

Application for FCC Certificate
On Behalf of
LG Electronics U.S.A., Inc.

Network Monitor

Model No.: N1942LT

Serial No.: 903NDLS9N232

FCC ID : BEJN1942LT

Prepared For : LG Electronics U.S.A., Inc.
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NJ 07632, United States

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Date of Test : Apr 16-17, 2009
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TEST REPORT FOR FCC CERTIFICATE

Applicant : LG Electronics U.S.A., Inc.
Manufacturer : LG Electronics Nanjing Display Co., Ltd.
EUT Description : Network Monitor
(A) Model No. : N1942LT
(B) Serial No. : 903NDLS9N232
(C) Power Supply : 120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2008
AND ANSI C63.4-2003*

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B (Class B) and ICES-003, Issue 4 February 2004 (CISPR 22:2002) limits both radiated and conducted emissions.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report shows that the EUT (M/N: N1942LT; S/N: 903NDLS9N232) which was tested in 3m anechoic chamber Apr 16-17, 2009 is technically compliance with the FCC official limits also.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

This report contains data that are not covered by the NVLAP accreditation.

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Apr 16-17, 2009 Date of Report : Apr 17, 2009

Producer : Alan He
ALAN HE / Assistant

Review : Dio Yang
DIO YANG / Supervisor

 For and on behalf of
Audix Technology (Shanghai) Co., Ltd.

Signatory : Sammy Chen
Authorized Signature EMC SAMMY CHEN / Assistant Manager

1 SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Description of Test Item	Standard	Limits	Results
EMISSION			
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2008 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2008 AND ANSI C63.4-2003	15.109(a) Class B	Pass

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	:	Network Monitor
Type of EUT	:	☒ Production ☐ Pre-product ☐ Pro-type
Model No.	:	N1942LT
Serial No.	:	903NDLS9N232
Real Power	:	35.00W
Applicant	:	LG Electronics U.S.A., Inc. 1000 Sylvan Avenue, Englewood Cliffs, NJ 07632, United States
Manufacturer	:	LG Electronics Nanjing Display Co., Ltd. No.346, Yao Xin Road, Economic & Technical Development Zone, Nanjing, China
LCD Panel	:	Manufacturer : LG Display M/N : LM190E08 (TL) (G3)
Max Resolution	:	D-Sub 1280*1024@60Hz, X-PORT 1440*900@60Hz
D-Sub Cable #1	:	Shielded, Detachable, 1.85m, with two cores on cable
D-Sub Cable #2	:	Shielded, Detachable, 1.85m, with two cores in connector
STP Cable	:	Shielded, Detachable, 5.00m, with two cores on cable
Power Cord	:	Unshielded, Detachable, 1.80m
Note	:	After evaluation, the D-Sub cable#1 was used in the test for it will cause the maximum emission.

Remark:

The EUT is a Network Monitor which input/output ports as follows:

- | | |
|----------------------------|---|
| (1) One D-Sub Port | : Connected with PC |
| (2) One X-PORT | : Connected with PC (X550 Port on the PCI Card) |
| (3) One PS/2 Keyboard Port | : Connected with Keyboard |
| (4) One PS/2 Mouse Port | : Connected with Mouse |

- (5) One Earphone Port : Connected with Earphone
- (6) One AC In Port : Connected with Power

2.2 Peripherals

2.2.1 PC

Manufacturer : HP
Model Number : dx6120MT
Serial Number : CNG53004J2
Power Cord : Unshielded, Detachable, 1.8m
Certificate : FCC DoC; CE/EMC; VCCI; C-Tick; UL
BSMI (R33001) 3C (A000111)
MIC (E-A011-04-2659(B))

2.2.2 Printer

Manufacturer : HP
Model Number : C3990A
Serial Number : JPZX020487
Data Cable : Shielded, Detachable, 1.5m
Certificate : GS, CE/EMC, C-Tick, FCC DoC

2.2.3 Keyboard #1

Manufacturer : Microsoft
Model Number : RT2300
Serial Number : 7668200662248
Data Cable : Shielded, Undetachable, 1.8m
Certificate : CE/EMC, FCC DoC, VCCI, MIC, C-Tick,
BSMI

2.2.4 Keyboard #2

Manufacturer : Logitech
Model Number : Y-SAM64
Serial Number : SY807UK
Data Cable : Shielded, Undetachable, 1.8m
Certificate : CE/EMC, FCC DoC, C-Tick, BSMI

2.2.5 Mouse #1

Manufacturer : Microsoft
Model Number : RT2300
Serial Number : 6965712071551
Data Cable : Shielded, Undetachable, 1.85m.
Certificate : FCC DoC, VCCI, CE/EMC, MIC, GS

2.2.6 Mouse #2

Manufacturer : HP
Model Number : SBF96
Serial Number : 417441-001
Data Cable : Shielded, Undetachable, 1.85m.
Certificate : FCC DoC, VCCI, CE/EMC, C-Tick, BSMI

2.2.7 Modem

Manufacturer : TP-LINK
Model Number : TM-EC5658V
Serial Number : 07123301053
Data Cable : Shielded, Detachable, 1.8m
Certificate : FCC DoC, CE/EMC, CCC

2.2.8 Earphone

Manufacturer : SIOMY
Model Number : SM-430
Serial Number : N/A
Data Cable : Shielded, Detachable, 2.0m

2.2.9 X550 PCI Card (installed in the PC)

Manufacturer : NComputing Inc.
Model Number : X550 PCI Card (500-0035)
Serial Number : X550K8AB2 10009133
Certificate : FCC DoC, CE/EMC

2.3 Description of Test Facility

Site Description (Semi-Anechoic Chamber) : Sept. 17, 1998 file on
July 26, 2006 Renewed
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046, USA

Name of Firm : Audix Technology (Shanghai) Co., Ltd.

