

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	12/16/1999
Biconical Antenna	EMCO 3110B	3224	12/16/1999
Log-Periodic Antenna	EMCO 3146A	1424	12/20/1999
Log-Periodic Antenna	EMCO 3146A	1425	12/20/1999
LISN	EMCO 3825/2	9311-2153	10/01/1999
LISN	EMCO 3825/2	9311-2154	10/01/1999
Turn Table	EMCO 1060	1068	11/18/1999
Antenna Tower	EMCO 1050	1113	11/18/1999
RF Cable	M17/75-RG214-NE	N/A	11/18/1999
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 “104S11” 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	LZA73005463	DZL211029
4. Printer	HP 2225C	3123S97227	DSI6XU2225
5. Modem	USRobotics 268	0002680559278575	CJE-0318
6. Vide Card	ATI XPERT LCD	10543	FCC Logo
7. CD-ROM	Sony CDU31A	--	FCC Logo

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.

The line conductive interference was tested with 110VAC and 220VAC receptively. Unshielded power cord was used during test. Extra earphone and microphone were connected during test.

Tested and reported modes as following:

Report No.	Resolution	Frequencies	I/F Cable
EMI00-003	800 x 600	53.7KHz/85Hz	D-sub
EMI00-003A	1024 x 768	48.3KHz/60Hz	D-sub

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” patten to USRobotics 268 modem.
- Step 6 : Return to step 1

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

FCC ID: A3KM081

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

$$\text{Final Value (dB}\mu\text{V/m)} = \text{Reading (dB}\mu\text{V)} + \text{Antenna Factor (dB)} + \text{Cable Loss (dB)}$$

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 FCC rules.



 Ronnie Yang, Manager, Safety/DEV
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