

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

LCD Monitor

Model No.: W2043TEV

Serial No.: E2009062401

FCC ID : BEJW2043TEV

Prepared For : LG Electronics U.S.A., Inc.
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Date of Test : Jun 25-27, 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 : LCD Monitor
(A) Model No. : W2043TEV
(B) Serial No. : E2009062401
(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: W2043TEV; S/N: E2009062401) which was tested in 3m anechoic chamber Jun 25-27, 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 : Jun 25-27, 2009 Date of Report : Jul 06, 2009

Producer : Alan He
ALAN HE / Assistant

Review : Byron Wu
BYRON WU / Supervisor

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

Signatory : Dio Yang
Authorized Signature EMC DIO YANG / Supervisor

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	:	LCD Monitor
Type of EUT	:	☒ Production ☐ Pre-product ☐ Pro-type
Model No.	:	W2043TEV
Serial No.	:	E2009062401
Real Power	:	24.00W
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 : LM200WD1 (TL) (C1)
Max Resolution	:	1600*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
DVI Cable #1	:	Shielded, Detachable, 1.85m, with two cores on cable
DVI Cable #2	:	Shielded, Detachable, 1.85m, with two cores in connector
Power Cord	:	Unshielded, Detachable, 1.80m
Note	:	After evaluation, the D-Sub cable#1 and DVI cable#1 were used in the test for they will cause the maximum emission.

Remark:

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

- | | |
|--------------------|------------------------|
| (1) One D-Sub Port | : Connected with PC |
| (2) One DVI Port | : Connected with PC |
| (3) 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

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 Mouse

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

2.2.5 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 = 1.26 dB
Radiated Emission Expanded Uncertainty :	U = 3.02 dB