Site Location : 3F 34Bldg 680 Guiping Rd,
Caohejing Hi-Tech Park,
Shanghai 200233, China

NVLAP Lab Code : 200371-0

2.4 Measurement Uncertainty

Conducted Emission Expanded Uncertainty: U = 1.26 dB
Radiated Emission Expanded Uncertainty : U = 3.02 dB

3 CONDUCTED EMISSION TEST

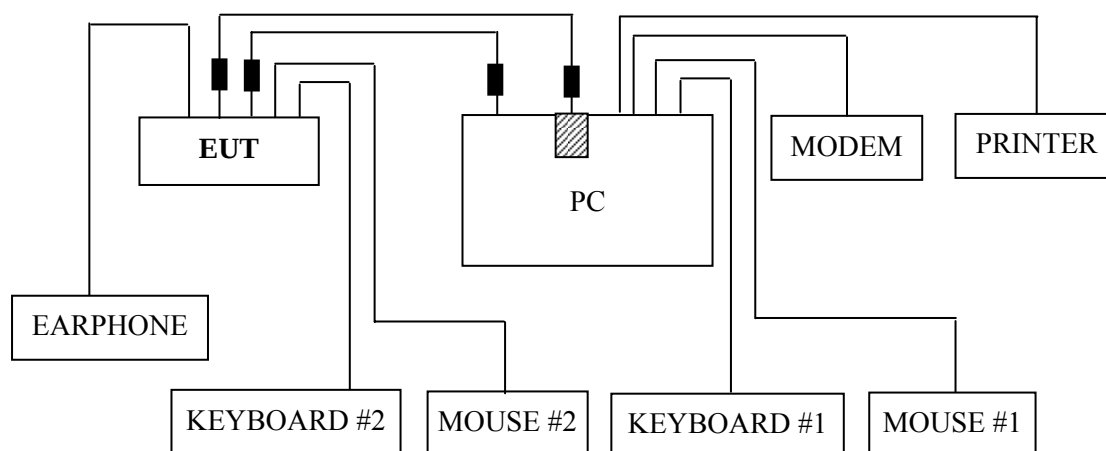
3.1.1 Test Equipment

The following test equipments are used during the conducted emission test in a shielded room:

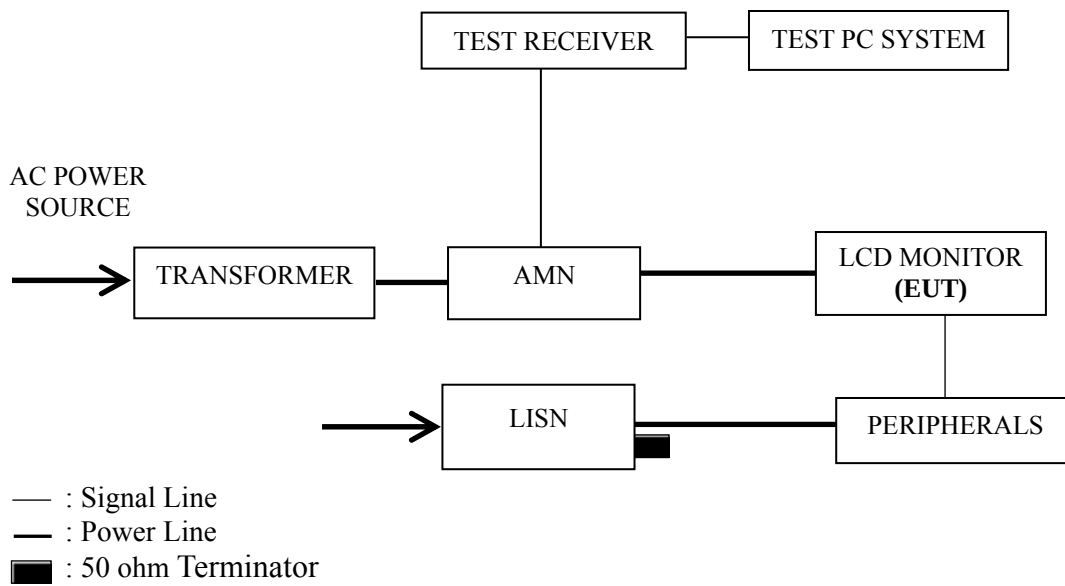
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Nov 21, 2008	Nov 21, 2009
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Apr 02, 2009	Apr 02, 2010
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Apr 02, 2009	Apr 02, 2010
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Mar 19, 2009	Sep 19, 2009
5.	50 Ω Terminator	Anritsu	BNC	001	Apr 02, 2009	Apr 02, 2010
6.	Software	Audix	E3	SET00200 9804M592	--	--

