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

LCD Monitor

Model No.: W2044TV

Serial No.: 910NDMT3Q219

FCC ID : BEJW2044TV

Prepared For : LG Electronics U.S.A., Inc.
1000 Sylvan Avenue, Englewood Cliffs,
NJ 07632, United States

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Report No. : ACI-F09102
Date of Test : Oct 22 – 23, 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. : W2044TV
		(B) Serial No. : 910NDMT3Q219
		(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: W2044TV; S/N: 910NDMT3Q219) which was tested in 3m anechoic chamber Oct 22 – 23, 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 : Oct 22 – 23, 2009 Date of Report : Oct 28, 2009

Producer : Zeno Gu
ZENO GU / Assistant

Review : Dio Yang
DIO YANG / Deputy Assistant Manager

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

Signatory :
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	:	LCD Monitor
Type of EUT	:	☑ Production ☐ Pre-product ☐ Pro-type
Model No.	:	W2044TV
Serial No.	:	910NDMT3Q219
Real Power	:	38.00W
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 : CHI MEI OPTOELECTRONICS M/N : M20001-L01
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	:	dx7400MT
Serial Number	:	CNG8130K89
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

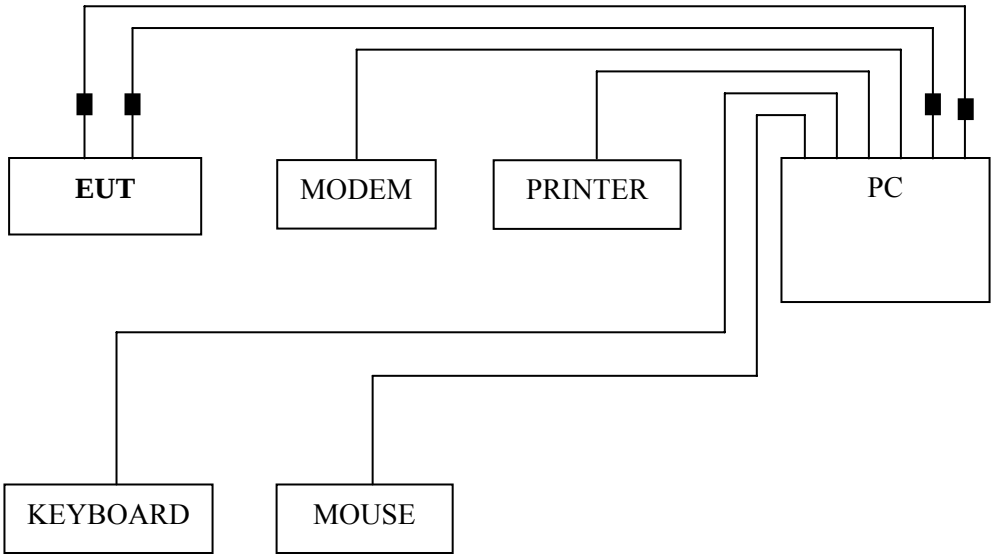
3.1 Test Equipment

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.	Line Impedance Stabilization Network (LISN #1)	Schwarzbeck	NNLK8129	8129-164	Apr 02, 2009	Apr 02, 2010
3.	Line Impedance Stabilization Network (LISN #2)	Kyoritsu	KNW-407	8-1280-4	Apr 02, 2009	Apr 02, 2010
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Sep 19, 2009	Mar 19, 2010
5.	50Ω Terminator	Anritsu	BNC	001	Apr 02, 2009	Apr 02, 2010
6.	Software	Audix	E3	SET00200 9804M592	--	--

