1. General Information of EUT

The EUT, 14" LCD color monitor :

Model No. : 140S1
FCC ID : A3KM096
Brand : Philips

The LCD monitor automatically scans horizontal frequencies between 30KHz and 60KHz, and vertical frequencies between 50Hz and 75Hz. 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:

	Resolution	H-Frequency	V-Frequency	Remark
M01	640 X 350	31.5KHz	70Hz	Non-interlaced
M02	720 X 400	31.5KHZ	70Hz	Non-interlaced
M03	640 X 480	31.5KHz	60Hz	Non-interlaced
M04	640 X 480	35.0KHz	67Hz	Non-interlaced
M05	640 X 480	37.8KHz	72Hz	Non-interlaced
M06	640 X 480	37.5KHz	75Hz	Non-interlaced
M07	800 X 600	35.1KHz	56Hz	Non-interlaced
M08	800 X 600	37.8KHz	60Hz	Non-interlaced
M09	800 X 600	48.1KHz	72Hz	Non-interlaced
M10	800 X 600	46.8KHz	75Hz	Non-interlaced
M11	832 X 624	49.7KHz	75Hz	Non-interlaced
M12	1024 X 768	48.3KHz	60Hz	Non-interlaced
M13	1024 X 768	56.4KHz	70Hz	Non-interlaced
M14	1024 X 768	60.0KHz	75Hz	Non-interlaced

2. Test Equipment and Procedure

Test was performed by:

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

5, Tze Chiang 1 Road, Chungli Industrial Park
P.O. Box 123, Chungli, Taoyuan, Taiwan
R. O. C.
Tel : 886-3-4549862 Fax : 886-3-4549887
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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"

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.

Test Equipment	Model No.	Serial No.	Calibrated Date
Spectrum	HP8568B	2848A17338	7/22/1999
RF Preselector	HP85685A	2620A00138	7/22/1999
QP Adapter	HP85650A	2811A01326	7/22/1999
EMI Receiver	HP85460A	3441A00199	10/28/1999
RFI Filter Section	HP85460A	3330A00177	10/28/1999
EMI Receiver	R & S ESVS30	8419977/066	10/06/1999
Biconical Antenna	EMCO 3110B	3222	2/16/2000
Biconical Antenna	EMCO 3110B	3224	2/16/2000
Log-Periodic Antenna	EMCO 3146A	1424	2/16/2000
Log-Periodic Antenna	EMCO 3146A	1425	2/16/2000
LISN	EMCO 3825/2	9311-2153	10/01/1999
LISN	EMCO 3825/2	9311-2154	10/01/1999
Turn Table	EMCO 1060	1068	2/12/2000
Antenna Tower	EMCO 1050	1113	2/12/2000
RF Cable	M17/75-RG214-NE	N/A	2/12/2000
Computer	HP9000/300	2614A78610	N/A
Printer	HP2225A	2728S02586	N/A
Plotter	HP7440A	2539A40856	N/A

Traceability to R.O.C. and international standards is assured by using calibrated all equipment.

For system measurement, the EUT "140S1" was connected to:

Item	Model No.	Serial No.	FCC ID
1. Computer	HP D5044N	FR80627955	B94VECTRAV6DT
2. Keyboard	HP 3746	J7319E0095	FCC Logo
3. Mouse	HP M-S34	LZA73540063	DZL211029
4. Printer	HP 2225C	3123S97227	DSI6XU2225
5. Modem	USRobotics 268	0002680559278575	CJE-0318
6. Vide Card	Metabyte GIA	10105	I27MM-VS03A

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.

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.
18VDC/AC adapter was used.
The line conducted interference was tested with 110VAC and 220VAC receptively.

Unshielded power cord was used during test.

Tested and reported modes as following:

Report No.	Resolution	Frequencies
EMI00-007	1024x768	60.0KHz/75Hz
EMI00-007A	1024x768	48.3KHz/60Hz

3. Test Program and Test Results

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.

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.
The radiated (open site) data has included antenna and cable factors, sample calculation:

Final Value (dBμv/m) = Reading (dBuv) + Antenna Factor (dB) + Cable Loss (dB)

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The measured data of radiated RF interference at open site and line conducted interference as attached.

Uncertainty Statement: 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

The subject device is in compliance with the limits for a class B digital device, pursuant to part 15, subpart B of the FCC rules.

Ronnie Yang - Manager, Safety/Dev. PEI-CED
NVLAP Signatory