to USRobotics 268 modem.

Step 6 : Return to step 1

All data in this report are "PEAK" value within 15dB margin unless otherwise noted.

6. Measurement Uncertainty

The system uncertainty listed below are based on the instrument absolute specifications, and do not include uncertainties of the equipment under test.

Uncertainty for Radiated Emissions Test at 3 meters Test Site.

Source of Measurement Uncertainty	Uncertainty/dB
Antenna factor calibration	+/-2.0
Cable loss calibration	+/-0.5
Receiver specification	+/-1.0
Antenna position ver.	+/-2.0
Measurement distance ver.	+/-0.5
Site imperfections	+/-2.0
Mismatch	+/-1.1
System repeatability	+/-0.5

Uncertainty for Conducted Emissions Test at 3 meters Test Site.

Source of Measurement Uncertainty	Uncertainty/dB
LISN specification	+/-2.0
Cable loss calibration	+/-0.5
Receiver specification	+/-1.0
Pulse limiter Spec.	+/-0.3
Measurement distance ver.	+/-0.5
Site imperfections	+/-2.0
System repeatability	+/-0.5

7. Conducted Emissions Test

Conducted Emissions

FCC Part 15

Operating conditions EUT:

EUT powered on with scrolling "H" pattern.

Limits:

Frequency range (MHz)	Class A (dBuv) QP	Class B (dBuv) QP
0.45 – 1.705	60.0	48.0
1.705 – 30.0	69.5	48.0

Test Result :

Passed FCC Class B Limits

Option:

The following option may be employed if the conducted emissions exceed the limits, as appropriate, when measured using instrumentation employing a quasi-peak detector function: If the level of the emission measured using the quasi-peak instrumentation is 6dB, or, more higher than the level of the same emission measured with instrumentation having an average detector and a 9KHz minimum bandwidth, that emission is considered broadband and the level obtained with the quasi-peak detector may be reduced by 13dB for comparison to the limits.

Remark:

Date of Test	: 09 Jul., 2003 to 12 Jul., 2003
Test Engineer	: C.C.Wu

For detail measurement results see next pages.

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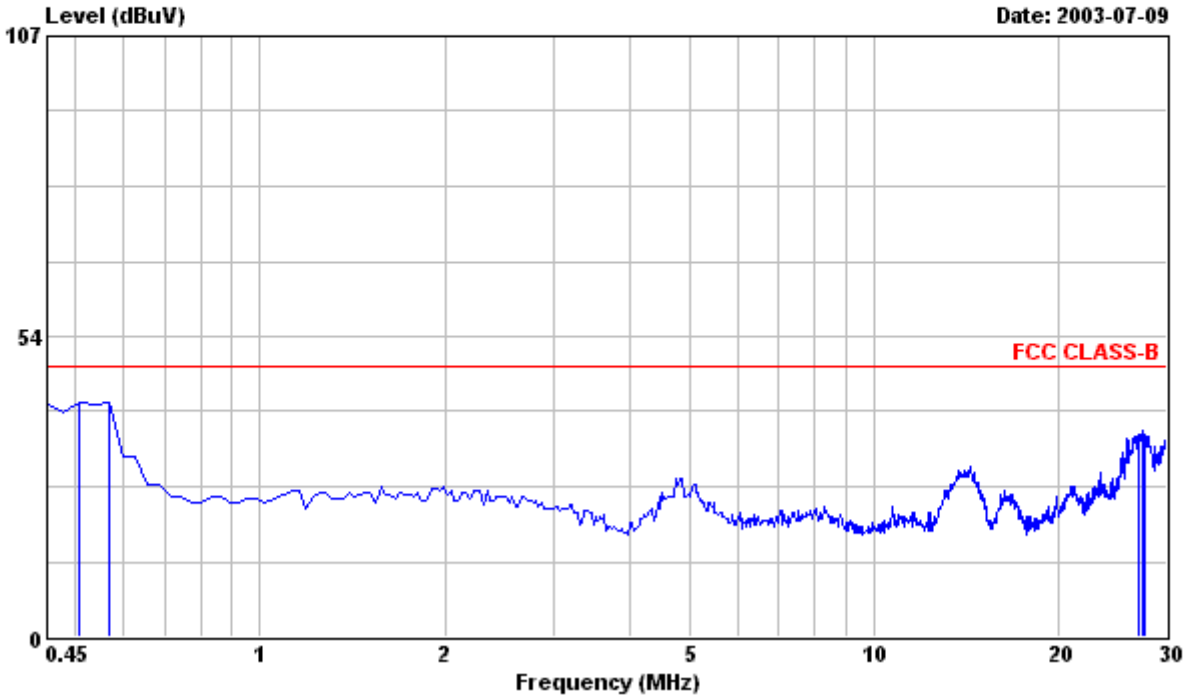

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit Line	Factor	Emission Lavel	Over Limit	Remark
0.450	41.10	---	48.00	0.20	41.30	-6.70	Peak
0.509	41.40	---	48.00	0.23	41.63	-6.37	Peak
0.568	41.30	---	48.00	0.26	41.56	-6.44	Peak
27.045	35.10	---	48.00	0.86	35.96	-12.04	Peak
27.311	35.80	---	48.00	0.85	36.65	-11.35	Peak
27.400	35.20	---	48.00	0.85	36.05	-11.95	Peak
27.488	35.10	---	48.00	0.85	35.95	-12.05	Peak
27.606	35.30	---	48.00	0.85	36.15	-11.85	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (dBuV) = Factor (dB) + Meter Reading (dBuV)
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C C.Wu

