

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

LCD Monitor

Model No.: E1642CA

Serial No.: E1205543-01/01

FCC ID : BEJE1642SA

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

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Report No. : ACI-F12025A1
Date of Test : May 08 – 09, 2012
Date of Report : May 15, 2012

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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 : LCD Monitor
(A) Model No. : E1642CA
(B) Serial No. : E1205543-01/01
(C) Power Supply : 120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2011
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: E1642CA; S/N: E1205543-01/01) which was tested in 3m anechoic chamber May 08 – 09, 2012 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 : May 08 – 09, 2012 Date of Report : May 15, 2012

Producer : Yenny Yu.
YENNY YU / Assistant

Review : Dio Yang.
DIO YANG / Assistant Manager

AUDIX[®] For and on behalf of
Audix Technology (Shanghai) Co., Ltd.

Signatory : Sammy Chen
Authorized Signature EMC SAMMY CHEN / Deputy 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 2011 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2011 AND ANSI C63.4-2003	15.109(a) Class B	Pass

AC Adapter #4	: Manufacturer	: HONOR
	Model Number	: ADS-40FSG-19 19025G***-1 (*** can be PG, PBR, PI, PCU, ADS-40FSG-19 19025GPCU-1 was selected as the test model.)
	Input	: 100-240V~, 50-60Hz 1.0A
	Output	: 19V $\overline{\text{---}}$ 1.3A
	Output Cable	: Unshielded, Undetachable, 1.8m

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 :

Original Panel	New Panel
Manufacturer : CHIMEI INNOLUX M/N : N156BGE –L21 Rev.C1	Manufacturer : LG Display M/N : LP156WH4

Max Resolution : 1366*768@60Hz

D-Sub Cable #1 : Shielded, Detachable, 1.50m, with two cores in connector

D-Sub Cable #2 : Shielded, Detachable, 1.85m, with two cores in connector

Power Cord : Unshielded, Detachable, 1.50m

Note : The D-Sub cable #2 was selected to be used in the test.

Remark:

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

- (1) One D-Sub Port : Connected with PC
- (2) One DC In Port : Connected with Adapter

2.2 Peripherals

2.2.1 PC

Manufacturer : HP
Model Number : dx7200MT
Serial Number : CNG622017W
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 Graphics Card (Used in PC)

Manufacturer : Asus
Model Number : EAH6670
Output port : DVI, D-Sub, HDMI

2.2.3 Printer

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

2.2.4 Keyboard

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

2.2.5 Mouse

Manufacturer : Microsoft
Model Number : RT2300
Serial Number : 6965712071551
Data Cable : Shielded, Undetachable, 1.8m.
Certificate : CE/EMC, FCC DoC, VCCI, MIC,
C-Tick, BSMI

2.2.6 Modem

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

2.3 Description of Test Facility

Site Description (Semi-Anechoic Chamber) : Sept. 17, 1998 file on
Apr 29, 2009 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 = 3.38 dB

Radiated Emission Expanded Uncertainty (30-200MHz):
U = 4.58 dB (Horizontal)
U = 4.70 dB (Vertical)

Radiated Emission Expanded Uncertainty (200M-1GHz):
U = 4.84 dB (Horizontal)
U = 4.70 dB (Vertical)