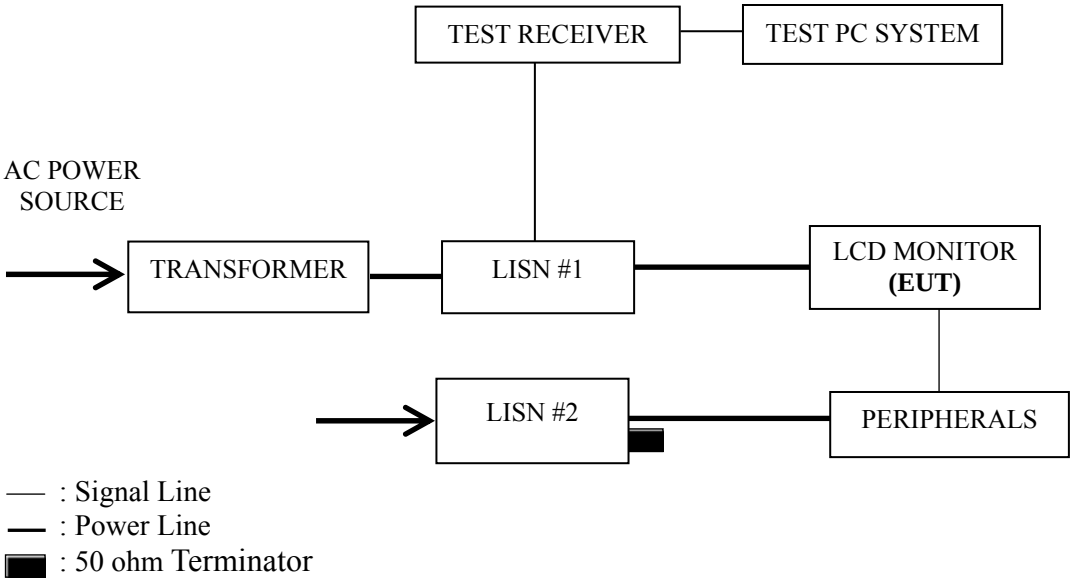
3.2 Block Diagram of Test Setup

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 (μV)	
	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 or 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 a Line Impedance Stabilization Network (LISN). 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 –The **bold test mode** listed above means the worst test mode.
NOTE 2 – Factor = Cable Loss + LISN 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 DVI 1024*768@60Hz test mode. The worst emission is detected at 0.150 MHz (Average Value) with corrected signal level of 49.67 dB (μV) (limit is 56.00dB (μV)), when the Neutral of the EUT is connected to LISN.

EUT	:	LCD Monitor	Temperature :	21℃	
Model No.	:	W2044TV	Humidity	:	50%RH
Serial No.	:	910NDMT3Q219	Date of Test	:	Oct 22, 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	0.160	45.51	0.18	45.69	65.47	19.78	QP
	0.352	38.22	0.17	38.39	58.91	20.52	
	0.564	31.57	0.18	31.75	56.00	24.25	
	4.622	31.81	0.34	32.15	56.00	23.85	
	5.805	35.54	0.34	35.88	60.00	24.12	
	24.529	38.45	0.51	38.96	60.00	21.04	
	0.160	25.57	0.18	25.75	55.47	29.72	AV
	0.352	**33.45**	**0.17**	**33.62**	**48.91**	**15.29**	
	0.564	29.26	0.18	29.44	46.00	16.56	
	4.622	22.64	0.34	22.98	46.00	23.02	
	5.805	25.22	0.34	25.56	50.00	24.44	
	24.529	32.15	0.51	32.66	50.00	17.34	
Neutral	0.160	48.81	0.19	49.00	65.47	16.47	QP
	0.313	33.34	0.18	33.52	59.88	26.36	
	0.564	31.52	0.19	31.71	56.00	24.29	
	3.720	31.25	0.34	31.59	56.00	24.41	
	5.993	23.52	0.35	23.87	60.00	36.13	
	22.535	29.98	0.55	30.53	60.00	29.47	
	0.160	29.53	0.19	29.72	55.47	25.75	AV
	0.313	18.45	0.18	18.63	49.88	31.25	
	0.564	26.54	0.19	26.73	46.00	19.27	
	3.720	15.03	0.34	15.37	46.00	30.63	
	5.993	11.97	0.35	12.32	50.00	37.68	
	22.535	21.09	0.55	21.64	50.00	28.36	

