

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

LCD Monitor

Model No.: E1910PW

Serial No.: E2010111503

FCC ID : BEJE1910PW

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

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Report No. : ACI-F10170
Date of Test : Nov 16-29, 2010
Date of Report : Dec 07, 2010

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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. : E1910PW
(B) Serial No. : E2010111503
(C) Power Supply : 120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2009
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: E1910PW; S/N: E2010111503) which was tested in 3m anechoic chamber Nov 16-29, 2010 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 : Nov 16-29, 2010 Date of Report : Dec 07, 2010

Producer : Kathy Wang
KATHY WANG / Assistant

Review : Dio Yang
DIO YANG / Deputy Assistant Manager

 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 2009 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2009 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.	: E1910PW
Serial No.	: E2010111503
Real Power	: 24.10W
Note #1	: The data of E1910PW at Rotate 90 degree condition (only radiated emission) was also tested and recorded in this report. The mode tested was the worst case of E1910PW in normal condition.
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 : LM190E09 (TL) (B1)
Max Resolution	: 1280*1024@75Hz
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 #2	: 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 : KU-0459
Serial Number : 7691402450604
Data Cable : Shielded, Undetachable, 1.8m
Certificate : CE/EMC, FCC DoC, VCCI, MIC,
C-Tick, BSMI

2.2.4 Mouse

Manufacturer : DELL
Model Number : MO56UO
Serial Number : 443048231
Data Cable : Shielded, Undetachable, 1.8m.
Certificate : CE/EMC, FCC DoC, VCCI, MIC,
C-Tick, BSMI

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

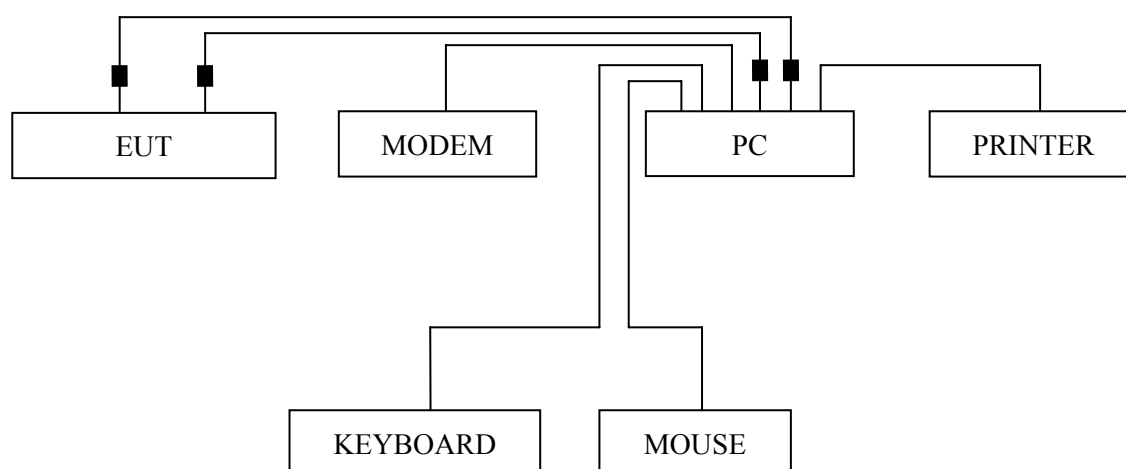
3.1 Test Equipment

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	Oct 15, 2010	Oct 15, 2011
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Apr 02, 2010	Apr 02, 2011
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Apr 02, 2010	Apr 02, 2011
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Sep 19, 2010	Mar 19, 2011
5.	50 Ω Terminator	Anritsu	BNC	001	Apr 02, 2010	Apr 02, 2011
6.	Software	Audix	E3	SET00200 9804M592	--	--