3.2 Block Diagram of Test Setup

3.2.1 EUT & Peripherals



3.2.2 Conducted Disturbance Test Setup



3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)]

Frequency Range (MHz)	Limits dB (μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66~56	56~46
0.5 ~ 5	56	46
5 ~ 30	60	50
NOTE 1 – The lower limit shall apply at the transition frequencies. NOTE 2 – The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz~0.50 MHz		

3.4 Test Configuration

The EUT (listed in Sec.2.1) and the peripherals (listed in Sec 2.2) were installed as shown on Sec.3.2 to meet FCC requirement and operating in a manner that tends to maximize its emission level in a normal application.

3.5 Operating Condition of EUT

3.5.1 Setup the EUT and peripherals as shown in Sec. 3.2.

3.5.2 Turn on the power of all equipments and the EUT.

3.5.3 Set the contrast & brightness of EUT to maximum.

3.5.4 PC system ran the self-test program “EMC Test” by windows XP and sent “H” characters to EUT through graphic card, the EUT’s screen displayed and filled with “H” pattern by its resolution (Via D-Sub & X-PORt Input).

3.5.5 In X- PORT mode, PC system played music and sent audio signal to EUT through the X- PORT of EUT.

3.5.6 Repeat above procedure from 3.5.3 to 3.5.5 for difference test mode.

3.5.7 The other peripherals devices were driven and operated during the test.

3.5.8 The test modes are as follows:

Test Mode
D-Sub 640*480@60Hz
D-Sub 1024*768@60Hz
D-Sub 1280*1024@60Hz
X-PORt 800*600@72Hz
X-PORt 1024*768@60Hz
X-PORt 1440*900@60Hz

3.6 Test Procedures

The EUT and peripherals were connected to the power mains through an Artificial Mains Network (AMN). This provided a 50 ohm coupling impedance for the measuring equipment.

Both sides of AC line (Line & Neutral) were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed or manipulated according to ANSI C63.4:2003 during conducted emission test.

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

The frequency range from 150 kHz to 30 MHz was checked.

The test modes were done on conducted disturbance test and all the test results are listed in Sec. 3.7.

3.7 Test Results

< PASS >

The frequency and amplitude of the highest conducted emission relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

Test Mode	Data Page
D-Sub 640*480@60Hz	P12
D-Sub 1024*768@60Hz	P13
D-Sub 1280*1024@60Hz	P14
X-PORT 800*600@72Hz	P15
X-PORT 1024*768@60Hz	P16
X-PORT 1440*900@60Hz	P17

NOTE 1 – Factor = Cable Loss + AMN Factor.

NOTE 2 – Emission Level = Meter Reading + Factor.

NOTE 3 – “QP” means “Quasi-Peak” values, “AV” means “Average” values.

NOTE 4 – The worst case is for D-Sub 640*480@60Hz test mode. The worst emission is detected at 0.150 MHz (Average value) with corrected signal level of 43.95 dB (μV) (limit is 56.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : Network Monitor Temperature : 18°C

Model No. : N1942LT Humidity : 48%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 17, 2009

Test Mode : D-Sub 640*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	53.09	0.57	53.66	66.00	12.34	QP
	0.228	42.91	0.64	43.55	62.52	18.97	
	0.524	33.26	0.56	33.82	56.00	22.18	
	4.114	41.63	0.54	42.17	56.00	13.83	
	7.252	35.14	0.58	35.72	60.00	24.28	
	13.989	32.95	0.85	33.80	60.00	26.20	
	0.150	43.12	0.57	43.69	56.00	12.31	AV
	0.228	32.17	0.64	32.81	52.52	19.71	
	0.524	23.54	0.56	24.10	46.00	21.90	
	4.114	31.28	0.54	31.82	46.00	14.18	
	7.252	25.84	0.58	26.42	50.00	23.58	
	13.989	22.47	0.85	23.32	50.00	26.68	
Neutral	0.150	53.15	0.44	53.59	66.00	12.41	QP
	0.226	43.82	0.58	44.40	62.61	18.21	
	0.751	33.24	0.49	33.73	56.00	22.27	
	4.202	37.96	0.45	38.41	56.00	17.59	
	7.025	36.23	0.70	36.93	60.00	23.07	
	24.400	35.09	0.91	36.00	60.00	24.00	
	0.150	43.51	0.44	43.95	56.00	12.05	AV
	0.226	33.45	0.58	34.03	52.61	18.58	
	0.751	23.64	0.49	24.13	46.00	21.87	
	4.202	27.46	0.45	27.91	46.00	18.09	
	7.025	26.51	0.70	27.21	50.00	22.79	
	24.400	29.54	0.91	30.45	50.00	19.55	

TEST ENGINEER: WENCY YANG

EUT : Network Monitor Temperature : 18°C

Model No. : N1942LT Humidity : 48%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 17, 2009