TEST ENGINEER: HUGU HUANG

EUT	:	LCD Monitor	Temperature	:	21℃
Model No.	:	W2044TV	Humidity	:	50%RH
Serial No.	:	910NDMT3Q219	Date of Test	:	Oct 22, 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	0.160	50.77	0.18	50.95	65.47	14.52	QP
	0.352	38.89	0.17	39.06	58.91	19.85	
	0.564	31.93	0.18	32.11	56.00	23.89	
	4.926	37.97	0.34	38.31	56.00	17.69	
	6.186	34.50	0.34	34.84	60.00	25.16	
	24.529	42.62	0.51	43.13	60.00	16.87	
	0.160	28.20	0.18	28.38	55.47	27.09	AV
	0.352	31.28	0.17	31.45	48.91	17.46	
	0.564	27.23	0.18	27.41	46.00	18.59	
	4.926	**33.31**	**0.34**	**33.65**	**46.00**	**12.35**	
	6.186	27.98	0.34	28.32	50.00	21.68	
	24.529	32.45	0.51	32.96	50.00	17.04	
Neutral	0.160	49.61	0.19	49.80	65.47	15.67	QP
	0.310	34.41	0.18	34.59	59.97	25.38	
	0.564	32.65	0.19	32.84	56.00	23.16	
	3.720	28.17	0.34	28.51	56.00	27.49	
	5.805	27.46	0.35	27.81	60.00	32.19	
	23.387	31.10	0.55	31.65	60.00	28.35	
	0.160	33.19	0.19	33.38	55.47	22.09	AV
	0.310	16.14	0.18	16.32	49.97	33.65	
	0.564	26.76	0.19	26.95	46.00	19.05	
	3.720	14.31	0.34	14.65	46.00	31.35	
	5.805	23.16	0.35	23.51	50.00	26.49	
	23.387	19.19	0.55	19.74	50.00	30.26	

TEST ENGINEER: HUGU HUANG

EUT	:	LCD Monitor	Temperature :	21℃	
Model No.	:	W2044TV	Humidity	:	50%RH
Serial No.	:	910NDMT3Q219	Date of Test	:	Oct 22, 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	0.160	48.45	0.18	48.63	65.47	16.84	QP
	0.307	36.83	0.18	37.01	60.06	23.05	
	0.564	32.04	0.18	32.22	56.00	23.78	
	4.926	36.33	0.34	36.67	56.00	19.33	
	6.186	35.24	0.34	35.58	60.00	24.42	
	24.529	44.12	0.51	44.63	60.00	15.37	
	0.160	27.95	0.18	28.13	55.47	27.34	AV
	0.307	21.72	0.18	21.90	50.06	28.16	
	0.564	28.09	0.18	28.27	46.00	17.73	
	4.926	31.66	0.34	32.00	46.00	14.00	
	6.186	16.43	0.34	16.77	50.00	33.23	
	24.529	31.28	0.51	31.79	50.00	18.21	
Neutral	0.211	51.70	0.17	51.87	63.18	11.31	QP
	0.356	34.53	0.18	34.71	58.83	24.12	
	0.665	30.57	0.20	30.77	56.00	25.23	
	4.070	31.25	0.34	31.59	56.00	24.41	
	6.186	26.67	0.35	27.02	60.00	32.98	
	22.655	30.92	0.55	31.47	60.00	28.53	
	0.211	**44.17**	**0.17**	**44.34**	**53.18**	**8.84**	AV
	0.356	29.27	0.18	29.45	48.83	19.38	
	0.665	20.58	0.20	20.78	46.00	25.22	
	4.070	20.50	0.34	20.84	46.00	25.16	
	6.186	17.67	0.35	18.02	50.00	31.98	
	22.655	20.93	0.55	21.48	50.00	28.52	