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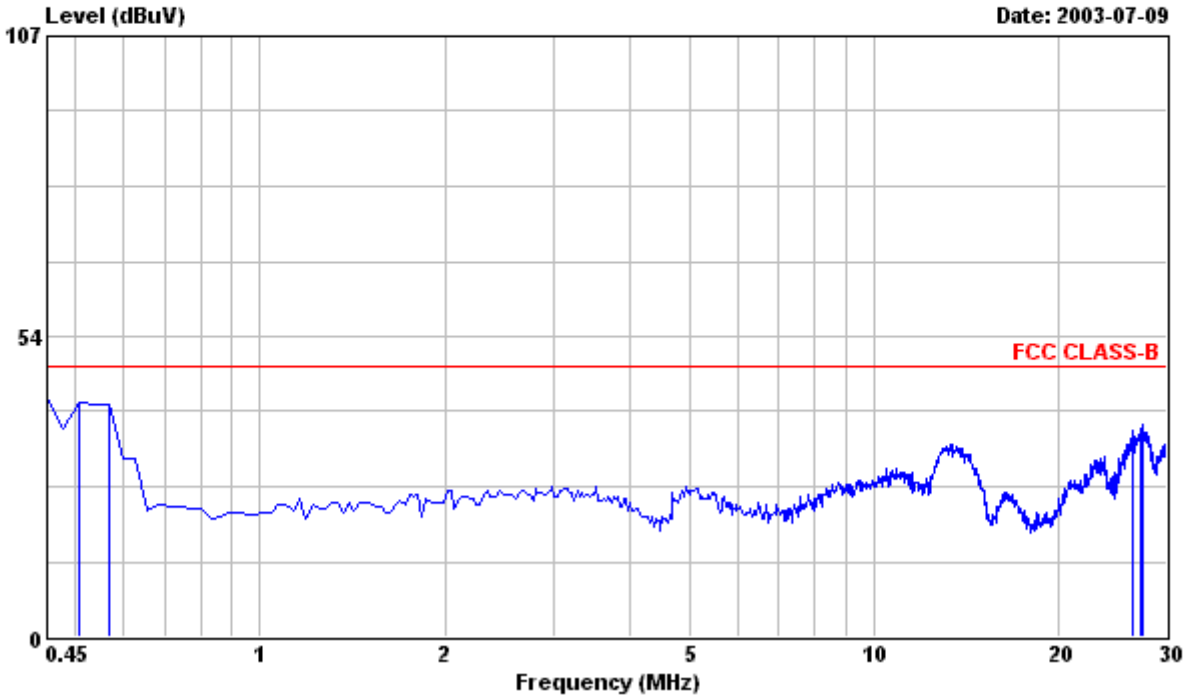

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit	Factor	Emission Lavel NEUTRAL	Over Limit	Remark
0.450	42.10	---	48.00	0.20	42.30	-5.70	Peak
0.509	41.50	---	48.00	0.23	41.73	-6.27	Peak
0.568	41.20	---	48.00	0.26	41.46	-6.54	Peak
26.306	35.70	---	48.00	0.97	36.67	-11.33	Peak
27.163	35.99	---	48.00	0.96	36.95	-11.05	Peak
27.281	35.50	---	48.00	0.95	36.45	-11.55	Peak
27.400	35.50	---	48.00	0.95	36.45	-11.55	Peak
27.459	36.70	---	48.00	0.95	37.65	-10.35	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (dBuV) = Factor (dB) + Meter Reading (dBuV)
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C C.Wu

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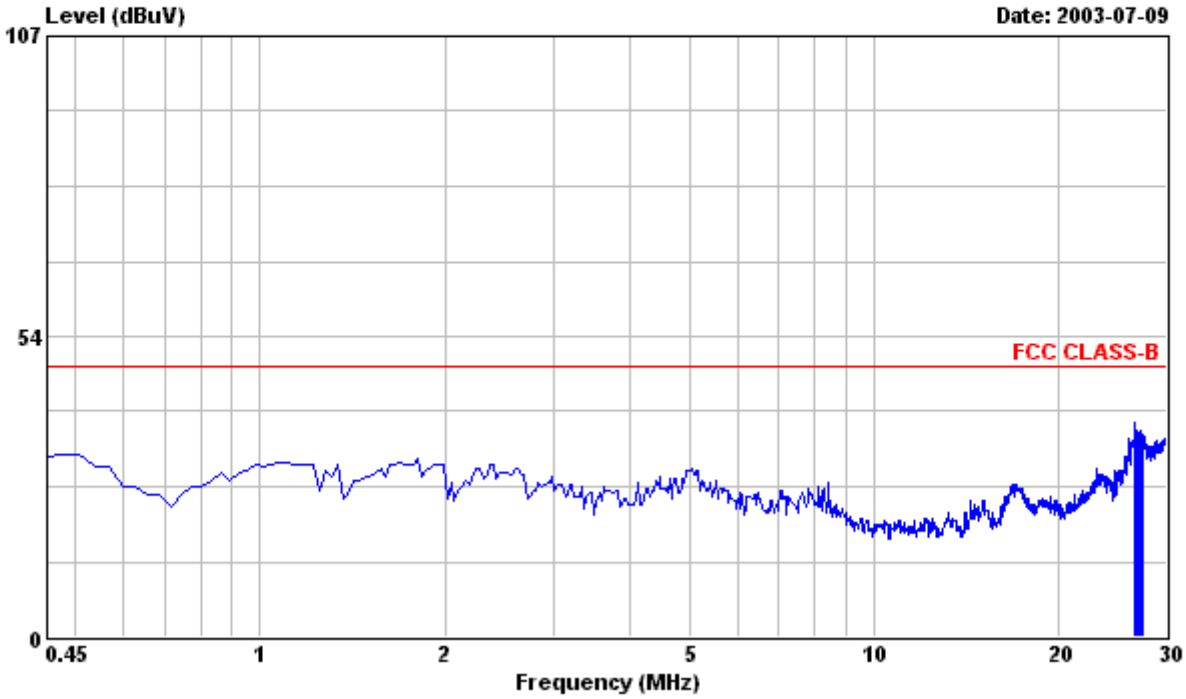

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit LINE	Factor	Emission Lavel	Over Limit	Remark
26.572	37.30	---	48.00	0.87	38.17	-9.83	Peak
26.631	35.80	---	48.00	0.87	36.67	-11.33	Peak
26.750	35.50	---	48.00	0.86	36.36	-11.64	Peak
26.838	35.80	---	48.00	0.86	36.66	-11.34	Peak
26.927	35.60	---	48.00	0.86	36.46	-11.54	Peak
27.045	35.60	---	48.00	0.86	36.46	-11.54	Peak
27.134	35.99	---	48.00	0.86	36.85	-11.15	Peak
27.429	35.30	---	48.00	0.85	36.15	-11.85	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (dBuV) = Factor (dB) + Meter Reading (dBuV)
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C C.Wu