Test Mode : D-Sub 1024*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	50.60	0.57	51.17	66.00	14.83	QP
	0.228	42.34	0.64	42.98	62.52	19.54	
	1.054	31.97	0.47	32.44	56.00	23.56	
	3.901	36.96	0.54	37.50	56.00	18.50	
	6.769	32.16	0.58	32.74	60.00	27.26	
	24.529	33.13	0.83	33.96	60.00	26.04	
	0.150	41.52	0.57	42.09	56.00	13.91	AV
	0.228	32.80	0.64	33.44	52.52	19.08	
	1.054	21.84	0.47	22.31	46.00	23.69	
	3.901	26.17	0.54	26.71	46.00	19.29	
	6.769	22.62	0.58	23.20	50.00	26.80	
	24.529	23.45	0.83	24.28	50.00	25.72	
Neutral	0.152	52.18	0.44	52.62	65.91	13.29	QP
	0.228	41.92	0.58	42.50	62.52	20.02	
	1.054	34.69	0.47	35.16	56.00	20.84	
	4.269	37.40	0.45	37.85	56.00	18.15	
	6.769	36.19	0.67	36.86	60.00	23.14	
	24.529	32.34	0.91	33.25	60.00	26.75	
	0.152	42.81	0.44	43.25	55.91	12.66	AV
	0.228	31.25	0.58	31.83	52.52	20.69	
	1.054	24.61	0.47	25.08	46.00	20.92	
	4.269	27.52	0.45	27.97	46.00	18.03	
	6.769	26.48	0.67	27.15	50.00	22.85	
	24.529	23.81	0.91	24.72	50.00	25.28	

TEST ENGINEER: WENCY YANG

EUT : Network Monitor Temperature : 18°C

Model No. : N1942LT Humidity : 48%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 17, 2009

Test Mode : D-Sub 1280*1024@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.152	49.13	0.57	49.70	65.91	16.21	QP
	0.228	40.84	0.64	41.48	62.52	21.04	
	0.909	30.55	0.49	31.04	56.00	24.96	
	4.070	40.51	0.54	41.05	56.00	14.95	
	7.446	33.82	0.58	34.40	60.00	25.60	
	23.140	31.45	0.82	32.27	60.00	27.73	
	0.152	39.66	0.57	40.23	55.91	15.68	AV
	0.228	30.15	0.64	30.79	52.52	21.73	
	0.909	21.61	0.49	22.10	46.00	23.90	
	4.070	31.52	0.54	32.06	46.00	13.94	
	7.446	23.62	0.58	24.20	50.00	25.80	
	23.140	21.63	0.82	22.45	50.00	27.55	
Neutral	0.152	50.71	0.44	51.15	65.91	14.76	QP
	0.226	41.94	0.58	42.52	62.61	20.09	
	0.604	35.23	0.52	35.75	56.00	20.25	
	4.070	36.92	0.45	37.37	56.00	18.63	
	7.526	35.99	0.71	36.70	60.00	23.30	
	24.529	35.05	0.91	35.96	60.00	24.04	
	0.152	41.61	0.44	42.05	55.91	13.86	AV
	0.226	31.61	0.58	32.19	52.61	20.42	
	0.604	25.63	0.52	26.15	46.00	19.85	
	4.070	26.32	0.45	26.77	46.00	19.23	
	7.526	25.60	0.71	26.31	50.00	23.69	
	24.529	25.62	0.91	26.53	50.00	23.47	

TEST ENGINEER: WENCY YANG

EUT : Network Monitor Temperature : 18°C

Model No. : N1942LT Humidity : 48%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 17, 2009

Test Mode : X-PORT 800*600@72Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.152	50.25	0.57	50.82	65.91	15.09	QP
	0.228	40.38	0.64	41.02	62.52	21.50	
	0.909	31.62	0.49	32.11	56.00	23.89	
	4.070	41.75	0.54	42.29	56.00	13.71	
	7.368	34.93	0.58	35.51	60.00	24.49	
	21.830	32.34	0.82	33.16	60.00	26.84	
	0.152	41.62	0.57	42.19	55.91	13.72	AV
	0.228	31.24	0.64	31.88	52.52	20.64	
	0.909	21.64	0.49	22.13	46.00	23.87	
	4.070	31.50	0.54	32.04	46.00	13.96	
	7.368	25.61	0.58	26.19	50.00	23.81	
	21.830	22.61	0.82	23.43	50.00	26.57	
Neutral	0.152	49.88	0.44	50.32	65.91	15.59	QP
	0.228	43.68	0.58	44.26	62.52	18.26	
	0.984	33.33	0.47	33.80	56.00	22.20	
	4.070	38.59	0.45	39.04	56.00	16.96	
	7.446	37.72	0.70	38.42	60.00	21.58	
	24.790	33.66	0.91	34.57	60.00	25.43	
	0.152	39.62	0.44	40.06	55.91	15.85	AV
	0.228	35.60	0.58	36.18	52.52	16.34	
	0.984	23.62	0.47	24.09	46.00	21.91	
	4.070	28.95	0.45	29.40	46.00	16.60	
	7.446	27.64	0.70	28.34	50.00	21.66	
	24.790	23.64	0.91	24.55	50.00	25.45	