TEST ENGINEER: HUGU HUANG

EUT	:	LCD Monitor	Temperature :	21℃	
Model No.	:	W2044TV	Humidity	:	50%RH
Serial No.	:	910NDMT3Q219	Date of Test	:	Oct 22, 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	0.211	53.55	0.18	53.73	63.18	9.45	QP
	0.352	41.16	0.17	41.33	58.91	17.58	
	0.564	33.21	0.18	33.39	56.00	22.61	
	4.158	32.93	0.33	33.26	56.00	22.74	
	6.878	38.93	0.35	39.28	60.00	20.72	
	26.139	43.31	0.53	43.84	60.00	16.16	
	0.211	45.98	0.18	46.16	53.18	7.02	AV
	0.352	33.45	0.17	33.62	48.91	15.29	
	0.564	27.71	0.18	27.89	46.00	18.11	
	4.158	26.31	0.33	26.64	46.00	19.36	
	6.878	30.33	0.35	30.68	50.00	19.32	
	26.139	30.33	0.53	30.86	50.00	19.14	
Neutral	**0.150**	**59.00**	**0.19**	**59.19**	**66.00**	**6.81**	QP
	0.303	36.62	0.18	36.80	60.15	23.35	
	0.535	29.14	0.19	29.33	56.00	26.67	
	3.799	28.81	0.34	29.15	56.00	26.85	
	5.476	25.63	0.35	25.98	60.00	34.02	
	24.790	31.85	0.56	32.41	60.00	27.59	
	0.150	48.16	0.19	48.35	56.00	7.65	AV
	0.303	21.92	0.18	22.10	50.15	28.05	
	0.535	13.02	0.19	13.21	46.00	32.79	
	3.799	16.69	0.34	17.03	46.00	28.97	
	5.476	15.21	0.35	15.56	50.00	34.44	
	24.790	22.37	0.56	22.93	50.00	27.07	

TEST ENGINEER: HUGU HUANG

EUT	:	LCD Monitor	Temperature :	21℃	
Model No.	:	W2044TV	Humidity	:	50%RH
Serial No.	:	910NDMT3Q219	Date of Test	:	Oct 22, 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	0.150	58.56	0.18	58.74	66.00	7.26	QP
	0.307	35.25	0.18	35.43	60.06	24.63	
	0.564	32.83	0.18	33.01	56.00	22.99	
	3.799	32.39	0.32	32.71	56.00	23.29	
	5.774	35.59	0.34	35.93	60.00	24.07	
	25.591	44.27	0.51	44.78	60.00	15.22	
	0.150	48.46	0.18	48.64	56.00	7.36	AV
	0.307	23.90	0.18	24.08	50.06	25.98	
	0.564	27.73	0.18	27.91	46.00	18.09	
	3.799	23.66	0.32	23.98	46.00	22.02	
	5.774	31.21	0.34	31.55	50.00	18.45	
	25.591	34.14	0.51	34.65	50.00	15.35	
Neutral	0.150	59.04	0.19	59.23	66.00	6.77	QP
	0.307	39.10	0.18	39.28	60.06	20.78	
	0.541	28.13	0.19	28.32	56.00	27.68	
	3.799	29.19	0.34	29.53	56.00	26.47	
	5.774	28.62	0.35	28.97	60.00	31.03	
	22.896	32.37	0.55	32.92	60.00	27.08	
	0.150	**49.48**	**0.19**	**49.67**	**56.00**	**6.33**	AV
	0.307	23.92	0.18	24.10	50.06	25.96	
	0.541	17.66	0.19	17.85	46.00	28.15	
	3.799	22.40	0.34	22.74	46.00	23.26	
	5.774	17.68	0.35	18.03	50.00	31.97	
	22.896	17.31	0.55	17.86	50.00	32.14	

TEST ENGINEER: HUGU HUANG

EUT	:	LCD Monitor	Temperature :	21℃	
Model No.	:	W2044TV	Humidity	:	50%RH
Serial No.	:	910NDMT3Q219	Date of Test	:	Oct 22, 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	0.150	57.23	0.18	57.41	66.00	8.59	QP
	0.213	49.13	0.18	49.31	63.10	13.79	
	0.564	31.23	0.18	31.41	56.00	24.59	
	3.799	32.83	0.32	33.15	56.00	22.85	
	5.774	37.71	0.34	38.05	60.00	21.95	
	25.591	45.74	0.51	46.25	60.00	13.75	
	0.150	**47.82**	**0.18**	**48.00**	**56.00**	**8.00**	AV
	0.213	39.48	0.18	39.66	53.10	13.44	
	0.564	21.40	0.18	21.58	46.00	24.42	
	3.799	22.54	0.32	22.86	46.00	23.14	
	5.774	27.48	0.34	27.82	50.00	22.18	
	25.591	35.47	0.51	35.98	50.00	14.02	
Neutral	0.150	56.98	0.19	57.17	66.00	8.83	QP
	0.303	35.88	0.18	36.06	60.15	24.09	
	0.672	32.53	0.20	32.73	56.00	23.27	
	3.720	25.95	0.34	26.29	56.00	29.71	
	5.277	23.34	0.35	23.69	60.00	36.31	
	25.591	30.86	0.56	31.42	60.00	28.58	
	0.150	46.58	0.19	46.77	56.00	9.23	AV
	0.303	21.16	0.18	21.34	50.15	28.81	
	0.672	28.69	0.20	28.89	46.00	17.11	
	3.720	14.26	0.34	14.60	46.00	31.40	
	5.277	15.38	0.35	15.73	50.00	34.27	
	25.591	18.63	0.56	19.19	50.00	30.81	