3 CONDUCTED EMISSION TEST

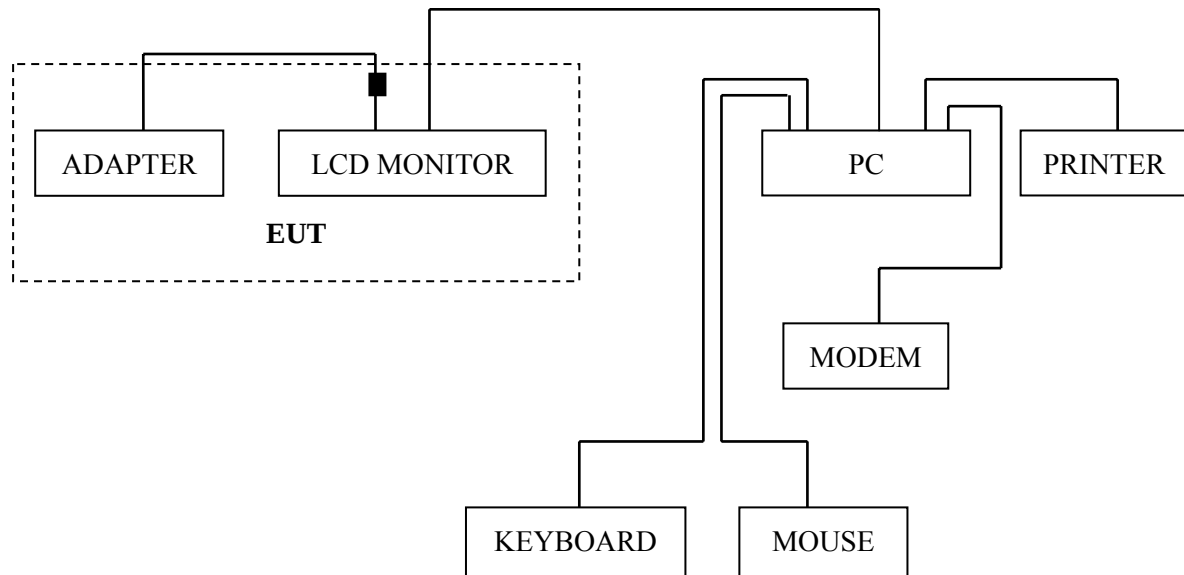
3.1 Test Equipment

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	Mar 22, 2012	Mar 22, 2013
2.	Artificial Mains Network (AMN #1)	R&S	ESH2-Z5	843890/011	Feb 13, 2012	Feb 13, 2013
3.	Artificial Mains Network (AMN #2)	R&S	ENV4200	100125	Mar 22, 2012	Mar 22, 2013
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Mar 18, 2012	Sep 18, 2012
5.	50 Ω Terminator	Anritsu	BNC	001	Mar 22, 2012	Mar 22, 2013
6.	Software	Audix	E3	SET00200 9804M592	--	--

3.2 Block Diagram of Test Setup

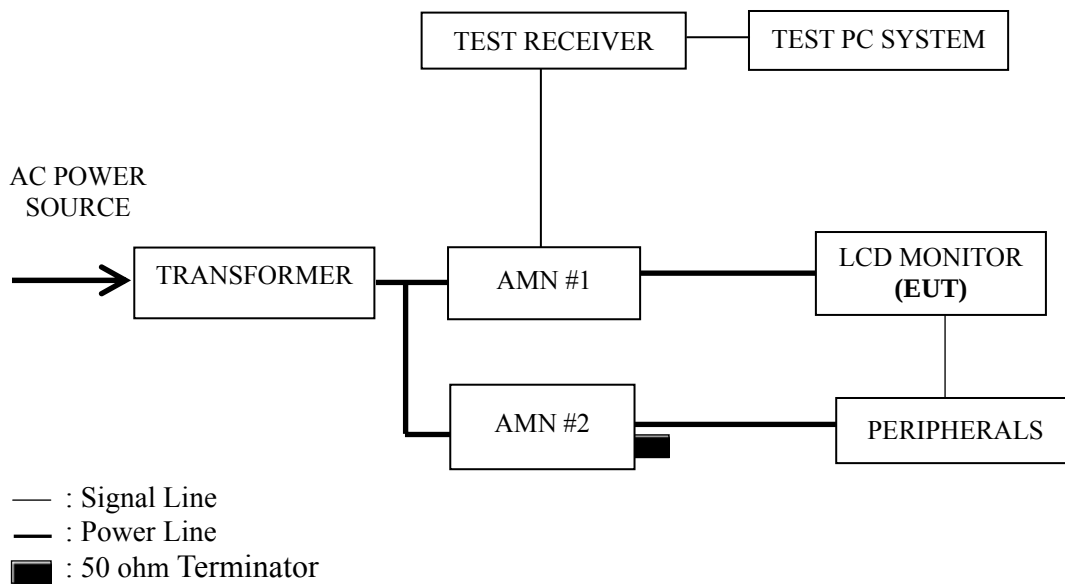
3.2.1 EUT & Peripherals



■ : Ferrite core

Note: Ferrite core only for Adapter #1

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 (we use white letters on a black background to represent all colors), the EUT's screen displayed and filled with "H" pattern by its resolution (Via D-Sub Input).