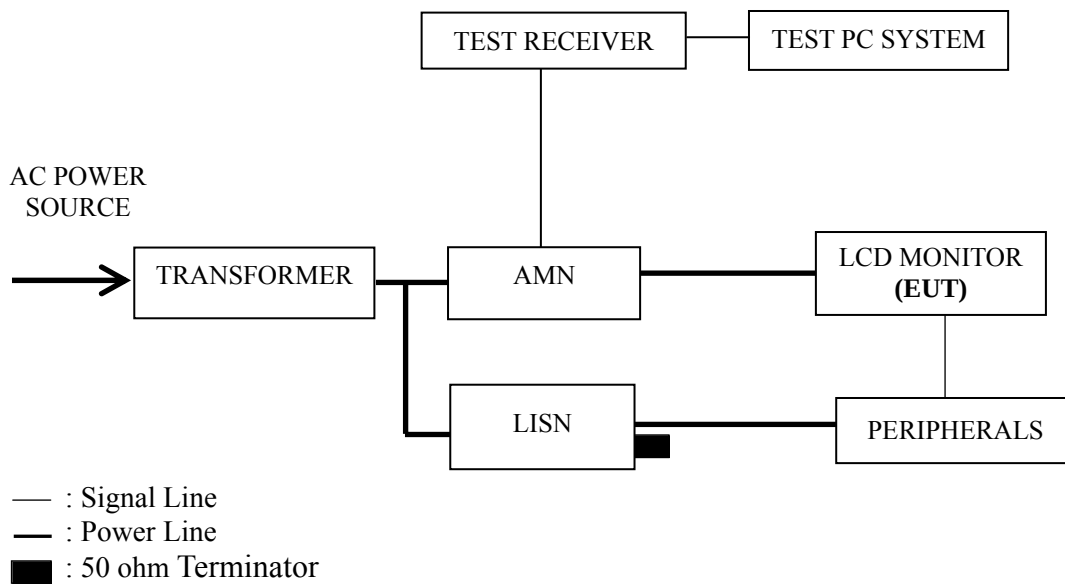
3.2 Block Diagram of Test Setup

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 1280*1024@75Hz
DVI 640*480@60Hz
DVI 1024*768@60Hz
DVI 1280*1024@75Hz

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	Page
D-Sub 640*480@60Hz	P12
D-Sub 1024*768@60Hz	P13
D-Sub 1280*1024@75Hz	P14
DVI 640*480@60Hz	P15
DVI 1024*768@60Hz	P16
DVI 1280*1024@75Hz	P17

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 1280*1024@75Hz test mode. The worst emission is detected at 23.387 MHz (Average Value) with corrected signal level of 34.69 dB (μV) (limit is 50.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 48%RH

Serial No. : E2010111503 Date of Test : Nov 16, 2010

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	42.69	0.37	43.06	66.00	22.94	QP
	0.247	37.02	0.41	37.43	61.86	24.43	
	1.223	28.34	0.55	28.89	56.00	27.11	
	2.736	29.08	0.67	29.75	56.00	26.25	
	8.148	27.89	0.96	28.85	60.00	31.15	
	23.387	39.43	1.74	41.17	60.00	18.83	
	0.150	32.16	0.37	32.53	56.00	23.47	AV
	0.247	27.46	0.41	27.87	51.86	23.99	
	1.223	18.64	0.55	19.19	46.00	26.81	
	2.736	19.59	0.67	20.26	46.00	25.74	
	8.148	17.37	0.96	18.33	50.00	31.67	
	23.387	29.36	1.74	31.10	50.00	18.90	
Neutral	0.188	43.09	0.31	43.40	64.11	20.71	QP
	0.253	37.04	0.35	37.39	61.64	24.25	
	0.558	29.69	0.49	30.18	56.00	25.82	
	2.500	27.64	0.62	28.26	56.00	27.74	
	9.302	37.29	0.99	38.28	60.00	21.72	
	23.888	41.66	1.85	43.51	60.00	16.49	
	0.188	33.26	0.31	33.57	54.11	20.54	AV
	0.253	27.55	0.35	27.90	51.64	23.74	
	0.558	19.36	0.49	19.85	46.00	26.15	
	2.500	17.36	0.62	17.98	46.00	28.02	
	9.302	27.87	0.99	28.86	50.00	21.14	
	23.888	31.27	1.85	33.12	50	16.88	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 48%RH