3 CONDUCTED EMISSION TEST

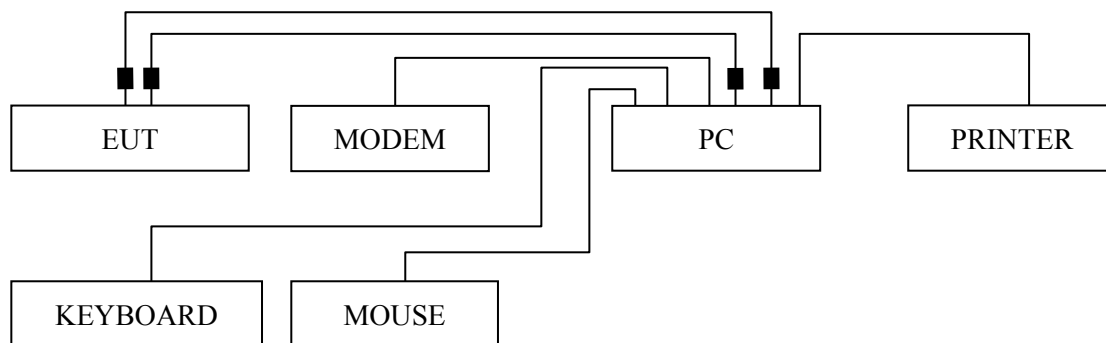
3.1.1 Test Equipment

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	--	--

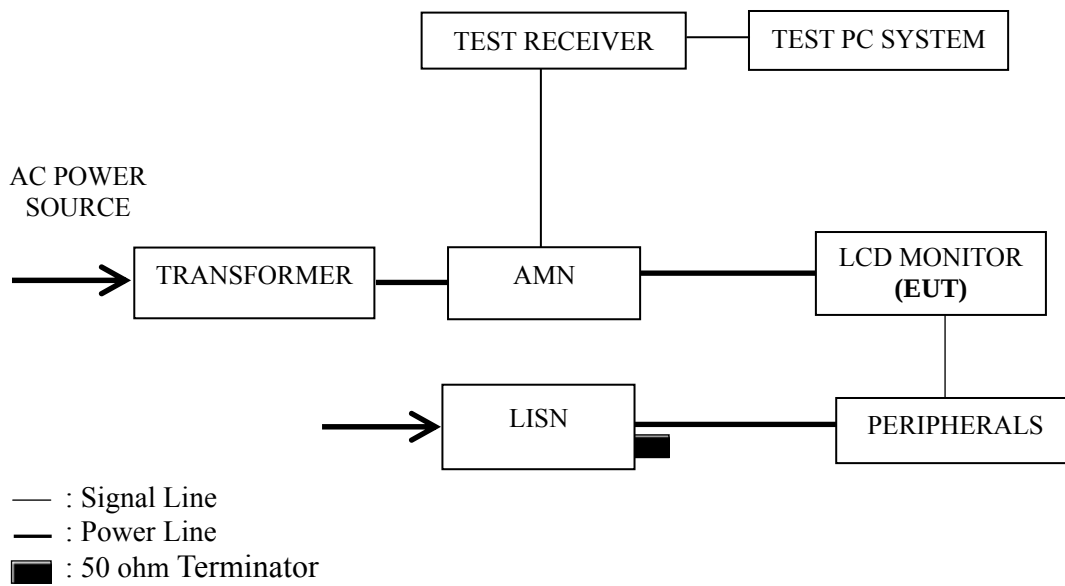
3.2 Block Diagram of Test Setup

3.2.1 EUT & Peripherals



■ : Ferrite core

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 & DVI 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:

Test Mode
D-Sub 640*480@60Hz
D-Sub 1024*768@60Hz
D-Sub 1600*900@60Hz
DVI 640*480@60Hz
DVI 1024*768@60Hz
DVI 1600*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 1600*900@60Hz	P14
DVI 640*480@60Hz	P15
DVI 1024*768@60Hz	P16
DVI 1600*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 DVI 1024*768@60Hz test mode. The worst emission is detected at 0.199 MHz (Average value) with corrected signal level of 41.57 dB (μV) (limit is 53.67 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD Monitor Temperature : 19°C

Model No. : W2043TEV Humidity : 50%RH

Serial No. : E2009062401 Date of Test : Jun 25, 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	0.197	49.25	0.22	49.47	63.76	14.29	QP
	0.262	41.21	0.24	41.45	61.38	19.93	
	0.720	30.03	0.28	30.31	56.00	25.69	
	1.117	31.85	0.30	32.15	56.00	23.85	
	7.852	35.63	0.48	36.11	60.00	23.89	
	21.147	42.90	0.86	43.76	60.00	16.24	
	0.197	39.38	0.22	39.60	53.76	14.16	AV
	0.262	31.24	0.24	31.48	51.38	19.90	
	0.720	20.34	0.28	20.62	46.00	25.38	
	1.117	21.35	0.30	21.65	46.00	24.35	
	7.852	25.67	0.48	26.15	50.00	23.85	
	21.147	32.65	0.86	33.51	50.00	16.49	
Neutral	0.199	50.42	0.20	50.62	63.67	13.05	QP
	0.262	41.09	0.22	41.31	61.38	20.07	
	0.720	31.04	0.28	31.32	56.00	24.68	
	1.054	30.77	0.30	31.07	56.00	24.93	
	7.526	35.11	0.49	35.60	60.00	24.40	
	24.529	42.87	0.75	43.62	60.00	16.38	
	0.199	40.58	0.20	40.78	53.67	12.89	AV
	0.262	31.26	0.22	31.48	51.38	19.90	
	0.720	21.54	0.28	21.82	46.00	24.18	
	1.054	20.36	0.30	20.66	46.00	25.34	
	7.526	25.98	0.49	26.47	50.00	23.53	
	24.529	32.63	0.75	33.38	50.00	16.62	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 19°C

Model No. : W2043TEV Humidity : 50%RH

Serial No. : E2009062401 Date of Test : Jun 25, 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	0.197	49.29	0.22	49.51	63.76	14.25	QP
	0.264	41.68	0.24	41.92	61.29	19.37	
	0.720	29.24	0.28	29.52	56.00	26.48	
	1.117	30.87	0.30	31.17	56.00	24.83	
	7.446	35.98	0.47	36.45	60.00	23.55	
	24.529	43.68	0.81	44.49	60.00	15.51	
	0.197	39.68	0.22	39.90	53.76	13.86	AV
	0.264	31.26	0.24	31.50	51.29	19.79	
	0.720	19.65	0.28	19.93	46.00	26.07	
	1.117	20.35	0.30	20.65	46.00	25.35	
	7.446	25.34	0.47	25.81	50.00	24.19	
	24.529	33.34	0.81	34.15	50.00	15.85	
Neutral	0.197	50.12	0.20	50.32	63.76	13.44	QP
	0.262	41.03	0.22	41.25	61.38	20.13	
	0.720	29.76	0.28	30.04	56.00	25.96	
	1.054	30.73	0.30	31.03	56.00	24.97	
	7.446	36.70	0.48	37.18	60.00	22.82	
	24.529	42.25	0.75	43.00	60.00	17.00	
	0.197	40.13	0.20	40.33	53.76	13.43	AV
	0.262	31.25	0.22	31.47	51.38	19.91	
	0.720	19.68	0.28	19.96	46.00	26.04	
	1.054	20.34	0.30	20.64	46.00	25.36	
	7.446	26.59	0.48	27.07	50.00	22.93	
	24.529	32.41	0.75	33.16	50.00	16.84	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 19°C