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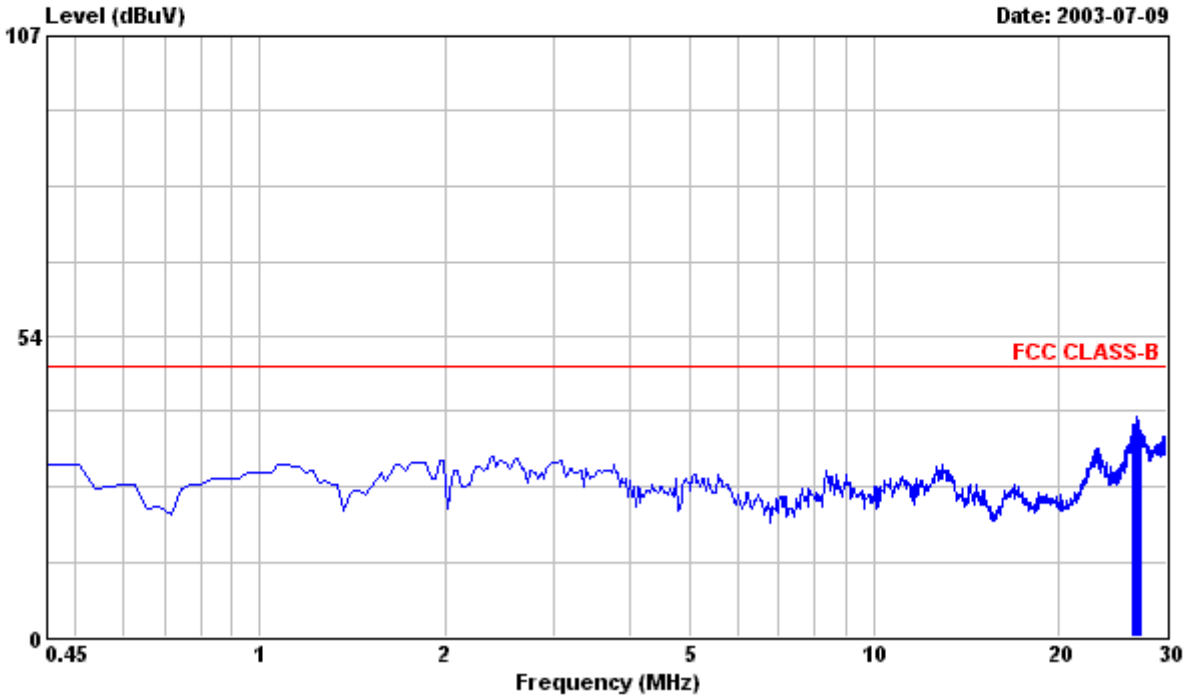

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit	Factor	Emission Lavel NEUTRAL	Over Limit	Remark
26.306	35.60	---	48.00	0.97	36.57	-11.43	Peak
26.454	36.80	---	48.00	0.97	37.77	-10.23	Peak
26.602	36.70	---	48.00	0.97	37.67	-10.33	Peak
26.750	38.10	---	48.00	0.96	39.06	-8.94	Peak
26.897	36.10	---	48.00	0.96	37.06	-10.94	Peak
27.045	37.40	---	48.00	0.96	38.36	-9.64	Peak
27.104	36.20	---	48.00	0.96	37.16	-10.84	Peak
27.163	35.69	---	48.00	0.96	36.65	-11.35	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (dBuV) = Factor (dB) + Meter Reading (dBuV)
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C C.Wu

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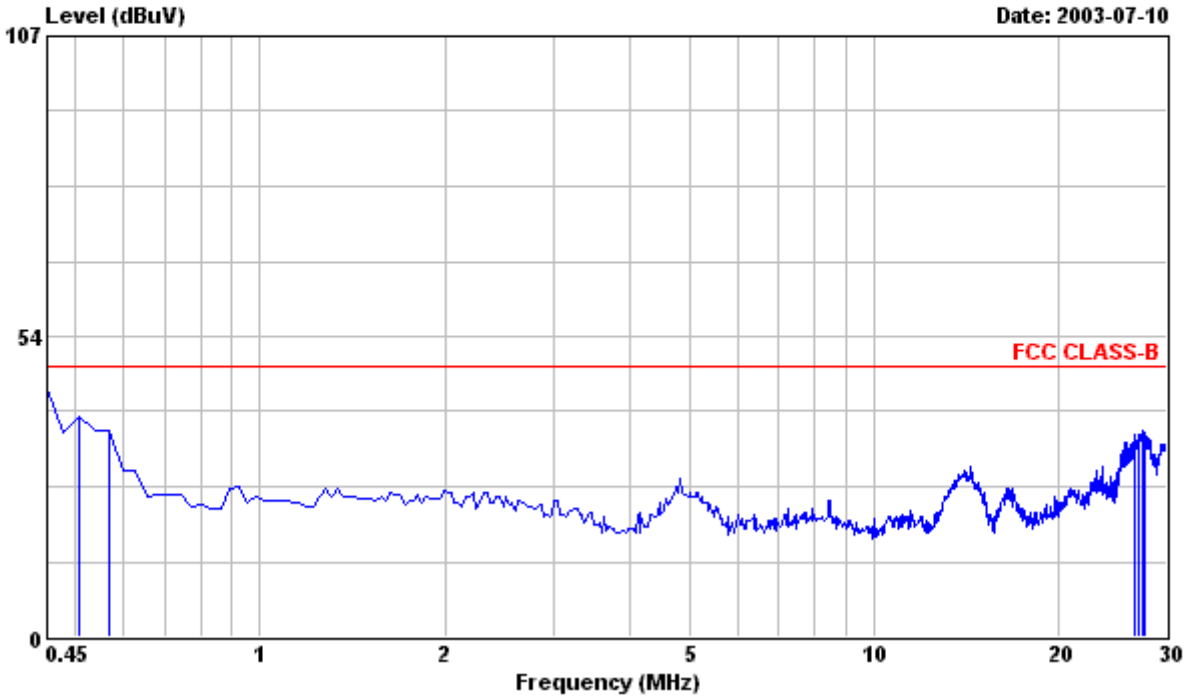