3.5.5 Repeat above procedure from 3.5.3 to 3.5.4 for difference test mode.

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

3.5.7 The test modes are as follows:

Adapter	Test Mode
Adapter #1	D-Sub 1366*768@60Hz
	D-Sub 1024*768@75Hz
	D-Sub 640*480@60Hz
Adapter #2	D-Sub 1366*768@60Hz
Adapter #3	D-Sub 1366*768@60Hz
Adapter #4	D-Sub 1366*768@60Hz

NOTE: We tested the EUT with adapter #1 and selected the worst test mode to perform test with adapter #2/#3/#4.

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.

Adaptor	Test Mode	Page
Adapter #1	D-Sub 1366*768@60Hz	P13
	D-Sub 1024*768@75Hz	P14
	D-Sub 640*480@60Hz	P15
Adapter #2	D-Sub 1366*768@60Hz	P16
Adapter #3	D-Sub 1366*768@60Hz	P17
Adapter #4	D-Sub 1366*768@60Hz	P18

NOTE 1 – The **bold test mode** listed above means the worst test mode.

NOTE 2 – Factor = Cable Loss + AMN Factor.

NOTE 3 – Emission Level = Meter Reading + Factor.

NOTE 4 – “QP” means “Quasi-Peak” values, “AV” means “Average” values.

NOTE 5 – The worst case is for D-Sub 1366*768@60Hz test mode (Adapter #2). The worst emission is detected at 0.157 MHz (Quasi-Peak Value) with corrected signal level of 55.91 dB (μV) (limit is 65.60 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 48%RH

Serial No. : E1205543-01/01 Date of Test : May 08, 2012

Test Mode : D-Sub 1366*768@60Hz Adapter #1 : LCAP21

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.155	50.94	0.24	51.18	65.74	14.56	QP
	0.456	37.95	0.35	38.30	56.76	18.46	
	1.010	19.38	0.32	19.70	56.00	36.30	
	4.407	28.54	0.49	29.03	56.00	26.97	
	6.627	25.30	0.64	25.94	60.00	34.06	
	17.849	30.46	0.90	31.36	60.00	28.64	
	0.155	41.80	0.24	42.04	55.74	13.70	AV
	0.456	27.70	0.35	28.05	46.76	18.71	
	1.010	9.60	0.32	9.92	46.00	36.08	
	4.407	18.60	0.49	19.09	46.00	26.91	
	6.627	15.40	0.64	16.04	50.00	33.96	
	17.849	20.60	0.90	21.50	50.00	28.50	
Neutral	0.159	50.09	0.13	50.22	65.52	15.30	QP
	0.461	34.43	0.17	34.60	56.67	22.07	
	1.032	15.95	0.22	16.17	56.00	39.83	
	5.005	27.09	0.42	27.51	60.00	32.49	
	6.698	24.87	0.57	25.44	60.00	34.56	
	17.568	28.35	0.79	29.14	60.00	30.86	
	0.159	40.30	0.13	40.43	55.52	15.09	AV
	0.461	24.70	0.17	24.87	46.67	21.80	
	1.032	6.10	0.22	6.32	46.00	39.68	
	5.005	17.20	0.42	17.62	50.00	32.38	
	6.698	14.80	0.57	15.37	50.00	34.63	
	17.568	18.60	0.79	19.39	50.00	30.61	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 48%RH