Model No. : W2043TEV Humidity : 50%RH

Serial No. : E2009062401 Date of Test : Jun 25, 2009

Test Mode : D-Sub 1600*900@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.197	49.35	0.22	49.57	63.76	14.19	QP
	0.267	41.64	0.24	41.88	61.20	19.32	
	0.989	31.75	0.30	32.05	56.00	23.95	
	1.117	31.83	0.30	32.13	56.00	23.87	
	7.852	35.18	0.48	35.66	60.00	24.34	
	21.373	41.35	0.87	42.22	60.00	17.78	
	0.197	38.91	0.22	39.13	53.76	14.63	AV
	0.267	31.25	0.24	31.49	51.20	19.71	
	0.989	21.35	0.30	21.65	46.00	24.35	
	1.117	21.49	0.30	21.79	46.00	24.21	
	7.852	25.48	0.48	25.96	50.00	24.04	
	21.373	31.24	0.87	32.11	50.00	17.89	
Neutral	0.197	50.30	0.20	50.50	63.76	13.26	QP
	0.267	41.57	0.22	41.79	61.20	19.41	
	0.720	29.86	0.28	30.14	56.00	25.86	
	1.117	32.71	0.30	33.01	56.00	22.99	
	6.557	35.97	0.48	36.45	60.00	23.55	
	24.400	42.13	0.75	42.88	60.00	17.12	
	0.197	40.15	0.20	40.35	53.76	13.41	AV
	0.267	31.15	0.22	31.37	51.20	19.83	
	0.720	19.35	0.28	19.63	46.00	26.37	
	1.117	22.16	0.30	22.46	46.00	23.54	
	6.557	25.47	0.48	25.95	50.00	24.05	
	24.400	32.12	0.75	32.87	50.00	17.13	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 19°C

Model No. : W2043TEV Humidity : 50%RH

Serial No. : E2009062401 Date of Test : Jun 25, 2009

Test Mode : DVI 640*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.199	50.28	0.22	50.50	63.67	13.17	QP
	0.264	41.90	0.24	42.14	61.29	19.15	
	0.720	28.96	0.28	29.24	56.00	26.76	
	1.117	31.68	0.30	31.98	56.00	24.02	
	7.446	34.77	0.47	35.24	60.00	24.76	
	27.416	41.76	0.86	42.62	60.00	17.38	
	0.199	40.12	0.22	40.34	53.67	13.33	AV
	0.264	31.25	0.24	31.49	51.29	19.80	
	0.720	18.54	0.28	18.82	46.00	27.18	
	1.117	21.36	0.30	21.66	46.00	24.34	
	7.446	24.68	0.47	25.15	50.00	24.85	
	27.416	31.24	0.86	32.10	50.00	17.90	
Neutral	0.197	50.84	0.20	51.04	63.76	12.72	QP
	0.264	42.17	0.22	42.39	61.29	18.90	
	1.117	32.46	0.30	32.76	56.00	23.24	
	1.249	31.21	0.32	31.53	56.00	24.47	
	7.526	33.64	0.49	34.13	60.00	25.87	
	25.321	41.32	0.73	42.05	60.00	17.95	
	0.197	40.14	0.20	40.34	53.76	13.42	AV
	0.264	32.34	0.22	32.56	51.29	18.73	
	1.117	22.16	0.30	22.46	46.00	23.54	
	1.249	21.34	0.32	21.66	46.00	24.34	
	7.526	23.64	0.49	24.13	50.00	25.87	
	25.321	31.27	0.73	32.00	50.00	18.00	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 19°C