TEST ENGINEER: WENCY YANG

EUT : Network Monitor Temperature : 18°C

Model No. : N1942LT Humidity : 48%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 17, 2009

Test Mode : X-PORT 1024*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.152	52.30	0.57	52.87	65.91	13.04	QP
	0.230	41.19	0.64	41.83	62.44	20.61	
	0.984	29.41	0.48	29.89	56.00	26.11	
	4.070	39.06	0.54	39.60	56.00	16.40	
	7.252	34.76	0.58	35.34	60.00	24.66	
	15.885	31.85	0.89	32.74	60.00	27.26	
	0.152	42.61	0.57	43.18	55.91	12.73	AV
	0.230	31.61	0.64	32.25	52.44	20.19	
	0.984	19.64	0.48	20.12	46.00	25.88	
	4.070	29.61	0.54	30.15	46.00	15.85	
	7.252	24.61	0.58	25.19	50.00	24.81	
	15.885	21.63	0.89	22.52	50.00	27.48	
Neutral	0.153	50.88	0.45	51.33	65.82	14.49	QP
	0.604	35.15	0.52	35.67	56.00	20.33	
	1.282	32.93	0.46	33.39	56.00	22.61	
	4.158	38.44	0.45	38.89	56.00	17.11	
	7.606	38.44	0.71	39.15	60.00	20.85	
	24.790	35.40	0.91	36.31	60.00	23.69	
	0.153	40.51	0.45	40.96	55.82	14.86	AV
	0.604	25.63	0.52	26.15	46.00	19.85	
	1.282	23.61	0.46	24.07	46.00	21.93	
	4.158	29.41	0.45	29.86	46.00	16.14	
	7.606	28.44	0.71	29.15	50.00	20.85	
	24.790	25.61	0.91	26.52	50.00	23.48	

TEST ENGINEER: WENCY YANG

EUT : Network Monitor Temperature : 18°C

Model No. : N1942LT Humidity : 48%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 17, 2009

Test Mode : X-PORT 1440*900@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.152	49.19	0.57	49.76	65.91	16.15	QP
	0.452	34.18	0.58	34.76	56.85	22.09	
	0.909	31.65	0.49	32.14	56.00	23.86	
	4.158	40.95	0.54	41.49	56.00	14.51	
	7.252	35.88	0.58	36.46	60.00	23.54	
	15.885	32.25	0.89	33.14	60.00	26.86	
	0.152	39.62	0.57	40.19	55.91	15.72	AV
	0.452	24.68	0.58	25.26	46.85	21.59	
	0.909	21.26	0.49	21.75	46.00	24.25	
	4.158	31.25	0.54	31.79	46.00	14.21	
	7.252	25.78	0.58	26.36	50.00	23.64	
	15.885	23.69	0.89	24.58	50.00	25.42	
Neutral	0.152	51.04	0.44	51.48	65.91	14.43	QP
	0.604	35.10	0.52	35.62	56.00	20.38	
	1.282	32.70	0.46	33.16	56.00	22.84	
	4.158	37.77	0.45	38.22	56.00	17.78	
	7.526	39.22	0.71	39.93	60.00	20.07	
	24.790	32.93	0.91	33.84	60.00	26.16	
	0.152	41.52	0.44	41.96	55.91	13.95	AV
	0.604	25.63	0.52	26.15	46.00	19.85	
	1.282	23.62	0.46	24.08	46.00	21.92	
	4.158	28.65	0.45	29.10	46.00	16.90	
	7.526	29.14	0.71	29.85	50.00	20.15	
	24.790	23.65	0.91	24.56	50.00	25.44	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

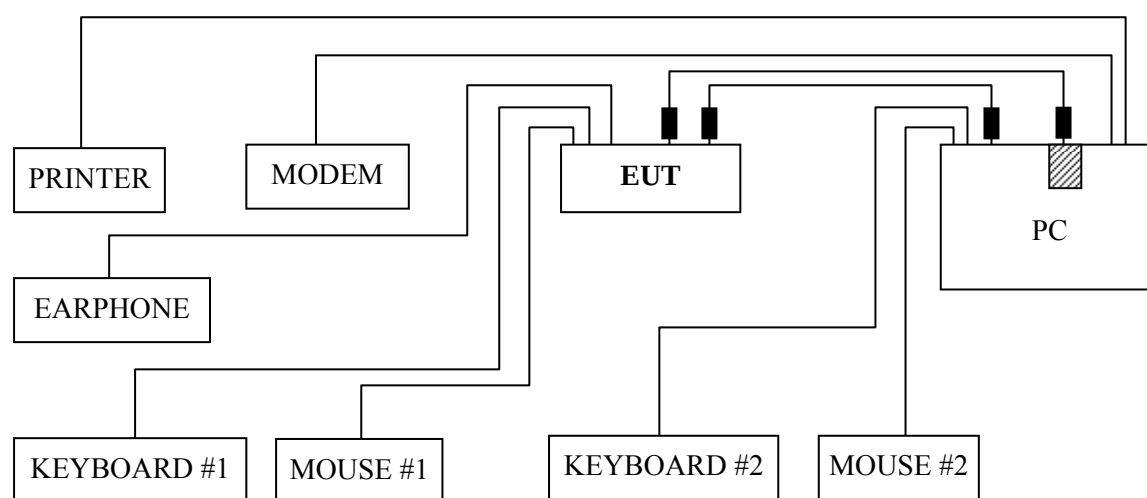
4.1 Test Equipment

The following test equipments are used during the radiated emission test in a semi-anechoic chamber:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESVS10	844594/001	Mar 07, 2009	Mar 07, 2010
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 19, 2009	Sep 19, 2009
3.	Preamplifier	HP	8449B	3008A00864	May 19, 2008	May 19, 2009
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 14, 2008	May 14, 2009
5.	Spectrum	Agilent	E7405A	MY45106600	May 19, 2008	May 19, 2009
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