Serial No. : E1205543-01/01 Date of Test : May 08, 2012

Test Mode : D-Sub 1024*768@75Hz Adapter #1 : LCAP21

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.155	50.34	0.24	50.58	65.74	15.16	QP
	0.461	38.00	0.35	38.35	56.67	18.32	
	1.043	19.36	0.32	19.68	56.00	36.32	
	5.005	27.18	0.50	27.68	60.00	32.32	
	6.557	26.09	0.63	26.72	60.00	33.28	
	17.568	28.83	0.89	29.72	60.00	30.28	
	0.155	40.60	0.24	40.84	55.74	14.90	AV
	0.461	28.20	0.35	28.55	46.67	18.12	
	1.043	9.60	0.32	9.92	46.00	36.08	
	5.005	17.30	0.50	17.80	50.00	32.20	
	6.557	16.20	0.63	16.83	50.00	33.17	
	17.568	18.40	0.89	19.29	50.00	30.71	
Neutral	0.159	50.01	0.13	50.14	65.52	15.38	QP
	0.456	34.06	0.17	34.23	56.76	22.53	
	1.032	16.21	0.22	16.43	56.00	39.57	
	5.005	27.12	0.42	27.54	60.00	32.46	
	6.769	23.71	0.58	24.29	60.00	35.71	
	17.755	30.89	0.79	31.68	60.00	28.32	
	0.159	40.20	0.13	40.33	55.52	15.19	AV
	0.456	24.30	0.17	24.47	46.76	22.29	
	1.032	6.40	0.22	6.62	46.00	39.38	
	5.005	17.30	0.42	17.72	50.00	32.28	
	6.769	13.40	0.58	13.98	50.00	36.02	
	17.755	20.40	0.79	21.19	50.00	28.81	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 48%RH

Serial No. : E1205543-01/01 Date of Test : May 08, 2012

Test Mode : D-Sub 640*480@60Hz Adapter #1 : LCAP21

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.156	50.78	0.24	51.02	65.65	14.63	QP
	0.461	38.26	0.35	38.61	56.67	18.06	
	1.043	19.55	0.32	19.87	56.00	36.13	
	5.112	27.82	0.50	28.32	60.00	31.68	
	6.252	25.00	0.60	25.60	60.00	34.40	
	17.849	30.57	0.90	31.47	60.00	28.53	
	0.156	40.60	0.24	40.84	55.65	14.81	AV
	0.461	28.40	0.35	28.75	46.67	17.92	
	1.043	9.60	0.32	9.92	46.00	36.08	
	5.112	17.90	0.50	18.40	50.00	31.60	
	6.252	14.80	0.60	15.40	50.00	34.60	
	17.849	20.70	0.90	21.60	50.00	28.40	
Neutral	0.156	50.17	0.13	50.30	65.65	15.35	QP
	0.466	34.37	0.17	34.54	56.58	22.04	
	1.021	16.47	0.22	16.69	56.00	39.31	
	5.005	27.98	0.42	28.40	60.00	31.60	
	6.420	23.85	0.55	24.40	60.00	35.60	
	18.232	28.72	0.80	29.52	60.00	30.48	
	0.156	40.30	0.13	40.43	55.65	15.22	AV
	0.466	24.50	0.17	24.67	46.58	21.91	
	1.021	6.60	0.22	6.82	46.00	39.18	
	5.005	17.80	0.42	18.22	50.00	31.78	
	6.420	13.99	0.55	14.54	50.00	35.46	
	18.232	18.90	0.80	19.70	50.00	30.30	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 48%RH

Serial No. : E1205543-01/01 Date of Test : May 08, 2012

Test Mode : D-Sub 1366*768@60Hz Adapter #2 : LCAP26-A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.156	55.70	0.24	55.94	65.65	9.71	QP
	0.452	34.28	0.35	34.63	56.85	22.22	
	0.890	18.86	0.30	19.16	56.00	36.84	
	4.874	29.94	0.50	30.44	56.00	25.56	
	6.056	23.09	0.59	23.68	60.00	36.32	
	20.162	29.32	0.92	30.24	60.00	29.76	
	0.156	45.50	0.24	45.74	55.65	9.91	AV
	0.452	24.40	0.35	24.75	46.85	22.10	
	0.890	9.00	0.30	9.30	46.00	36.70	
	4.874	19.80	0.50	20.30	46.00	25.70	
	6.056	13.20	0.59	13.79	50.00	36.21	
	20.162	19.70	0.92	20.62	50.00	29.38	
Neutral	0.157	55.78	0.13	55.91	65.60	9.69	QP
	0.461	33.86	0.17	34.03	56.67	22.64	
	0.880	20.96	0.22	21.18	56.00	34.82	
	4.952	30.81	0.42	31.23	56.00	24.77	
	6.252	22.90	0.53	23.43	60.00	36.57	
	17.568	30.69	0.79	31.48	60.00	28.52	
	0.157	45.60	0.13	45.73	55.60	9.87	AV
	0.461	23.70	0.17	23.87	46.67	22.80	
	0.880	10.80	0.22	11.02	46.00	34.98	
	4.952	20.80	0.42	21.22	46.00	24.78	
	6.252	12.60	0.53	13.13	50.00	36.87	
	17.568	20.40	0.79	21.19	50.00	28.81	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 48%RH