TEST ENGINEER: HUGU HUANG

4 RADIATED EMISSION TEST

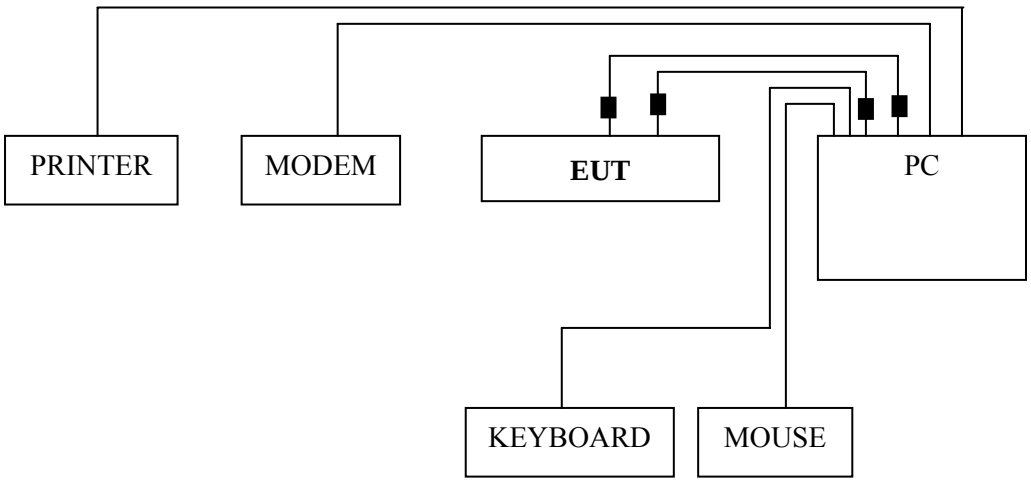
4.1 Test Equipment

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	Sep 19, 2009	Mar 19, 2010
3.	Preamplifier	HP	8449B	3008A00864	May 19, 2009	May 19, 2010
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 14, 2008	May 14, 2010
5.	Spectrum	Agilent	E7405A	MY45106600	May 19, 2009	May 19, 2010
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