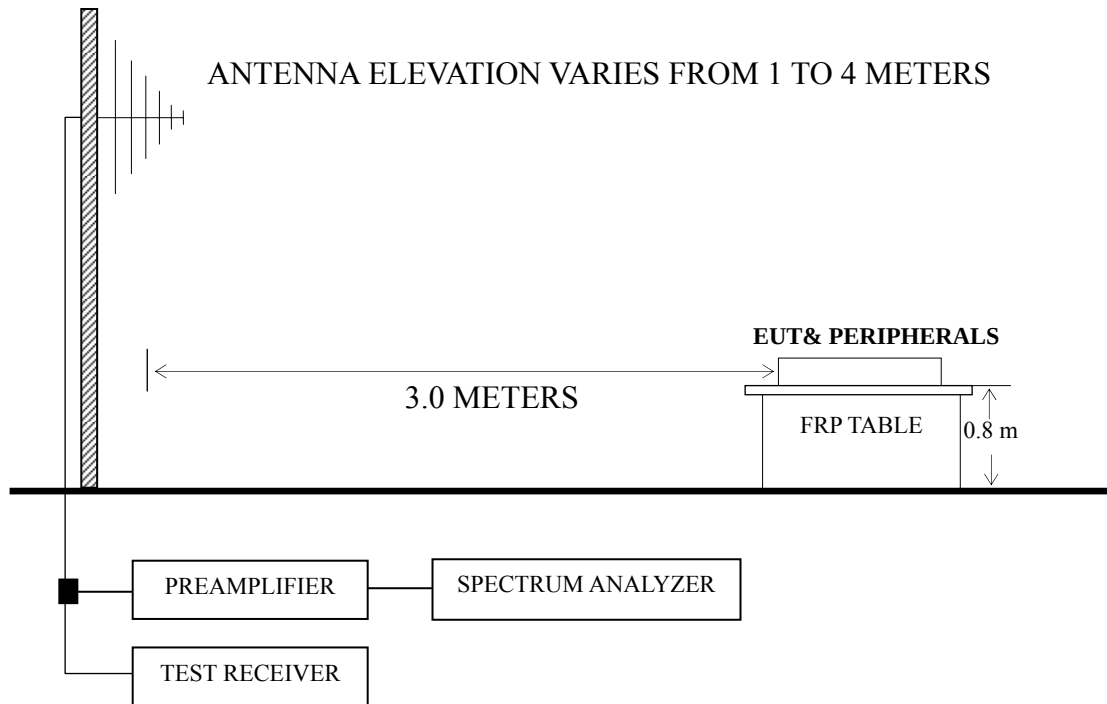
4.2.1 EUT and Peripherals



■ : Ferrite core

▨ : X550 PCI Card

4.2.2 Radiated emission test setup



■ : 50 ohm Coaxial Switch

4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)]

Frequency (MHz)	Distance (m)	Field strength limits	
		($\mu\text{V/m}$)	dB ($\mu\text{V/m}$)
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

NOTE 1 - Emission Level dB ($\mu\text{V/m}$) = 20 log Emission Level ($\mu\text{V/m}$)

NOTE 2 - The tighter limit applies at the band edges.

NOTE 3 - Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

NOTE 4 - The limits shown are based on Quasi-peak value detector below or equal to 1GHz and Average value detector above 1GHz.

NOTE 5 - Above 1 GHz, the limit on peak emission is 20 dB above the maximum permitted average emission limit applicable to the EUT

4.4 Test Configuration

The configuration of the EUT and peripherals are same as those used in conducted emission test.

Please refer to Sec.3.4.

4.5 Operating Condition of EUT

Same as conducted emission test which is listed in Sec.3.5, except for the test setup replaced by Sec.4.2.

4.6 Test Procedures

The EUT and peripherals were placed on a FRP turntable that is 0.8 meter above ground. The FRP turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. Broadband antenna (Calibrated Bilog Antenna) was used as receiving antenna. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.4:2003 requirements during radiated emission test.

The I.F. bandwidth of Test Receiver R&S ESVS10 was set at 120 kHz below 1GHz and The Spectrum Agilent E7405A was set at 1MHz above 1GHz.

The frequency range from 30 MHz to 1000MHz was checked for all test modes.

The frequency range from 1 GHz to 2 GHz was checked for D-Sub 1280*1024@60Hz & X-PORT 1440*900@60Hz modes.

The test modes were done on radiated disturbance test and all the test results are listed in Sec.4.7.