Serial No. : E1205543-01/01 Date of Test : May 08, 2012

Test Mode : D-Sub 1366*768@60Hz Adapter #3 : ADS-40SG-19-3
19025G

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.157	44.71	0.24	44.95	65.60	20.65	QP
	0.447	35.41	0.35	35.76	56.93	21.17	
	1.141	22.67	0.32	22.99	56.00	33.01	
	2.765	22.42	0.40	22.82	56.00	33.18	
	9.302	22.69	0.73	23.42	60.00	36.58	
	28.603	19.17	1.26	20.43	60.00	39.57	
	0.157	34.85	0.24	35.09	55.60	20.51	AV
	0.447	25.59	0.35	25.94	46.93	20.99	
	1.141	12.31	0.32	12.63	46.00	33.37	
	2.765	12.61	0.40	13.01	46.00	32.99	
	9.302	12.90	0.73	13.63	50.00	36.37	
	28.603	9.20	1.26	10.46	50.00	39.54	
Neutral	0.159	43.40	0.13	43.53	65.52	21.99	QP
	0.447	34.67	0.17	34.84	56.93	22.09	
	1.153	24.53	0.21	24.74	56.00	31.26	
	2.765	20.54	0.21	20.75	56.00	35.25	
	9.011	23.06	0.50	23.56	60.00	36.44	
	28.755	20.59	1.13	21.72	60.00	38.28	
	0.159	33.60	0.13	33.73	55.52	21.79	AV
	0.447	24.60	0.17	24.77	46.93	22.16	
	1.153	14.61	0.21	14.82	46.00	31.18	
	2.765	10.70	0.21	10.91	46.00	35.09	
	9.011	13.20	0.50	13.70	50.00	36.30	
	28.755	10.10	1.13	11.23	50.00	38.77	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 48%RH

Serial No. : E1205543-01/01 Date of Test : May 08, 2012

Test Mode : D-Sub 1366*768@60Hz Adapter #4 : ADS-40SG-19-3
19025GPCU-1

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	46.74	0.23	46.97	66.00	19.03	QP
	0.447	40.68	0.35	41.03	56.93	15.90	
	1.160	29.67	0.32	29.99	56.00	26.01	
	3.140	29.08	0.42	29.50	56.00	26.50	
	7.025	28.37	0.66	29.03	60.00	30.97	
	21.600	24.20	0.99	25.19	60.00	34.81	
	0.150	36.60	0.23	36.83	56.00	19.17	AV
	0.447	30.39	0.35	30.74	46.93	16.19	
	1.160	19.41	0.32	19.73	46.00	26.27	
	3.140	19.20	0.42	19.62	46.00	26.38	
	7.025	18.60	0.66	19.26	50.00	30.74	
	21.600	14.29	0.99	15.28	50.00	34.72	
Neutral	0.152	46.61	0.13	46.74	65.91	19.17	QP
	0.447	40.17	0.17	40.34	56.93	16.59	
	1.236	29.19	0.22	29.41	56.00	26.59	
	2.736	28.40	0.21	28.61	56.00	27.39	
	4.952	28.11	0.42	28.53	56.00	27.47	
	21.600	22.38	0.88	23.26	60.00	36.74	
	0.152	36.90	0.13	37.03	55.91	18.88	AV
	0.447	30.20	0.17	30.37	46.93	16.56	
	1.236	19.20	0.22	19.42	46.00	26.58	
	2.736	18.60	0.21	18.81	46.00	27.19	
	4.952	18.40	0.42	18.82	46.00	27.18	
	21.600	12.60	0.88	13.48	50.00	36.52	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