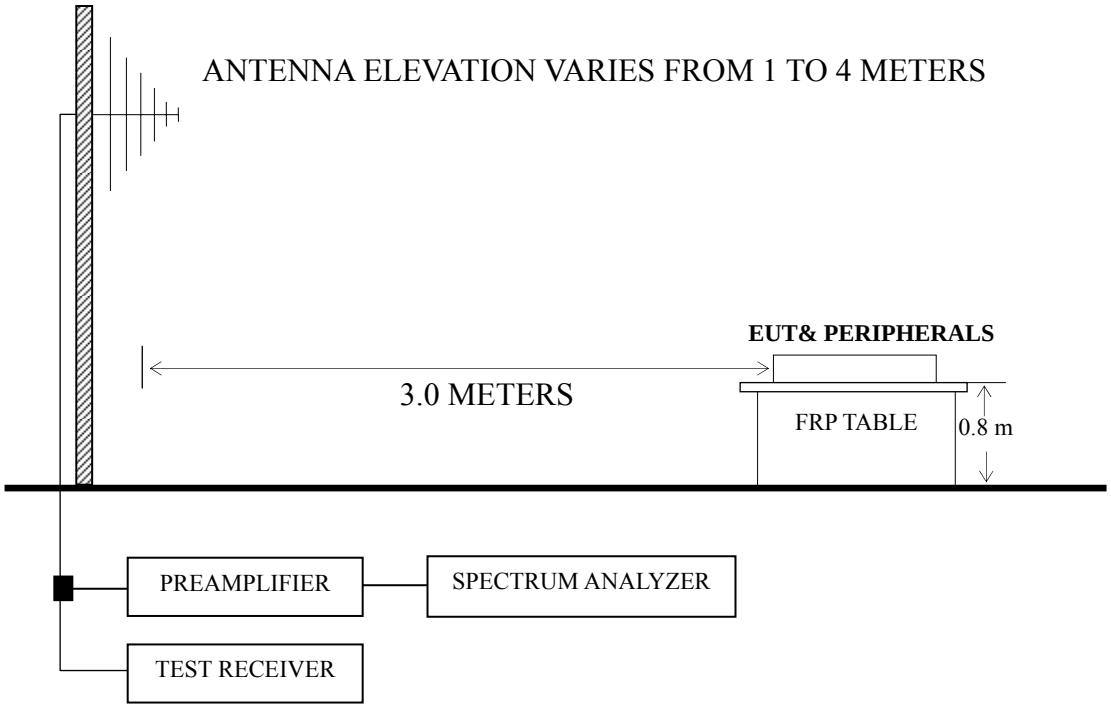
4.2 Block Diagram of Test Setup

4.2.1 EUT and Peripherals



■: Ferrite core

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	
		(μV/m)	dB (μV/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 (μV/m) = 20 log Emission Level (μV/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 –The **bold test mode** listed above means the worst test mode.
NOTE 2 – Emission Level = Antenna Factor + Cable Loss + Meter Reading.(< 1GHz)
NOTE 3 – Emission Level = Antenna Factor + Cable Loss – Preamp Factor + Meter Reading.(> 1GHz)
NOTE 4 – The emission levels that are 20dB below the official limit are not reported.
NOTE 5 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.
NOTE 6 – 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 7 – The worst case is for D-Sub 1600*900@60Hz test mode. The worst emission at horizontal polarization was detected at 282.200 MHz with corrected signal level of 41.33 dB (μV/m) (limit is 46.00dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 40°. The worst emission at vertical polarization was detected at 278.320 MHz with corrected signal level of 42.84 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 225°.

EUT	:	LCD Monitor	Temperature :	22℃
Model No.	:	W2044TV	Humidity :	60%RH
Serial No.	:	910NDMT3Q219	Date of Test :	Oct 23, 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	34.850	4.12	16.97	0.65	21.74	40.00	18.26
	77.530	13.43	7.49	0.92	21.84	40.00	18.16
	282.200	**27.00**	**13.59**	**1.81**	**42.40**	**46.00**	**3.60**
	437.400	21.27	17.03	2.30	40.60	46.00	5.40
	623.640	14.61	19.33	2.79	36.73	46.00	9.27
	875.840	12.49	21.46	3.39	37.34	46.00	8.66
Vertical	30.970	12.71	19.03	0.63	32.37	40.00	7.63
	83.350	15.32	8.30	0.97	24.59	40.00	15.41
	281.230	**27.11**	**13.57**	**1.81**	**42.49**	**46.00**	**3.51**
	438.370	22.92	17.06	2.30	42.28	46.00	3.72
	623.640	15.13	19.33	2.79	37.25	46.00	8.75
	865.170	12.67	21.35	3.37	37.39	46.00	8.61

TEST ENGINEER: RAVEN JIN

EUT	:	LCD Monitor	Temperature :	22℃
Model No.	:	W2044TV	Humidity :	60%RH
Serial No.	:	910NDMT3Q219	Date of Test :	Oct 23, 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	30.000	1.49	19.60	0.63	21.72	40.00	18.28
	83.350	9.09	8.30	0.97	18.36	40.00	21.64
	282.200	**26.80**	**13.59**	**1.81**	**42.20**	**46.00**	**3.80**
	320.030	23.15	14.46	1.94	39.55	46.00	6.45
	702.210	11.65	19.73	2.94	34.32	46.00	11.68
	831.220	10.87	21.01	3.26	35.14	46.00	10.86
Vertical	30.000	10.97	19.60	0.63	31.20	40.00	8.80
	84.320	15.09	8.48	0.98	24.55	40.00	15.45
	279.290	**27.12**	**13.52**	**1.80**	**42.44**	**46.00**	**3.56**
	350.100	25.22	15.33	2.05	42.60	46.00	3.40
	615.880	12.08	19.29	2.77	34.14	46.00	11.86
	831.220	15.57	21.01	3.26	39.84	46.00	6.16