Model No. : W2043TEV Humidity : 50%RH

Serial No. : E2009062401 Date of Test : Jun 25, 2009

Test Mode : DVI 1024*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.199	50.55	0.22	50.77	63.67	12.90	QP
	0.264	42.85	0.24	43.09	61.29	18.20	
	1.117	29.74	0.30	30.04	56.00	25.96	
	1.249	28.29	0.32	28.61	56.00	27.39	
	7.446	35.36	0.47	35.83	60.00	24.17	
	25.591	41.71	0.81	42.52	60.00	17.48	AV
	0.199	40.36	0.22	40.58	53.67	13.09	
	0.264	32.64	0.24	32.88	51.29	18.41	
	1.117	19.69	0.30	19.99	46.00	26.01	
	1.249	18.55	0.32	18.87	46.00	27.13	
Neutral	7.446	25.34	0.47	25.81	50.00	24.19	QP
	25.591	31.23	0.81	32.04	50.00	17.96	
	0.199	51.14	0.20	51.34	63.67	12.33	
	0.262	42.76	0.22	42.98	61.38	18.40	
	1.117	30.47	0.30	30.77	56.00	25.23	
	1.249	30.57	0.32	30.89	56.00	25.11	AV
	7.446	35.41	0.48	35.89	60.00	24.11	
	27.416	40.29	0.78	41.07	60.00	18.93	
	0.199	41.37	0.20	41.57	53.67	12.10	
	0.262	32.36	0.22	32.58	51.38	18.80	
	1.117	20.35	0.30	20.65	46.00	25.35	AV
	1.249	20.38	0.32	20.70	46.00	25.30	
	7.446	25.85	0.48	26.33	50.00	23.67	
	27.416	30.33	0.78	31.11	50.00	18.89	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 19°C

Model No. : W2043TEV Humidity : 50%RH

Serial No. : E2009062401 Date of Test : Jun 25, 2009

Test Mode : DVI 1600*900@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.197	50.75	0.22	50.97	63.76	12.79	QP
	0.264	42.00	0.24	42.24	61.29	19.05	
	0.989	32.13	0.30	32.43	56.00	23.57	
	1.117	31.81	0.30	32.11	56.00	23.89	
	7.446	35.98	0.47	36.45	60.00	23.55	
	27.416	40.50	0.86	41.36	60.00	18.64	
	0.197	40.16	0.22	40.38	53.76	13.38	AV
	0.264	32.54	0.24	32.78	51.29	18.51	
	0.989	22.35	0.30	22.65	46.00	23.35	
	1.117	21.44	0.30	21.74	46.00	24.26	
	7.446	25.64	0.47	26.11	50.00	23.89	
	27.416	30.34	0.86	31.20	50.00	18.80	
Neutral	0.197	51.33	0.20	51.53	63.76	12.23	QP
	0.262	42.41	0.22	42.63	61.38	18.75	
	1.117	32.23	0.30	32.53	56.00	23.47	
	1.249	29.85	0.32	30.17	56.00	25.83	
	7.606	34.66	0.49	35.15	60.00	24.85	
	27.416	40.39	0.78	41.17	60.00	18.83	
	0.197	41.32	0.20	41.52	53.76	12.24	AV
	0.262	32.16	0.22	32.38	51.38	19.00	
	1.117	22.34	0.30	22.64	46.00	23.36	
	1.249	19.68	0.32	20.00	46.00	26.00	
	7.606	24.67	0.49	25.16	50.00	24.84	
	27.416	30.30	0.78	31.08	50.00	18.92	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