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 12 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 800x600/75Hz 47KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit LINE	Factor	Emission Lavel	Over Limit	Remark
0.450	44.00	---	48.00	0.20	44.20	-3.80	Peak
0.509	39.00	---	48.00	0.23	39.23	-8.77	Peak
0.568	36.60	---	48.00	0.26	36.86	-11.14	Peak
26.543	35.00	---	48.00	0.87	35.87	-12.13	Peak
27.104	35.10	---	48.00	0.86	35.96	-12.04	Peak
27.311	35.90	---	48.00	0.85	36.75	-11.25	Peak
27.606	35.20	---	48.00	0.85	36.05	-11.95	Peak
27.666	35.60	---	48.00	0.84	36.44	-11.56	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (dBuV) = Factor (dB) + Meter Reading (dBuV)
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C C.Wu

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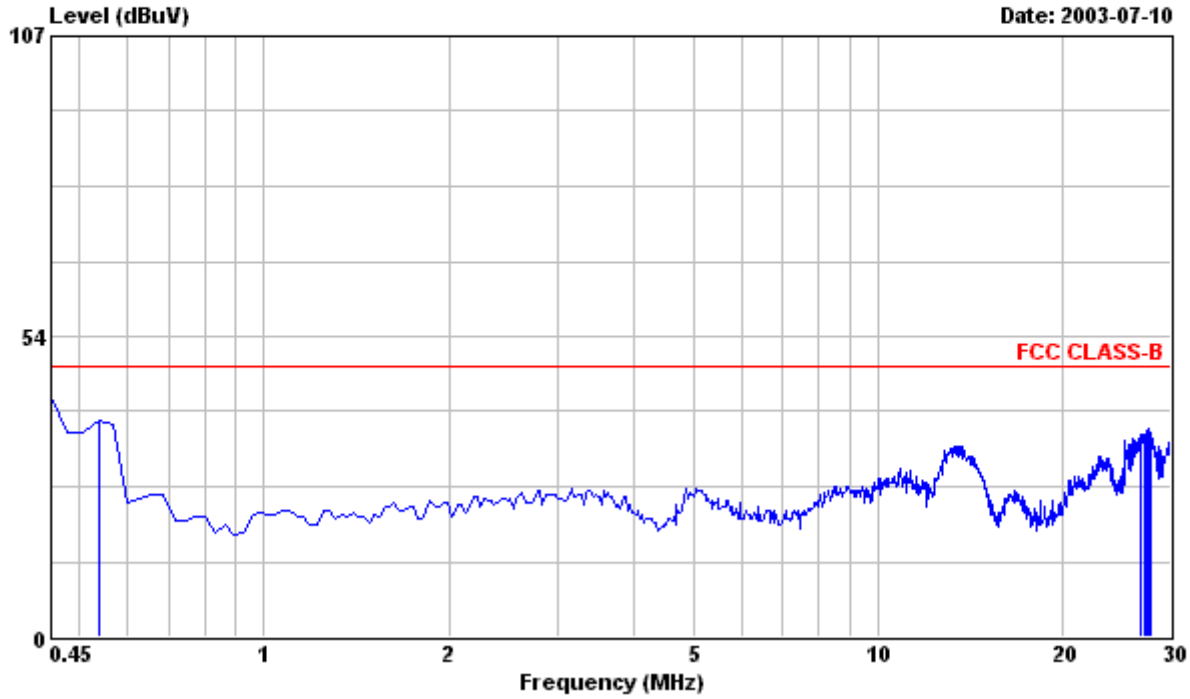

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 120VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 12 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 800x600/75Hz 47KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit	Factor	Emission Lavel NEUTRAL	Over Limit	Remark
0.450	42.50	---	48.00	0.20	42.70	-5.30	Peak
0.539	38.20	---	48.00	0.25	38.45	-9.55	Peak
26.897	35.10	---	48.00	0.96	36.06	-11.94	Peak
27.193	35.20	---	48.00	0.95	36.15	-11.85	Peak
27.311	35.80	---	48.00	0.95	36.75	-11.25	Peak
27.577	36.10	---	48.00	0.95	37.05	-10.95	Peak
27.666	35.20	---	48.00	0.94	36.14	-11.86	Peak
27.902	35.30	---	48.00	0.94	36.24	-11.76	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (dBuV) = Factor (dB) + Meter Reading (dBuV)
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C C.Wu

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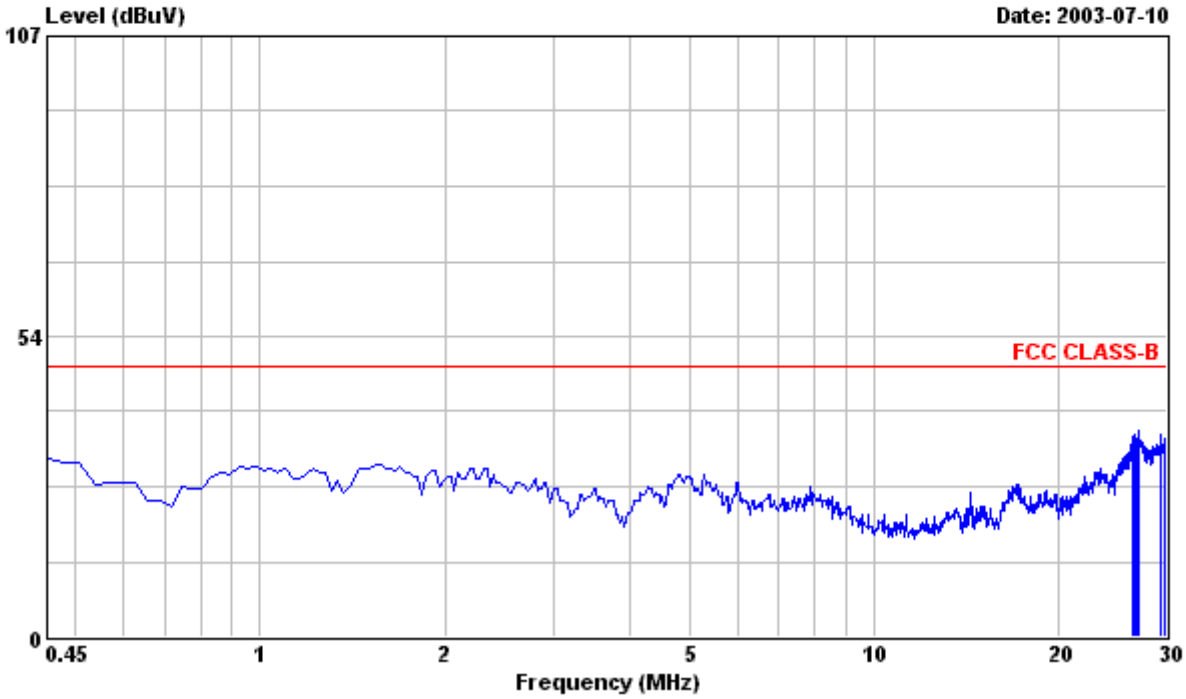