Serial No. : E2010111503 Date of Test : Nov 16, 2010

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	0.186	42.33	0.38	42.71	64.20	21.49	QP
	0.253	34.92	0.42	35.34	61.64	26.30	
	0.564	27.45	0.52	27.97	56.00	28.03	
	2.736	29.70	0.67	30.37	56.00	25.63	
	8.148	29.31	0.96	30.27	60.00	29.73	
	23.387	39.22	1.74	40.96	60.00	19.04	
	0.186	32.16	0.38	32.54	54.20	21.66	AV
	0.253	24.58	0.42	25.00	51.64	26.64	
	0.564	17.24	0.52	17.76	46.00	28.24	
	2.736	19.36	0.67	20.03	46.00	25.97	
	8.148	19.57	0.96	20.53	50.00	29.47	
	23.387	29.66	1.74	31.40	50.00	18.60	
Neutral	0.186	43.34	0.30	43.64	64.20	20.56	QP
	0.249	37.74	0.35	38.09	61.78	23.69	
	0.516	29.98	0.49	30.47	56.00	25.53	
	2.962	32.03	0.65	32.68	56.00	23.32	
	9.302	37.14	0.99	38.13	60.00	21.87	
	23.888	41.91	1.85	43.76	60.00	16.24	
	0.186	33.59	0.30	33.89	54.20	20.31	AV
	0.249	27.36	0.35	27.71	51.78	24.07	
	0.516	19.59	0.49	20.08	46.00	25.92	
	2.962	22.59	0.65	23.24	46.00	22.76	
	9.302	27.70	0.99	28.69	50.00	21.31	
	23.888	31.51	1.85	33.36	50.00	16.64	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 48%RH

Serial No. : E2010111503 Date of Test : Nov 16, 2010

Test Mode : D-Sub 1280*1024@75Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.186	42.82	0.38	43.20	64.20	21.00	QP
	0.247	35.39	0.41	35.80	61.86	26.06	
	0.558	27.64	0.52	28.16	56.00	27.84	
	2.707	30.24	0.67	30.91	56.00	25.09	
	8.148	28.50	0.96	29.46	60.00	30.54	
	23.387	39.02	1.74	40.76	60.00	19.24	
	0.186	32.16	0.38	32.54	54.20	21.66	AV
	0.247	25.37	0.41	25.78	51.86	26.08	
	0.558	17.69	0.52	18.21	46.00	27.79	
	2.707	20.26	0.67	20.93	46.00	25.07	
	8.148	18.66	0.96	19.62	50.00	30.38	
	23.387	29.17	1.74	30.91	50.00	19.09	
Neutral	0.186	43.32	0.30	43.62	64.20	20.58	QP
	0.307	37.02	0.39	37.41	60.06	22.65	
	1.908	30.04	0.58	30.62	56.00	25.38	
	2.993	32.28	0.65	32.93	56.00	23.07	
	9.302	37.17	0.99	38.16	60.00	21.84	
	23.387	42.79	1.84	44.63	60.00	15.37	
	0.186	33.13	0.30	33.43	54.20	20.77	AV
	0.307	27.62	0.39	28.01	50.06	22.05	
	1.908	20.34	0.58	20.92	46.00	25.08	
	2.993	22.16	0.65	22.81	46.00	23.19	
	9.302	27.68	0.99	28.67	50.00	21.33	
	23.387	32.85	1.84	34.69	50.00	15.31	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 48%RH

Serial No. : E2010111503 Date of Test : Nov 16, 2010

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	0.186	43.49	0.38	43.87	64.20	20.33	QP
	0.249	37.56	0.42	37.98	61.78	23.80	
	0.505	27.41	0.52	27.93	56.00	28.07	
	2.707	29.79	0.67	30.46	56.00	25.54	
	7.977	28.43	0.95	29.38	60.00	30.62	
	23.888	39.10	1.76	40.86	60.00	19.14	
	0.186	33.46	0.38	33.84	54.20	20.36	AV
	0.249	27.64	0.42	28.06	51.78	23.72	
	0.505	17.36	0.52	17.88	46.00	28.12	
	2.707	19.48	0.67	20.15	46.00	25.85	
	7.977	18.61	0.95	19.56	50.00	30.44	
	23.888	29.66	1.76	31.42	50.00	18.58	
Neutral	0.188	45.37	0.31	45.68	64.11	18.43	QP
	0.307	37.19	0.39	37.58	60.06	22.48	
	0.516	31.15	0.49	31.64	56.00	24.36	
	2.900	28.48	0.65	29.13	56.00	26.87	
	9.451	36.67	0.99	37.66	60.00	22.34	
	23.636	41.46	1.85	43.31	60.00	16.69	
	0.188	35.24	0.31	35.55	54.11	18.56	AV
	0.307	27.59	0.39	27.98	50.06	22.08	
	0.516	21.86	0.49	22.35	46.00	23.65	
	2.900	18.64	0.65	19.29	46.00	26.71	
	9.451	26.46	0.99	27.45	50.00	22.55	
	23.636	31.54	1.85	33.39	50.00	16.61	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 48%RH