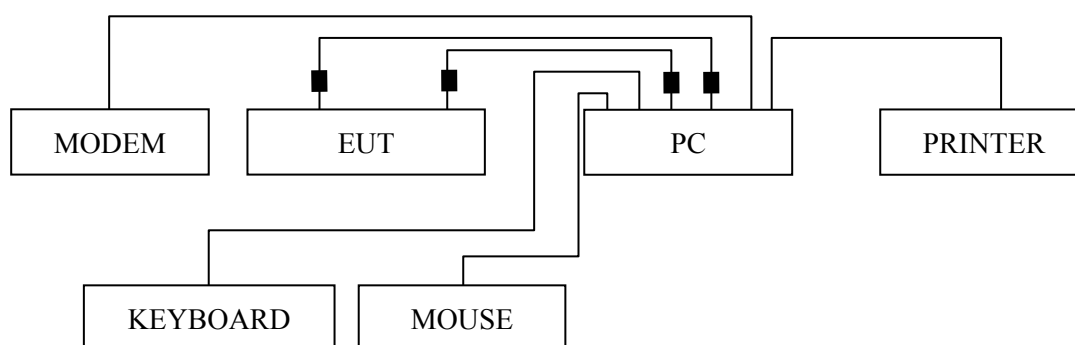
4.1 Test Equipment

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

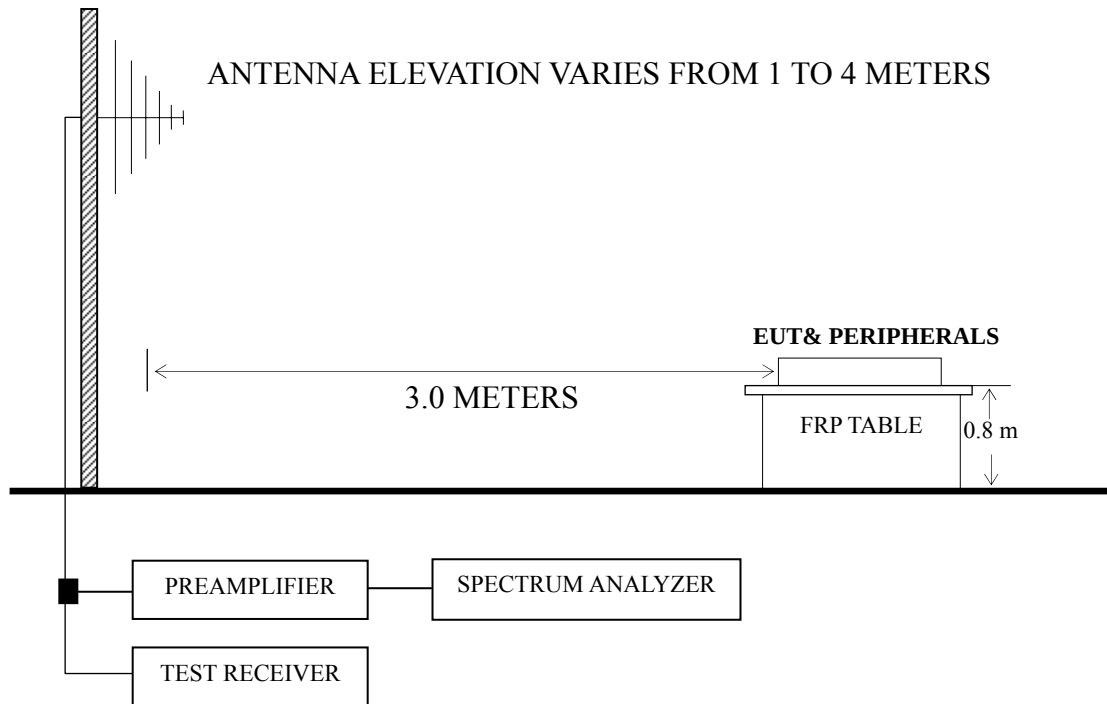
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESVS10	844594/001	Mar 07, 2009	Mar 07, 2010
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 19, 2009	Sep 19, 2009
3.	Preamplifier	HP	8449B	3008A00864	May 19, 2009	May 19, 2010
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May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

4.2 Block Diagram of Test Setup

4.2.1 EUT and Peripherals



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 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/DVI 1600*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 1600*900@60Hz	P24
DVI 640*480@60Hz	P25
DVI 1024*768@60Hz	P26
DVI 1600*900@60Hz	P27

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading.($< 1\text{GHz}$)

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

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 DVI 1600*900@60Hz test mode. The worst emission at horizontal polarization was detected at 180.350 MHz with corrected signal level of 37.73 dB ($\mu\text{V/m}$) (limit is 43.50dB ($\mu\text{V/m}$)), when the antenna was 1.00 m height and the turntable was at 210° . The worst emission at vertical polarization was detected at 84.320 MHz with corrected signal level of 37.09 dB ($\mu\text{V/m}$) (limit is 40.00 dB ($\mu\text{V/m}$)), when the antenna was 1.00 m height and the turntable was at 275° .