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L1 LINE
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 12 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 800x600/75Hz 47KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit LINE	Factor	Emission Lavel	Over Limit	Remark
26.395	34.90	---	48.00	0.87	35.77	-12.23	Peak
26.631	35.00	---	48.00	0.87	35.87	-12.13	Peak
26.750	34.40	---	48.00	0.86	35.26	-12.74	Peak
26.809	34.50	---	48.00	0.86	35.36	-12.64	Peak
26.868	34.30	---	48.00	0.86	35.16	-12.84	Peak
27.104	36.00	---	48.00	0.86	36.86	-11.14	Peak
29.409	35.10	---	48.00	0.81	35.91	-12.09	Peak
29.764	34.40	---	48.00	0.80	35.20	-12.80	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (dBuV) = Factor (dB) + Meter Reading (dBuV)
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C C.Wu

PHILIPS
Philips Electronics Inductries (Taiwan)., Ltd.
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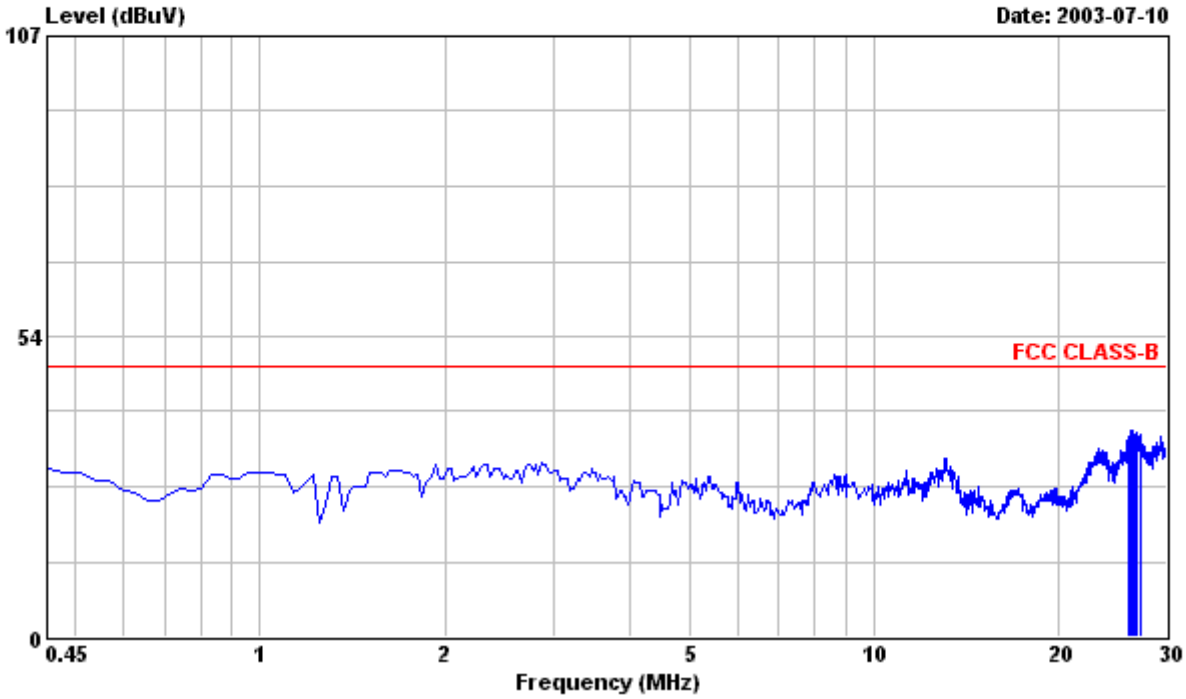
Data#: 8 File#: C:\Program Files\e3\EMI03-030-C(150X4 Hannstar).emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B FCC_LCI_L2 NEUTRAL
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 220VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 12 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 800x600/75Hz 47KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP Reading	Limit	Factor	Emission Lavel NEUTRAL	Over Limit	Remark
26.011	34.80	---	48.00	0.98	35.78	-12.22	Peak
26.159	34.90	---	48.00	0.98	35.88	-12.12	Peak
26.277	35.90	---	48.00	0.97	36.87	-11.13	Peak
26.454	35.90	---	48.00	0.97	36.87	-11.13	Peak
26.513	34.90	---	48.00	0.97	35.87	-12.13	Peak
26.779	35.40	---	48.00	0.96	36.36	-11.64	Peak
26.838	35.50	---	48.00	0.96	36.46	-11.54	Peak
27.163	35.09	---	48.00	0.96	36.05	-11.95	Peak

Remarks: 1. All Readings are Peak & Quasi-Peak Values.
2. Emission Lavel (dBuV) = Factor (dB) + Meter Reading (dBuV)
3. Factor (dB/m) = LISN Loss (dB) + Cable Loss (dB)

Tested by : C C.Wu

8. .Radiated Emission Test

Radiated Emissions

FCC Part 15

Operating conditions EUT:

EUT powered on with scrolling “H” pattern.

Limits:

Frequency range (MHz)	Class A at 10m (dBuv) QP	Class B at 3m (dBuv) QP
30.0 – 88.0	39.0	40.0
88.0 – 216.0	43.5	43.5
216.0 – 960.0	46.5	46.0
960.0 – 1000.0	49.5	54.0
Above 1000.0	49.5	54.0 Average

Test Result :

Passed FCC Class B Limits

Remark:

Date of Test	: 09 Jul., 2003 to 12 Jul., 2003
Test Engineer	: C.C.Wu

For detail measurement results see next pages.