Serial No. : E2010111503 Date of Test : Nov 16, 2010

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	0.186	43.66	0.38	44.04	64.20	20.16	QP
	0.244	35.89	0.41	36.30	61.95	25.65	
	0.521	27.49	0.52	28.01	56.00	27.99	
	2.707	30.01	0.67	30.68	56.00	25.32	
	7.977	28.34	0.95	29.29	60.00	30.71	
	23.387	39.27	1.74	41.01	60.00	18.99	
	0.186	33.67	0.38	34.05	54.20	20.15	AV
	0.244	25.62	0.41	26.03	51.95	25.92	
	0.521	17.95	0.52	18.47	46.00	27.53	
	2.707	20.07	0.67	20.74	46.00	25.26	
	7.977	18.35	0.95	19.30	50.00	30.70	
	23.387	29.64	1.74	31.38	50.00	18.62	
Neutral	0.184	45.33	0.31	45.64	64.28	18.64	QP
	0.307	37.37	0.39	37.76	60.06	22.30	
	0.516	29.59	0.49	30.08	56.00	25.92	
	2.931	31.29	0.65	31.94	56.00	24.06	
	9.757	37.32	1.01	38.33	60.00	21.67	
	23.387	41.70	1.84	43.54	60.00	16.46	
	0.184	35.22	0.31	35.53	54.28	18.75	AV
	0.307	27.33	0.39	27.72	50.06	22.34	
	0.516	19.63	0.49	20.12	46.00	25.88	
	2.931	21.33	0.65	21.98	46.00	24.02	
	9.757	27.98	1.01	28.99	50.00	21.01	
	23.387	31.26	1.84	33.10	50.00	16.90	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 48%RH

Serial No. : E2010111503 Date of Test : Nov 16, 2010

Test Mode : DVI 1280*1024@75Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.186	43.03	0.38	43.41	64.20	20.79	QP
	0.253	37.45	0.42	37.87	61.64	23.77	
	0.573	27.49	0.52	28.01	56.00	27.99	
	2.707	30.28	0.67	30.95	56.00	25.05	
	8.148	28.19	0.96	29.15	60.00	30.85	
	24.142	39.54	1.77	41.31	60.00	18.69	
	0.186	33.13	0.38	33.51	54.20	20.69	AV
	0.253	27.62	0.42	28.04	51.64	23.60	
	0.573	17.26	0.52	17.78	46.00	28.22	
	2.707	20.47	0.67	21.14	46.00	24.86	
	8.148	18.65	0.96	19.61	50.00	30.39	
	24.142	29.65	1.77	31.42	50.00	18.58	
Neutral	0.186	42.82	0.38	43.20	64.20	21.00	QP
	0.247	35.39	0.41	35.80	61.86	26.06	
	0.558	27.64	0.52	28.16	56.00	27.84	
	2.707	30.24	0.67	30.91	56.00	25.09	
	8.148	28.50	0.96	29.46	60.00	30.54	
	23.387	39.02	1.74	40.76	60.00	19.24	
	0.186	32.16	0.38	32.54	54.20	21.66	AV
	0.247	25.37	0.41	25.78	51.86	26.08	
	0.558	17.69	0.52	18.21	46.00	27.79	
	2.707	20.26	0.67	20.93	46.00	25.07	
	8.148	18.66	0.96	19.62	50.00	30.38	
	23.387	29.17	1.74	30.91	50.00	19.09	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