EUT : LCD Monitor Temperature : 22°C

Model No. : W2043TEV Humidity : 60%RH

Serial No. : E2009062401 Date of Test : Jun 27, 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	180.350	22.62	9.90	1.43	33.95	43.50	9.55
	220.120	20.00	11.66	1.61	33.27	46.00	12.73
	271.530	20.81	13.37	1.77	35.95	46.00	10.05
	321.970	18.98	14.50	1.96	35.44	46.00	10.56
	368.530	13.40	15.81	2.10	31.31	46.00	14.69
	587.750	10.17	19.06	2.70	31.93	46.00	14.07
Vertical	30.970	11.37	19.03	0.63	31.03	40.00	8.97
	48.430	19.15	9.62	0.70	29.47	40.00	10.53
	71.710	25.15	6.69	0.87	32.71	40.00	7.29
	84.320	24.28	8.48	0.98	33.74	40.00	6.26
	95.960	21.31	10.70	1.05	33.06	43.50	10.44
	144.460	20.66	11.76	1.21	33.63	43.50	9.87

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : W2043TEV Humidity : 60%RH

Serial No. : E2009062401 Date of Test : Jun 27, 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	180.350	25.24	9.90	1.43	36.57	43.50	6.93
	191.990	24.75	10.37	1.50	36.62	43.50	6.88
	221.090	21.73	11.71	1.61	35.05	46.00	10.95
	252.130	16.71	12.94	1.70	31.35	46.00	14.65
	321.970	13.47	14.50	1.96	29.93	46.00	16.07
	593.570	7.33	19.14	2.72	29.19	46.00	16.81
Vertical	30.970	12.70	19.03	0.63	32.36	40.00	7.64
	35.820	16.92	16.45	0.65	34.02	40.00	5.98
	60.070	22.33	6.60	0.79	29.72	40.00	10.28
	71.710	24.73	6.69	0.87	32.29	40.00	7.71
	104.690	19.40	11.88	1.09	32.37	43.50	11.13
	144.460	24.34	11.76	1.21	37.31	43.50	6.19

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : W2043TEV Humidity : 60%RH

Serial No. : E2009062401 Date of Test : Jun 27, 2009

Test Mode : D-Sub 1600*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	30.970	8.66	19.03	0.63	--	28.32	40.00	11.68	QP
	35.820	12.42	16.45	0.65	--	29.52	40.00	10.48	
	71.710	22.98	6.69	0.87	--	30.54	40.00	9.46	
	84.320	26.77	8.48	0.98	--	36.23	40.00	3.77	
	95.960	18.13	10.70	1.05	--	29.88	43.50	13.62	
	252.130	20.65	12.94	1.70	--	35.29	46.00	10.71	
	1090.000	62.07	23.02	3.93	37.45	51.57	74.00	22.43	PK
	1255.000	60.85	24.14	4.31	37.04	52.26	74.00	21.74	
	1456.000	55.31	25.53	4.72	36.62	48.94	74.00	25.06	
	1496.000	57.27	25.80	4.79	36.54	51.32	74.00	22.68	
	1641.000	53.10	26.50	5.07	36.27	48.40	74.00	25.60	
	1763.000	53.69	26.81	5.32	36.06	49.76	74.00	24.24	
Vertical	48.430	16.77	9.62	0.70	--	27.09	40.00	12.91	QP
	84.320	26.12	8.48	0.98	--	35.58	40.00	4.42	
	131.850	17.48	12.42	1.18	--	31.08	43.50	12.42	
	180.350	18.29	9.90	1.43	--	29.62	43.50	13.88	
	221.090	17.05	11.71	1.61	--	30.37	46.00	15.63	
	252.130	20.16	12.94	1.70	--	34.80	46.00	11.20	
	1173.000	57.58	23.56	4.14	37.24	48.04	74.00	25.96	PK
	1244.000	56.12	24.06	4.29	37.07	47.40	74.00	26.60	
	1365.000	58.42	24.98	4.54	36.80	51.14	74.00	22.86	
	1499.000	57.77	25.80	4.80	36.53	51.84	74.00	22.16	
	1610.000	54.29	26.42	5.02	36.32	49.41	74.00	24.59	
	1673.000	52.99	26.58	5.14	36.21	48.50	74.00	25.50	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : W2043TEV Humidity : 60%RH