TEST ENGINEER: RAVEN JIN

EUT	:	LCD Monitor	Temperature :	22℃	
Model No.	:	W2044TV	Humidity	:	60%RH
Serial No.	:	910NDMT3Q219	Date of Test	:	Oct 23, 2009
Test Mode	:	D-Sub 1600*900@60Hz			

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	30.970	1.07	19.03	0.63	--	20.73	40.00	19.27	QP
	71.710	14.42	6.69	0.87	--	21.98	40.00	18.02	
	282.200	**25.93**	**13.59**	**1.81**	--	**41.33**	**46.00**	**4.67**	
	438.370	18.49	17.06	2.30	--	37.85	46.00	8.15	
	623.640	14.85	19.33	2.79	--	36.97	46.00	9.03	
	891.360	8.05	21.63	3.42	--	33.10	46.00	12.90	
	1052.000	51.10	22.76	3.83	34.10	43.59	74.00	30.41	PK
	1155.000	52.22	23.45	4.10	34.11	45.66	74.00	28.34	
	1278.000	57.89	24.32	4.36	34.13	52.44	74.00	21.56	
	1427.000	50.48	25.38	4.66	34.14	46.38	74.00	27.62	
	1642.000	53.44	26.50	5.08	34.17	50.85	74.00	23.15	
	1833.000	48.91	27.08	5.43	34.18	47.24	74.00	26.76	
Vertical	31.940	9.95	18.49	0.64	--	29.08	40.00	10.92	QP
	71.710	22.96	6.69	0.87	--	30.52	40.00	9.48	
	278.320	**27.54**	**13.50**	**1.80**	--	**42.84**	**46.00**	**3.16**	
	437.400	23.41	17.03	2.30	--	42.74	46.00	3.26	
	637.220	18.62	19.39	2.82	--	40.83	46.00	5.17	
	891.360	8.01	21.63	3.42	--	33.06	46.00	12.94	
	1153.000	54.71	23.45	4.10	34.11	48.15	74.00	25.85	PK
	1263.000	58.10	24.23	4.33	34.13	52.53	74.00	21.47	
	1427.000	56.26	25.38	4.66	34.14	52.16	74.00	21.84	
	1543.000	49.67	26.07	4.88	34.16	46.46	74.00	27.54	
	1588.000	51.03	26.33	4.97	34.16	48.17	74.00	25.83	
	1828.000	48.52	27.08	5.43	34.18	46.85	74.00	27.15	

TEST ENGINEER: RAVEN JIN

EUT	:	LCD Monitor	Temperature :	22℃
Model No.	:	W2044TV	Humidity :	60%RH
Serial No.	:	910NDMT3Q219	Date of Test :	Oct 23, 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	30.000	0.82	19.60	0.63	21.05	40.00	18.95
	84.320	10.32	8.48	0.98	19.78	40.00	20.22
	283.170	24.02	13.62	1.82	39.46	46.00	6.54
	429.640	**21.25**	**16.92**	**2.27**	**40.44**	**46.00**	**5.56**
	625.580	13.32	19.33	2.79	35.44	46.00	10.56
	875.840	10.14	21.46	3.39	34.99	46.00	11.01
Vertical	30.000	12.70	19.60	0.63	32.93	40.00	7.07
	84.320	17.00	8.48	0.98	26.46	40.00	13.54
	282.200	**27.41**	**13.59**	**1.81**	**42.81**	**46.00**	**3.19**
	437.400	22.70	17.03	2.30	42.03	46.00	3.97
	624.610	18.39	19.33	2.79	40.51	46.00	5.49
	860.320	13.94	21.31	3.34	38.59	46.00	7.41