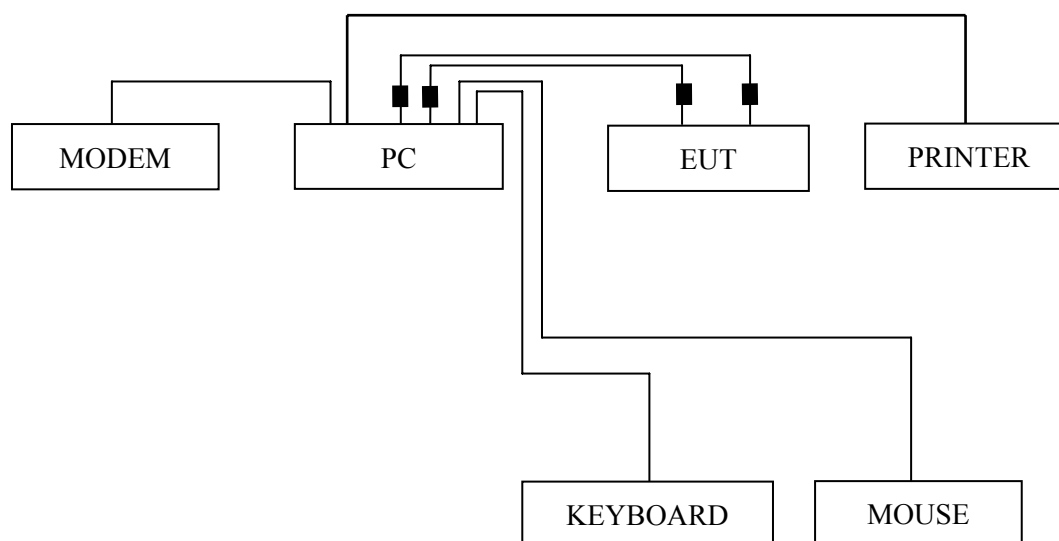
4.1 Test Equipment

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, 2010	Mar 07, 2011
2.	Preamplifier	Agilent	8447D	2944A10548	Sep 19, 2010	Mar 19, 2011
3.	Preamplifier	HP	8449B	3008A00864	Apr 29, 2010	Apr 29, 2011
4.	Bi-log Antenna	TESEQ	CBL6112D	23192	Dec 01, 2010	Dec 01, 2011
5.	Spectrum	Agilent	E7405A	MY45106600	May 19, 2010	May 19, 2011
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

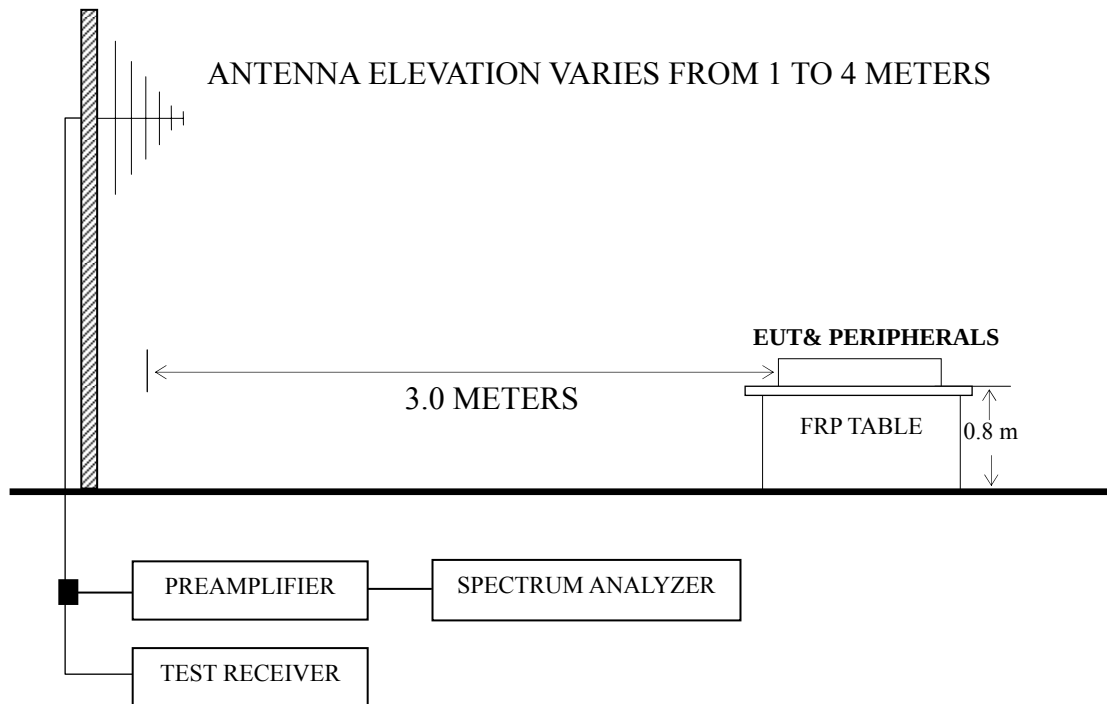
4.2 Block Diagram of Test Setup

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	
		($\mu\text{V/m}$)	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/DVI 1280*1024@75Hz 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	Page
D-Sub 640*480@60Hz	P22
D-Sub 1024*768@60Hz	P23
D-Sub 1280*1024@75Hz	P24 – P25
DVI 640*480@60Hz	P26
DVI 1024*768@60Hz	P27
DVI 1280*1024@75Hz	P28 – P29
DVI 1280*1024@60Hz (Rotate 90 degree)	P30 – P31