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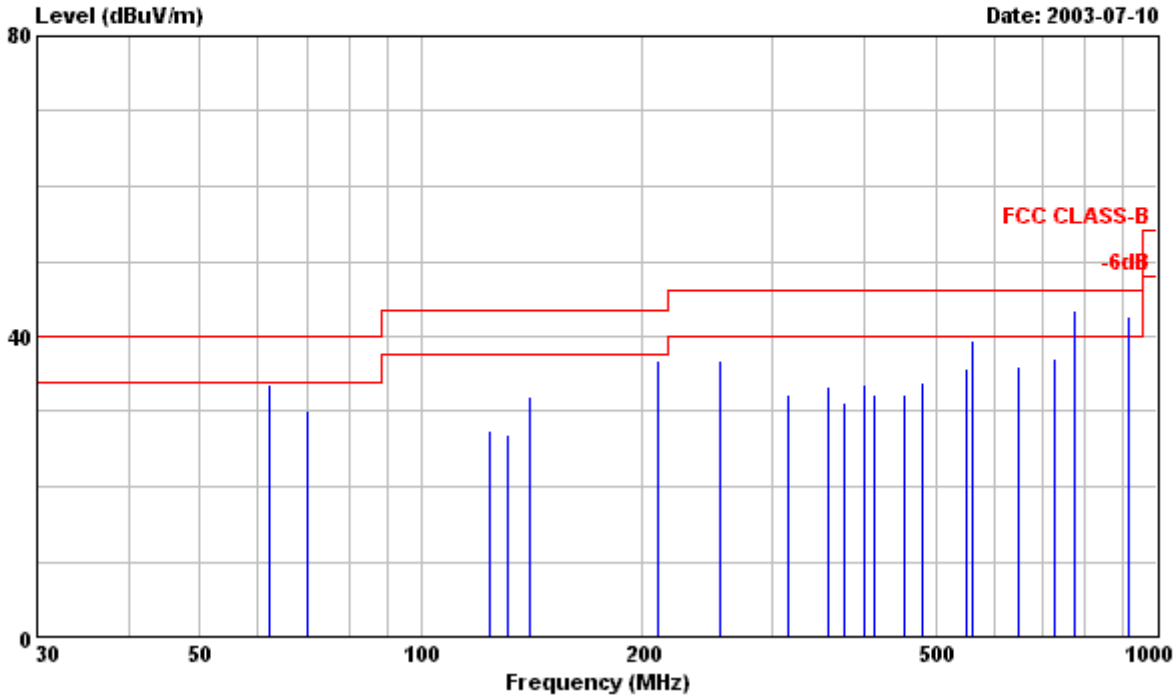
Data#: 1 File#: C:\Program Files\e3\EMI03-030-R.emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR HORIZONTAL
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency MHz	Peak Reading dBuV	QP reading dBuV	Limit dBuV/m	Factor dB/m	Emission Lavel HORIZONTAL dBuV/m	Over Limit dBuV/m	Remark
62.290	23.80	---	40.00	9.92	33.72	-6.28	Peak
70.040	20.20	---	40.00	10.00	30.20	-9.80	Peak
123.720	14.90	---	43.50	12.47	27.37	-16.13	Peak
130.620	14.20	---	43.50	12.73	26.93	-16.57	Peak
140.210	19.00	---	43.50	13.08	32.08	-11.42	Peak
210.260	19.70	---	43.50	17.22	36.92	-6.58	Peak
254.860	16.10	---	46.00	20.76	36.86	-9.14	Peak
315.460	15.40	---	46.00	16.80	32.20	-13.80	Peak
357.960	15.80	---	46.00	17.65	33.45	-12.55	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

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	Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel	Over Limit	Remark
						HORIZONTAL		
	MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
	376.120	13.20	---	46.00	17.98	31.18	-14.82	Peak
	401.000	15.30	---	46.00	18.40	33.70	-12.30	Peak
	412.530	13.80	---	46.00	18.57	32.37	-13.63	Peak
	454.980	13.10	---	46.00	19.14	32.24	-13.76	Peak
	481.258	14.30	---	46.00	19.47	33.77	-12.23	Peak
	552.070	15.10	---	46.00	20.54	35.64	-10.36	Peak
	562.690	18.90	---	46.00	20.68	39.58	-6.42	Peak
	649.118	13.50	---	46.00	22.40	35.90	-10.10	Peak
	727.980	13.20	---	46.00	23.88	37.08	-8.92	Peak
!	773.790	---	16.28	46.00	24.49	40.77	-5.23	QP
!	773.790	18.90	---	46.00	24.49	43.39	-2.61	Peak
	914.490	---	12.89	46.00	26.52	39.41	-6.59	QP
!	914.490	16.50	---	46.00	26.52	43.02	-2.98	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Tested by : C C.Wu