Serial No. : E2009062401 Date of Test : Jun 27, 2009

Test Mode : DVI 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	180.350	24.53	9.90	1.43	35.86	43.50	7.64
	191.990	19.37	10.37	1.50	31.24	43.50	12.26
	221.090	23.20	11.71	1.61	36.52	46.00	9.48
	271.530	15.50	13.37	1.77	30.64	46.00	15.36
	321.970	14.01	14.50	1.96	30.47	46.00	15.53
	592.600	13.42	19.11	2.72	35.25	46.00	10.75
Vertical	30.970	14.69	19.03	0.63	34.35	40.00	5.65
	71.710	20.25	6.69	0.87	27.81	40.00	12.19
	84.320	20.67	8.48	0.98	30.13	40.00	9.87
	104.690	18.57	11.88	1.09	31.54	43.50	11.96
	145.430	18.50	11.66	1.21	31.37	43.50	12.13
	252.130	16.83	12.94	1.70	31.47	46.00	14.53

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : W2043TEV Humidity : 60%RH

Serial No. : E2009062401 Date of Test : Jun 27, 2009

Test Mode : DVI 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	30.970	12.22	19.03	0.63	31.88	40.00	8.12
	147.370	17.35	11.51	1.22	30.08	43.50	13.42
	180.350	22.27	9.90	1.43	33.60	43.50	9.90
	221.090	24.13	11.71	1.61	37.45	46.00	8.55
	271.530	14.99	13.37	1.77	30.13	46.00	15.87
	321.970	16.00	14.50	1.96	32.46	46.00	13.54
Vertical	30.970	13.22	19.03	0.63	32.88	40.00	7.12
	71.710	24.13	6.69	0.87	31.69	40.00	8.31
	84.320	24.51	8.48	0.98	33.97	40.00	6.03
	180.350	23.27	9.90	1.43	34.60	43.50	8.90
	221.090	22.13	11.71	1.61	35.45	46.00	10.55
	321.970	21.03	14.50	1.96	37.49	46.00	8.51

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : W2043TEV Humidity : 60%RH

Serial No. : E2009062401 Date of Test : Jun 27, 2009

Test Mode : DVI 1600*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	180.350	26.40	9.90	1.43	--	37.73	43.50	5.77	QP
	191.990	23.52	10.37	1.50	--	35.39	43.50	8.11	
	221.090	23.75	11.71	1.61	--	37.07	46.00	8.93	
	252.130	19.82	12.94	1.70	--	34.46	46.00	11.54	
	321.970	18.52	14.50	1.96	--	34.98	46.00	11.02	
	359.800	16.57	15.61	2.07	--	34.25	46.00	11.75	
	1090.000	61.07	23.02	3.93	37.45	50.57	74.00	23.43	PK
	1339.000	59.43	24.78	4.49	36.86	51.84	74.00	22.16	
	1436.000	58.12	25.41	4.67	36.65	51.55	74.00	22.45	
	1497.000	57.84	25.80	4.80	36.53	51.91	74.00	22.09	
	1633.000	52.00	26.49	5.06	36.28	47.27	74.00	26.73	
	1733.000	52.88	26.74	5.26	36.11	48.77	74.00	25.23	
Vertical	30.970	13.71	19.03	0.63	--	33.37	40.00	6.63	QP
	35.820	13.63	16.45	0.65	--	30.73	40.00	9.27	
	48.430	17.28	9.62	0.70	--	27.60	40.00	12.40	
	71.710	24.16	6.69	0.87	--	31.72	40.00	8.28	
	84.320	27.63	8.48	0.98	--	37.09	40.00	2.91	
	252.130	23.72	12.94	1.70	--	38.36	46.00	7.64	PK
	1134.000	60.10	23.33	4.05	37.34	50.14	74.00	23.86	
	1208.000	59.35	23.78	4.21	37.15	50.19	74.00	23.81	
	1255.000	58.85	24.14	4.31	37.04	50.26	74.00	23.74	
	1454.000	54.59	25.53	4.72	36.62	48.22	74.00	25.78	
	1546.000	55.49	26.11	4.89	36.44	50.05	74.00	23.95	
	1968.000	53.38	27.91	5.57	35.74	51.12	74.00	22.88	

TEST ENGINEER: RAVEN JIN

5 DEVIATION TO TEST SPECIFICATIONS

None.