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

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

NOTE 3 – Emission Level = Antenna Factor + Cable Loss – Preamp Factor + Meter Reading.($> 1\text{GHz}$)

NOTE 4 – All readings are Quasi-Peak values below or equal to 1GHz, Peak and Average values above 1GHz.

NOTE 5 – The emission levels that are 20dB below the official limit are not reported.

NOTE 6 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

NOTE 7 – The worst case is for DVI 1280*1024@75Hz test mode. The worst emission at horizontal polarization was detected at 866.140 MHz with corrected signal level of 45.07 dB ($\mu\text{V/m}$) (limit is 46.00dB ($\mu\text{V/m}$)), when the antenna was 1.00 m height and the turntable was at 300° . The worst emission at vertical polarization was detected at 406.360MHz with corrected signal level of 41.38 dB ($\mu\text{V/m}$) (limit is 46.00 dB ($\mu\text{V/m}$)), when the antenna was 1.00 m height and the turntable was at 240° .

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

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	36.790	20.76	15.80	0.69	37.25	40.00	2.75
	120.210	17.61	12.98	1.13	31.72	43.50	11.78
	148.340	18.66	11.41	1.23	31.30	43.50	12.20
	200.720	18.75	10.74	1.45	30.94	43.50	12.56
	448.070	12.86	17.20	2.16	32.22	46.00	13.78
	850.620	18.54	21.20	2.97	42.71	46.00	3.29
Vertical	37.760	1.91	15.20	0.70	17.81	40.00	22.19
	56.190	10.08	7.46	0.82	18.36	40.00	21.64
	134.760	13.69	12.30	1.19	27.18	43.50	16.32
	226.910	24.02	11.98	1.54	37.54	46.00	8.46
	390.840	11.42	16.30	2.03	29.75	46.00	16.25
	850.620	11.67	21.20	2.97	35.84	46.00	10.16

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

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	32.910	-0.74	17.95	0.66	17.87	40.00	22.13
	54.250	8.80	7.92	0.81	17.53	40.00	22.47
	134.760	13.57	12.30	1.19	27.06	43.50	16.44
	217.210	25.17	11.48	1.51	38.16	46.00	7.84
	325.850	11.74	14.62	1.84	28.20	46.00	17.80
	702.210	9.59	19.73	2.67	31.99	46.00	14.01
Vertical	38.730	18.61	14.62	0.71	33.94	40.00	6.06
	121.180	18.17	12.95	1.13	32.25	43.50	11.25
	191.990	19.19	10.37	1.42	30.98	43.50	12.52
	353.010	11.51	15.41	1.93	28.85	46.00	17.15
	588.720	9.50	19.09	2.43	31.02	46.00	14.98
	924.340	18.46	21.87	3.22	43.55	46.00	2.45

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

Test Mode : D-Sub 1280*1024@75Hz

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	37.760	20.05	15.20	0.70	--	35.95	40.00	4.05	QP
	119.240	18.10	12.97	1.12	--	32.19	43.50	11.31	
	191.020	18.68	10.34	1.42	--	30.44	43.50	13.06	
	265.710	14.85	13.22	1.65	--	29.72	46.00	16.28	
	407.330	21.20	16.59	2.08	--	39.87	46.00	6.13	
	881.660	19.79	21.53	3.00	--	44.32	46.00	1.68	
	1074.000	49.85	22.92	4.50	37.26	40.01	74.00	33.99	PK
	1205.000	47.10	23.74	4.51	37.00	38.35	74.00	35.65	
	1328.000	46.68	24.70	4.53	36.72	39.19	74.00	34.81	
	1501.000	45.33	25.84	4.55	36.28	39.44	74.00	34.56	
	1612.000	45.06	26.43	4.56	36.07	39.98	74.00	34.02	
	1811.000	42.81	26.94	4.61	35.80	38.56	74.00	35.44	
	1074.000	40.85	22.92	4.50	37.26	31.01	54.00	22.99	AV
	1205.000	34.10	23.74	4.51	37.00	25.35	54.00	28.65	
	1328.000	32.68	24.70	4.53	36.72	25.19	54.00	28.81	
	1501.000	30.33	25.84	4.55	36.28	24.44	54.00	29.56	
	1612.000	38.06	26.43	4.56	36.07	32.98	54.00	21.02	
	1811.000	32.81	26.94	4.61	35.80	28.56	54.00	25.44	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