TEST ENGINEER: RAVEN JIN

EUT	:	LCD Monitor	Temperature :	22℃
Model No.	:	W2044TV	Humidity :	60%RH
Serial No.	:	910NDMT3Q219	Date of Test :	Oct 23, 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	30.000	1.44	19.60	0.63	21.67	40.00	18.33
	84.320	10.31	8.48	0.98	19.77	40.00	20.23
	281.230	**24.12**	**13.57**	**1.81**	**39.50**	**46.00**	**6.50**
	418.970	20.36	16.77	2.24	39.37	46.00	6.63
	702.210	13.71	19.73	2.94	36.38	46.00	9.62
	824.430	12.70	20.94	3.26	36.90	46.00	9.10
Vertical	**32.910**	**18.04**	**17.95**	**0.64**	**36.63**	**40.00**	**3.37**
	85.290	18.28	8.66	0.99	27.93	40.00	12.07
	282.200	26.74	13.59	1.81	42.14	46.00	3.86
	419.940	23.27	16.77	2.26	42.30	46.00	3.70
	522.760	14.75	18.21	2.51	35.47	46.00	10.53
	838.980	14.36	21.09	3.29	38.74	46.00	7.26

TEST ENGINEER: RAVEN JIN

EUT	:	LCD Monitor	Temperature :	22℃	
Model No.	:	W2044TV	Humidity	:	60%RH
Serial No.	:	910NDMT3Q219	Date of Test	:	Oct 23, 2009
Test Mode	:	DVI 1600*900@60Hz			

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	30.970	1.72	19.03	0.63	--	21.38	40.00	18.62	QP
	83.350	10.35	8.30	0.97	--	19.62	40.00	20.38	
	283.170	**24.18**	**13.62**	**1.82**	--	**39.62**	**46.00**	**6.38**	
	323.910	20.11	14.58	1.96	--	36.65	46.00	9.35	
	647.890	10.90	19.45	2.84	--	33.19	46.00	12.81	
	971.870	8.00	22.22	3.58	--	33.80	54.00	20.20	
	1076.000	55.61	22.92	3.89	34.11	48.31	74.00	25.69	PK
	1262.000	57.93	24.19	4.33	34.12	52.33	74.00	21.67	
	1427.000	54.82	25.38	4.66	34.14	50.72	74.00	23.28	
	1607.000	48.90	26.42	5.01	34.16	46.17	74.00	27.83	
	1750.000	49.00	26.78	5.30	34.18	46.90	74.00	27.10	
	1860.000	49.82	27.26	5.46	34.19	48.35	74.00	25.65	
Vertical	30.000	12.34	19.60	0.63	--	32.57	40.00	7.43	QP
	84.320	17.34	8.48	0.98	--	26.80	40.00	13.20	
	276.380	**26.66**	**13.47**	**1.80**	--	**41.93**	**46.00**	**4.07**	
	320.030	25.33	14.46	1.94	--	41.73	46.00	4.27	
	702.210	14.37	19.73	2.94	--	37.04	46.00	8.96	
	971.870	7.91	22.22	3.58	--	33.71	54.00	20.29	
	1141.000	53.70	23.36	4.07	34.11	47.02	74.00	26.98	PK
	1255.000	59.05	24.14	4.31	34.12	53.38	74.00	20.62	
	1421.000	53.72	25.34	4.65	34.14	49.57	74.00	24.43	
	1499.000	49.04	25.80	4.80	34.15	45.49	74.00	28.51	
	1629.000	50.07	26.47	5.05	34.16	47.43	74.00	26.57	
	1752.000	49.80	26.78	5.30	34.18	47.70	74.00	26.30	

TEST ENGINEER: RAVEN JIN

5 DEVIATION TO TEST SPECIFICATIONS

None.

6 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Specifications	Manufacturer	Location
Aluminum foil	T-308	50*30 mm	DAEHUNG SUBSIDIARY MATERIALS.	See Internal Photo Figure 13, 14

Note: We had required the applicant and manufacturer that all electrical and mechanical devices employed for spurious radiation suppression, including any modifications made during certification testing, must be incorporated in each unit marked

TEST ENGINEER: Raven Jin

(RAVEN JIN)