4.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

Test Mode	Data Page
D-Sub 640*480@60Hz	P22
D-Sub 1024*768@60Hz	P23
D-Sub 1280*1024@60Hz	P24
X-PORT 800*600@72Hz	P25
X-PORT 1024*768@60Hz	P26
X-PORT 1440*900@60Hz	P27

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading. (< 1GHz)

NOTE 2 – Emission Level = Antenna Factor + Cable Loss – Preamp Factor + Meter Reading.(> 1GHz)

NOTE 3 – The emission levels that are 20dB below the official limit are not reported.

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

NOTE 5 – All reading are Quasi-Peak values below or equal to 1GHz and Peak values above 1GHz. For measurements above 1 GHz, the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

NOTE 6 – The worst case is for D-Sub 1280*1024@60Hz test mode. The worst emission at horizontal polarization was detected at 216.240 MHz with corrected signal level of 33.38 dB (μV/m) (limit is 46.00dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 225°. The worst emission at vertical polarization was detected at 31.940 MHz with corrected signal level of 36.11 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 45°.

EUT : Network Monitor Temperature : 22°C

Model No. : N1942LT Humidity : 60%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 16, 2009

Test Mode : D-Sub 640*480@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	146.400	14.32	11.61	0.92	26.85	43.50	16.65
	186.170	18.97	10.14	1.04	30.15	43.50	13.35
	216.240	20.67	11.43	1.14	33.24	46.00	12.76
	252.130	14.66	12.94	1.27	28.87	46.00	17.13
	395.690	9.90	16.40	2.02	28.32	46.00	17.68
	719.670	6.95	19.91	3.12	29.98	46.00	16.02
Vertical	30.970	16.14	19.03	0.57	35.74	40.00	4.26
	71.710	22.07	6.69	0.87	29.63	40.00	10.37
	84.320	19.82	8.48	0.86	29.16	40.00	10.84
	107.600	19.86	12.10	0.86	32.82	43.50	10.68
	203.630	18.15	10.85	1.10	30.10	43.50	13.40
	216.240	20.11	11.43	1.14	32.68	46.00	13.32

TEST ENGINEER: TOM SI

EUT : Network Monitor Temperature : 22°C

Model No. : N1942LT Humidity : 60%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 16, 2009

Test Mode : D-Sub 1024*768@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	216.240	20.71	11.43	1.14	33.28	46.00	12.72
	232.730	16.07	12.24	1.21	29.52	46.00	16.48
	252.130	14.70	12.94	1.27	28.91	46.00	17.09
	288.020	11.58	13.71	1.48	26.77	46.00	19.23
	359.800	9.21	15.61	1.84	26.66	46.00	19.34
	395.690	9.67	16.40	2.02	28.09	46.00	17.91
Vertical	31.940	15.47	18.49	0.59	34.55	40.00	5.45
	71.710	21.49	6.69	0.87	29.05	40.00	10.95
	84.320	19.08	8.48	0.86	28.42	40.00	11.58
	107.600	16.15	12.10	0.86	29.11	43.50	14.39
	515.970	11.56	18.09	2.42	32.07	46.00	13.93
	798.240	7.33	20.67	3.32	31.32	46.00	14.68

TEST ENGINEER: TOM SI

EUT : Network Monitor Temperature : 22°C

Model No. : N1942LT Humidity : 60%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 16, 2009

Test Mode : D-Sub 1280*1024@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	180.350	17.65	9.90	1.02	--	28.57	43.50	14.93	QP
	216.240	20.81	11.43	1.14	--	33.38	46.00	12.62	
	288.020	11.67	13.71	1.48	--	26.86	46.00	19.14	
	359.800	9.57	15.61	1.84	--	27.02	46.00	18.98	
	395.690	10.08	16.40	2.02	--	28.50	46.00	17.50	
	809.880	5.98	20.80	3.34	--	30.12	46.00	15.88	
	1252.000	54.38	24.10	7.33	37.05	48.76	74.00	25.24	PK
	1307.000	53.36	24.58	7.58	36.93	48.59	74.00	25.41	
	1364.000	53.20	24.98	7.84	36.80	49.22	74.00	24.78	
	1419.000	53.91	25.31	8.09	36.69	50.62	74.00	23.38	
	1512.000	53.27	25.88	8.43	36.51	51.07	74.00	22.93	
	1727.000	51.86	26.72	9.07	36.12	51.53	74.00	22.47	
Vertical	31.940	17.03	18.49	0.59	--	36.11	40.00	3.89	QP
	71.710	21.83	6.69	0.87	--	29.39	40.00	10.61	
	84.320	19.51	8.48	0.86	--	28.85	40.00	11.15	
	106.630	16.57	12.02	0.86	--	29.45	43.50	14.05	
	203.630	15.97	10.85	1.10	--	27.92	43.50	15.58	
	515.970	10.37	18.09	2.42	--	30.88	46.00	15.12	
	1054.000	60.21	22.76	6.79	37.54	52.22	74.00	21.78	PK
	1404.000	53.32	25.24	8.01	36.72	49.85	74.00	24.15	
	1497.000	54.19	25.80	8.43	36.53	51.89	74.00	22.11	
	1569.000	53.50	26.22	8.64	36.40	51.96	74.00	22.04	
	1754.000	52.26	26.80	9.24	36.07	52.23	74.00	21.77	
	1842.000	51.16	27.12	9.48	35.93	51.83	74.00	22.17	