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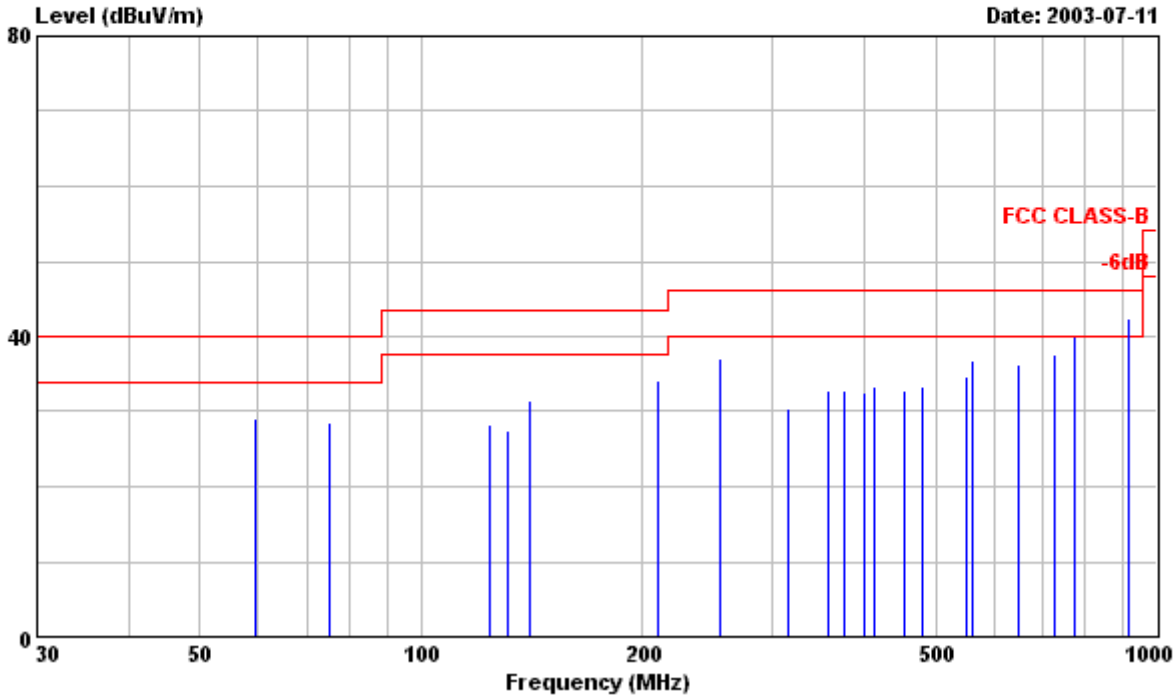
Data#: 2 File#: C:\Program Files\e3\EMI03-030-R.emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR VERTICAL
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 14 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 1024x768/75Hz 60KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency MHz	Peak Reading dBuV	QP reading dBuV	Limit dBuV/m	Factor dB/m	Emission Lavel VERTICAL dBuV/m	Over Limit dBuV/m	Remark
59.430	19.10	---	40.00	9.95	29.05	-10.95	Peak
75.060	18.40	---	40.00	10.21	28.61	-11.39	Peak
123.720	15.70	---	43.50	12.47	28.17	-15.33	Peak
130.620	14.80	---	43.50	12.73	27.53	-15.97	Peak
140.210	18.50	---	43.50	13.08	31.58	-11.92	Peak
210.260	16.80	---	43.50	17.22	34.02	-9.48	Peak
254.860	16.30	---	46.00	20.76	37.06	-8.94	Peak
315.460	13.60	---	46.00	16.80	30.40	-15.60	Peak
357.960	15.20	---	46.00	17.65	32.85	-13.15	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

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Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel VERTICAL	Over Limit	Remark
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
376.120	14.90	---	46.00	17.98	32.88	-13.12	Peak
401.000	14.10	---	46.00	18.40	32.50	-13.50	Peak
412.530	14.70	---	46.00	18.57	33.27	-12.73	Peak
454.980	13.60	---	46.00	19.14	32.74	-13.26	Peak
481.260	13.90	---	46.00	19.47	33.37	-12.63	Peak
552.070	14.10	---	46.00	20.54	34.64	-11.36	Peak
562.690	16.10	---	46.00	20.68	36.78	-9.22	Peak
649.118	13.90	---	46.00	22.40	36.30	-9.70	Peak
727.980	13.60	---	46.00	23.88	37.48	-8.52	Peak
773.790	15.40	---	46.00	24.49	39.89	-6.11	Peak
914.490	---	12.01	46.00	26.52	38.53	-7.47	QP
! 914.490	15.80	---	46.00	26.52	42.32	-3.68	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Tested by : C C.Wu

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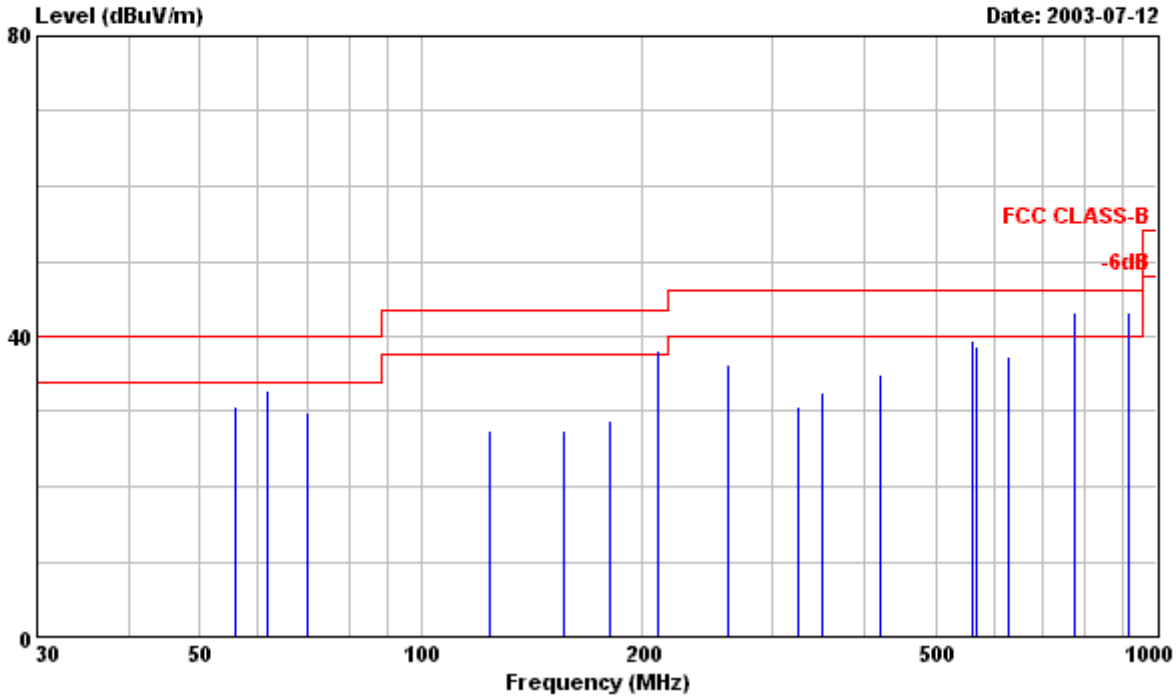

Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR HORIZONTAL
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 12 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 800x600/75Hz 47KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

	Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel	Over Limit	Remark
						HORIZONTAL		
	MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
	55.960	20.30	---	40.00	10.25	30.55	-9.45	Peak
	61.640	23.00	---	40.00	9.92	32.92	-7.08	Peak
	70.080	19.90	---	40.00	10.00	29.90	-10.10	Peak
	123.760	14.90	---	43.50	12.47	27.37	-16.13	Peak
	156.460	13.90	---	43.50	13.60	27.50	-16.00	Peak
	180.240	14.30	---	43.50	14.40	28.70	-14.80	Peak
!	209.540	21.10	---	43.50	17.15	38.25	-5.25	Peak
	209.540	---	18.78	43.50	17.15	35.93	-7.57	QP
	260.580	15.20	---	46.00	21.07	36.27	-9.73	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