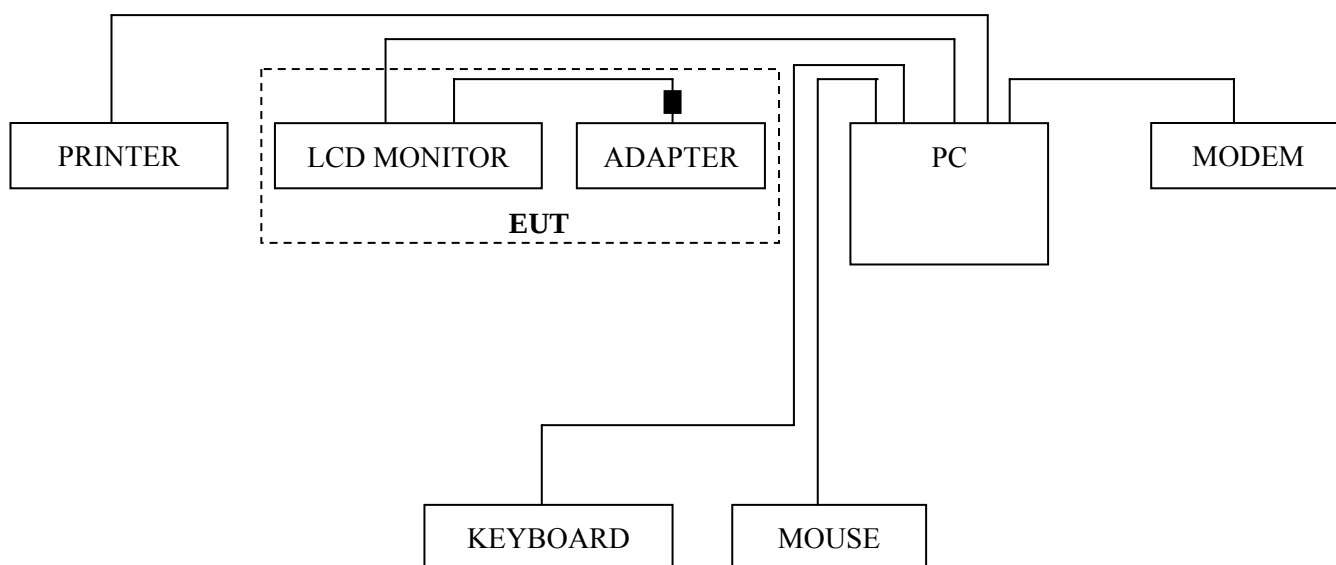
4.1 Test Equipment

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 22, 2012	Mar 22, 2013
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 18, 2012	Sep 18, 2012
3.	Bi-log Antenna	TESEQ	CBL6112D	23192	Dec 01, 2011	Dec 01, 2012
4.	Spectrum	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013
5.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Mar 18, 2012	Sep 18, 2012
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