TEST ENGINEER: TOM SI

EUT : Network Monitor Temperature : 22°C

Model No. : N1942LT Humidity : 60%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 16, 2009

Test Mode : X-PORT 800*600@72Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	71.710	18.28	6.69	0.87	25.84	40.00	14.16
	146.400	17.32	11.61	0.92	29.85	43.50	13.65
	186.170	19.97	10.14	1.04	31.15	43.50	12.35
	216.240	22.67	11.43	1.14	35.24	46.00	10.76
	252.130	16.66	12.94	1.27	30.87	46.00	15.13
	288.020	13.88	13.71	1.48	29.07	46.00	16.93
Vertical	30.970	13.14	19.03	0.57	32.74	40.00	7.26
	71.710	21.07	6.69	0.87	28.63	40.00	11.37
	84.320	19.82	8.48	0.86	29.16	40.00	10.84
	107.600	19.86	12.10	0.86	32.82	43.50	10.68
	216.240	20.11	11.43	1.14	32.68	46.00	13.32
	515.970	13.64	18.09	2.42	34.15	46.00	11.85

TEST ENGINEER: TOM SI

EUT : Network Monitor Temperature : 22°C

Model No. : N1942LT Humidity : 60%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 16, 2009

Test Mode : X-PORT 1024*768@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	71.710	20.23	6.69	0.87	27.79	40.00	12.21
	216.240	22.71	11.43	1.14	35.28	46.00	10.72
	252.130	15.70	12.94	1.27	29.91	46.00	16.09
	395.690	11.67	16.40	2.02	30.09	46.00	15.91
	719.670	8.30	19.91	3.12	31.33	46.00	14.67
	809.880	7.02	20.80	3.34	31.16	46.00	14.84
Vertical	31.940	13.47	18.49	0.59	32.55	40.00	7.45
	71.710	21.49	6.69	0.87	29.05	40.00	10.95
	84.320	20.08	8.48	0.86	29.42	40.00	10.58
	107.600	18.15	12.10	0.86	31.11	43.50	12.39
	142.520	14.82	11.91	0.91	27.64	43.50	15.86
	515.970	13.56	18.09	2.42	34.07	46.00	11.93

TEST ENGINEER: TOM SI

EUT : Network Monitor Temperature : 22°C

Model No. : N1942LT Humidity : 60%RH

Serial No. : 903NDLS9N232 Date of Test : Apr 16, 2009

Test Mode : X-PORT 1440*900@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	71.710	22.97	6.69	0.87	--	30.53	40.00	9.47	QP
	149.310	18.51	11.35	0.92	--	30.78	43.50	12.72	
	180.350	21.65	9.90	1.02	--	32.57	43.50	10.93	
	213.330	24.73	11.30	1.13	--	37.16	43.50	6.34	
	288.020	14.67	13.71	1.48	--	29.86	46.00	16.14	
	395.690	12.08	16.40	2.02	--	30.50	46.00	15.50	
	1307.000	56.09	24.58	7.58	36.93	51.32	74.00	22.68	PK
	1404.000	52.90	25.24	8.01	36.72	49.43	74.00	24.57	
	1512.000	53.46	25.88	8.43	36.51	51.26	74.00	22.74	
	1620.000	52.53	26.45	8.78	36.31	51.45	74.00	22.55	
	1727.000	52.29	26.72	9.07	36.12	51.96	74.00	22.04	
	1842.000	51.26	27.12	9.48	35.93	51.93	74.00	22.07	
Vertical	31.940	14.03	18.49	0.59	--	33.11	40.00	6.89	QP
	71.710	23.83	6.69	0.87	--	31.39	40.00	8.61	
	84.320	21.51	8.48	0.86	--	30.85	40.00	9.15	
	106.630	18.57	12.02	0.86	--	31.45	43.50	12.05	
	203.630	18.97	10.85	1.10	--	30.92	43.50	12.58	
	515.970	11.37	18.09	2.42	--	31.88	46.00	14.12	
	1051.000	60.71	22.76	6.79	37.55	52.71	74.00	21.29	PK
	1210.000	56.42	23.78	7.16	37.15	50.21	74.00	23.79	
	1252.000	55.75	24.10	7.33	37.05	50.13	74.00	23.87	
	1497.000	53.65	25.80	8.43	36.53	51.35	74.00	22.65	
	1557.000	52.64	26.15	8.57	36.42	50.94	74.00	23.06	
	1727.000	52.00	26.72	9.07	36.12	51.67	74.00	22.33	

TEST ENGINEER: TOM SI

5 DEVIATION TO TEST SPECIFICATIONS

None.

6 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Specifications (mm)	Manufacturer	Location
Aluminum foil	T-308	50*30	DAEHUNG SUBSIDIARY MATERIALS.	See Internal Photos 14
Sponge	3940TKK041S	114*10*1	EXPAN	See Internal Photos 15