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	Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel	Over Limit	Remark
						HORIZONTAL		
	MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
	325.810	13.70	---	46.00	17.02	30.72	-15.28	Peak
	351.560	15.10	---	46.00	17.53	32.63	-13.37	Peak
	421.870	16.20	---	46.00	18.71	34.91	-11.09	Peak
	562.540	18.70	---	46.00	20.68	39.38	-6.62	Peak
	569.270	17.90	---	46.00	20.77	38.67	-7.33	Peak
	630.020	15.30	---	46.00	21.93	37.23	-8.77	Peak
!	773.540	18.70	---	46.00	24.49	43.19	-2.81	Peak
!	773.540	---	15.82	46.00	24.49	40.31	-5.69	QP
!	914.250	16.70	---	46.00	26.47	43.17	-2.83	Peak
	914.250	---	12.99	46.00	26.47	39.46	-6.54	QP

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Tested by : C C.Wu

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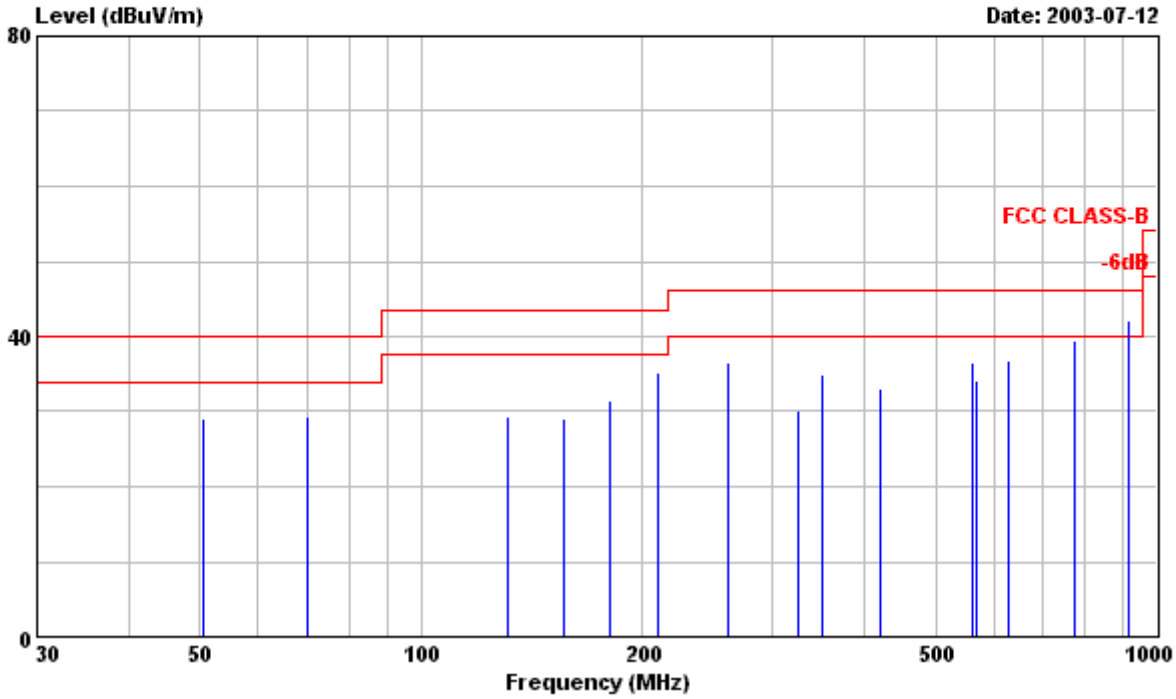
Data#: 4 File#: C:\Program Files\e3\EMI03-030-R.emi



Site : PHILIPS EMI Shielding Room
Condition : FCC CLASS-B 3m FCC-3M-FACTOR VERTICAL
EUT : PHILIPS 150X4 Serial No:TY0304285
Power : 120-240VAC
Memo : 1. EMI EVALUATION FOR FCC SAMPLE.
: 2. 2ND MODEL HANNSTAR PANEL,RUN IBM
: V1.8 FONT 12 ARIAL "H" PATTERN.
: 3. AUDIO WITH HEADPHONE.
: 4. 800x600/75Hz 47KHz MODE WITH COMPAQ
: ENC/P866/20E/8/128A TAI PC,ATI RADEON
: VE DDR VIDEO CAR WAS TESTED.

Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel VERTICAL	Over Limit	Remark
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
50.640	18.20	---	40.00	10.75	28.95	-11.05	Peak
70.080	19.40	---	40.00	10.00	29.40	-10.60	Peak
130.720	16.70	---	43.50	12.73	29.43	-14.07	Peak
156.460	15.50	---	43.50	13.60	29.10	-14.40	Peak
180.240	17.10	---	43.50	14.40	31.50	-12.00	Peak
209.540	18.10	---	43.50	17.15	35.25	-8.25	Peak
260.580	15.40	---	46.00	21.07	36.47	-9.53	Peak
325.810	13.00	---	46.00	17.02	30.02	-15.98	Peak
351.560	17.30	---	46.00	17.53	34.83	-11.17	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

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Frequency	Peak Reading	QP reading	Limit	Factor	Emission Lavel	Over Limit	Remark
					VERTICAL		
MHz	dBuV	dBuV	dBuV/m	dB/m	dBuV/m	dBuV/m	
420.500	14.40	---	46.00	18.69	33.09	-12.91	Peak
421.870	14.40	---	46.00	18.71	33.11	-12.89	Peak
562.540	15.80	---	46.00	20.68	36.48	-9.52	Peak
569.270	13.40	---	46.00	20.77	34.17	-11.83	Peak
630.020	14.90	---	46.00	21.93	36.83	-9.17	Peak
773.540	15.10	---	46.00	24.49	39.59	-6.41	Peak
914.250	---	11.46	46.00	26.47	37.93	-8.07	QP
! 914.250	15.70	---	46.00	26.47	42.17	-3.83	Peak

Remarks: 1. All Readings are Peak & Quasi-peak values.
2. Emission Lavel (dBuV/m) = Factor (dB/m) + Meter Reading (dBuV/m)
3. Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB)

Tested by : C C.Wu