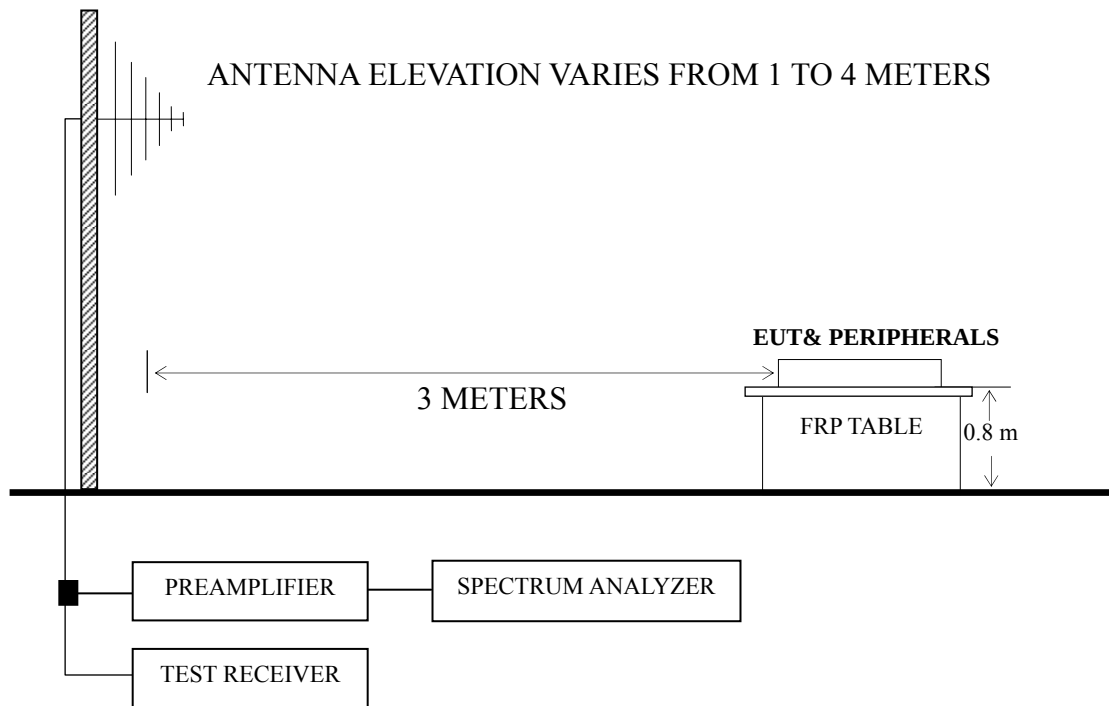
4.2.1 EUT and Peripherals



■ : Ferrite core

Note: Ferrite core only for Adapter #1

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.

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.

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

Adapter	Test Mode	Page
Adapter #1	D-Sub 1366*768@60Hz	P23
	D-Sub 1024*768@75Hz	P24
	D-Sub 640*480@60Hz	P25
Adapter #2	D-Sub 1366*768@60Hz	P26
Adapter #3	D-Sub 1366*768@60Hz	P27
Adapter #4	D-Sub 1366*768@60Hz	P28

NOTE 1 – **The bold test mode** listed above means the worst test mode.

NOTE 2 – Emission Level = Antenna Factor + Cable Loss + Meter Reading.

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 – We tested the EUT with adapter #1 and selected the worst test mode to perform test with adapter #2/#3/#4.

NOTE 6 – The worst case is for D-Sub 1366*768@60Hz test mode (Adapter #1). The worst emission at horizontal polarization was detected at 371.440 MHz with corrected signal level of 34.88 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 30°. The worst emission at vertical polarization was detected at 57.160 MHz with corrected signal level of 35.41 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 165°.

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 60%RH

Serial No. : E1205543-01/01 Date of Test : May 09, 2012

Test Mode : D-Sub 1366*768@60Hz Adapter #1 : LCAP21

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	57.160	11.14	8.96	1.12	21.22	40.00	18.78
	114.390	12.38	11.10	1.97	25.45	43.50	18.05
	199.750	15.71	9.81	2.43	27.95	43.50	15.55
	321.970	17.03	14.30	2.82	34.15	46.00	11.85
	371.440	16.27	15.68	2.93	34.88	46.00	11.12
	523.730	9.59	17.74	3.31	30.64	46.00	15.36
Vertical	57.160	25.33	8.96	1.12	35.41	40.00	4.59
	114.390	20.70	11.10	1.97	33.77	43.50	9.73
	160.950	22.90	10.24	2.28	35.42	43.50	8.08
	199.750	22.26	9.81	2.43	34.50	43.50	9.00
	321.970	14.89	14.30	2.82	32.01	46.00	13.99
	526.640	15.90	17.76	3.33	36.99	46.00	9.01

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 60%RH

Serial No. : E1205543-01/01 Date of Test : May 09, 2012

Test Mode : D-Sub 1024*768@75Hz Adapter #1 : LCAP21

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	57.160	13.36	8.96	1.12	23.44	40.00	16.56
	114.390	12.37	11.10	1.97	25.44	43.50	18.06
	199.750	20.78	9.81	2.43	33.02	43.50	10.48
	314.210	18.91	14.08	2.79	35.78	46.00	10.22
	371.440	15.78	15.68	2.93	34.39	46.00	11.61
	526.640	13.14	17.76	3.33	34.23	46.00	11.77
Vertical	57.160	24.44	8.96	1.12	34.52	40.00	5.48
	114.390	17.97	11.10	1.97	31.04	43.50	12.46
	160.950	19.57	10.24	2.28	32.09	43.50	11.41
	199.750	22.38	9.81	2.43	34.62	43.50	8.88
	314.210	12.63	14.08	2.79	29.50	46.00	16.50
	537.310	16.48	17.83	3.34	37.65	46.00	8.35

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 60%RH

Serial No. : E1205543-01/01 Date of Test : May 09, 2012

Test Mode : D-Sub 640*480@60Hz Adapter #1 : LCAP21

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	114.390	11.34	11.10	1.97	24.41	43.50	19.09
	160.950	13.02	10.24	2.28	25.54	43.50	17.96
	199.750	20.82	9.81	2.43	33.06	43.50	10.44
	314.210	18.70	14.08	2.79	35.57	46.00	10.43
	371.440	15.38	15.68	2.93	33.99	46.00	12.01
	699.300	8.75	19.50	3.68	31.93	46.00	14.07
Vertical	57.160	24.46	8.96	1.12	34.54	40.00	5.46
	66.860	19.29	9.63	1.34	30.26	40.00	9.74
	114.390	18.18	11.10	1.97	31.25	43.50	12.25
	199.750	22.14	9.81	2.43	34.38	43.50	9.12
	314.210	18.70	14.08	2.79	35.57	46.00	10.43
	371.440	16.06	15.68	2.93	34.67	46.00	11.33

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 60%RH

Serial No. : E1205543-01/01 Date of Test : May 09, 2012

Test Mode : D-Sub 1366*768@60Hz Adapter #2 : LCAP26-A

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	57.160	19.34	8.96	1.12	29.42	40.00	10.58
	142.520	11.50	10.56	2.18	24.24	43.50	19.26
	199.750	15.64	9.81	2.43	27.88	43.50	15.62
	314.210	15.59	14.08	2.79	32.46	46.00	13.54
	371.440	12.96	15.68	2.93	31.57	46.00	14.43
	521.790	9.82	17.73	3.31	30.86	46.00	15.14
Vertical	41.640	14.16	11.78	0.88	26.82	40.00	13.18
	114.390	17.16	11.10	1.97	30.23	43.50	13.27
	160.950	21.44	10.24	2.28	33.96	43.50	9.54
	215.270	18.54	10.41	2.49	31.44	43.50	12.06
	321.970	11.87	14.30	2.82	28.99	46.00	17.01
	526.640	16.37	17.76	3.33	37.46	46.00	8.54

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 60%RH

Serial No. : E1205543-01/01 Date of Test : May 09, 2012

Test Mode : D-Sub 1366*768@60Hz Adapter #3 : ADS-40SG-19-3
19025G

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	57.160	12.41	8.96	1.12	22.49	40.00	17.51
	114.390	10.20	11.10	1.97	23.27	43.50	20.23
	199.750	20.67	9.81	2.43	32.91	43.50	10.59
	314.210	18.81	14.08	2.79	35.68	46.00	10.32
	371.440	16.60	15.68	2.93	35.21	46.00	10.79
	527.610	13.97	17.77	3.33	35.07	46.00	10.93
Vertical	57.160	24.58	8.96	1.12	34.66	40.00	5.34
	114.390	18.32	11.10	1.97	31.39	43.50	12.11
	160.950	23.24	10.24	2.28	35.76	43.50	7.74
	199.750	22.16	9.81	2.43	34.40	43.50	9.10
	321.970	15.09	14.30	2.82	32.21	46.00	13.79
	537.310	16.47	17.83	3.34	37.64	46.00	8.36

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1642CA Humidity : 60%RH

Serial No. : E1205543-01/01 Date of Test : May 09, 2012

Test Mode : D-Sub 1366*768@60Hz Adapter #4 : ADS-40FSG-19
19025GPCU-1

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	57.160	12.49	8.96	1.12	22.57	40.00	17.43
	114.390	10.90	11.10	1.97	23.97	43.50	19.53
	199.750	20.30	9.81	2.43	32.54	43.50	10.96
	314.210	18.72	14.08	2.79	35.59	46.00	10.41
	371.440	16.40	15.68	2.93	35.01	46.00	10.99
	532.460	13.02	17.80	3.33	34.15	46.00	11.85
Vertical	57.160	24.16	8.96	1.12	34.24	40.00	5.76
	114.390	19.67	11.10	1.97	32.74	43.50	10.76
	160.950	22.81	10.24	2.28	35.33	43.50	8.17
	199.750	22.86	9.81	2.43	35.10	43.50	8.40
	321.970	15.93	14.30	2.82	33.05	46.00	12.95
	526.640	16.34	17.76	3.33	37.43	46.00	8.57

TEST ENGINEER: RAVEN JIN

5 DEVIATION TO TEST SPECIFICATIONS

None.