Test Mode : D-Sub 1280*1024@75Hz

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
Vertical	30.970	-0.46	19.03	0.64	--	19.21	40.00	20.79	QP
	134.760	14.54	12.30	1.19	--	28.03	43.50	15.47	
	224.970	22.71	11.89	1.53	--	36.13	46.00	9.87	
	332.640	18.75	14.82	1.87	--	35.44	46.00	10.56	
	407.330	20.21	16.59	2.08	--	38.88	46.00	7.12	
	686.690	11.00	19.63	2.65	--	33.28	46.00	12.72	
	1148.000	49.49	23.42	4.51	37.12	40.30	74.00	33.70	PK
	1344.000	40.36	24.82	4.53	36.67	33.04	74.00	40.96	
	1453.000	41.59	25.53	4.55	36.39	35.28	74.00	38.72	
	1527.000	41.68	26.00	4.55	36.23	36.00	74.00	38.00	
	1639.000	42.02	26.50	4.57	36.03	37.06	74.00	36.94	
	1692.000	40.91	26.63	4.57	35.96	36.15	74.00	37.85	
	1148.000	43.49	23.42	4.51	37.12	34.30	54.00	19.70	AV
	1344.000	27.36	24.82	4.53	36.67	20.04	54.00	33.96	
	1453.000	29.59	25.53	4.55	36.39	23.28	54.00	30.72	
	1527.000	26.68	26.00	4.55	36.23	21.00	54.00	33.00	
	1639.000	34.02	26.50	4.57	36.03	29.06	54.00	24.94	
	1692.000	29.91	26.63	4.57	35.96	25.15	54.00	28.85	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

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	14.68	19.60	0.63	34.91	40.00	5.09
	37.760	13.13	15.20	0.70	29.03	40.00	10.97
	126.030	17.01	12.71	1.16	30.88	43.50	12.62
	214.300	19.03	11.35	1.50	31.88	43.50	11.62
	397.630	13.89	16.44	2.05	32.38	46.00	13.62
	853.530	18.56	21.24	2.97	42.77	46.00	3.23
Vertical	30.970	-0.48	19.03	0.64	19.19	40.00	20.81
	75.590	4.24	7.24	0.92	12.40	40.00	27.60
	151.250	17.73	11.19	1.25	30.17	43.50	13.33
	224.000	24.88	11.85	1.53	38.26	46.00	7.74
	391.810	12.28	16.34	2.03	30.65	46.00	15.35
	853.530	15.53	21.24	2.97	39.74	46.00	6.26

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

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	-0.69	19.60	0.63	19.54	40.00	20.46
	54.250	9.24	7.92	0.81	17.97	40.00	22.03
	108.570	8.55	12.17	1.08	21.80	43.50	21.70
	215.270	27.36	11.39	1.50	40.25	43.50	3.25
	324.880	19.56	14.58	1.84	35.98	46.00	10.02
	870.020	14.66	21.42	2.98	39.06	46.00	6.94
Vertical	30.000	43.62	19.60	0.63	35.74	40.00	4.26
	106.630	45.31	12.02	1.07	30.57	43.50	12.93
	162.890	47.27	10.42	1.30	31.51	43.50	11.99
	217.210	48.61	11.48	1.51	34.60	46.00	11.40
	380.170	44.07	16.10	2.00	34.74	46.00	11.26
	870.020	46.24	21.42	2.98	43.08	46.00	2.92

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

Test Mode : DVI 1280*1024@75Hz

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	30.000	14.28	19.60	0.63	--	34.51	40.00	5.49	QP
	35.820	15.06	16.45	0.68	--	32.19	40.00	7.81	
	154.160	18.86	10.94	1.26	--	31.06	43.50	12.44	
	332.640	22.10	14.82	1.87	--	38.79	46.00	7.21	
	398.600	22.97	16.47	2.05	--	41.49	46.00	4.51	
	866.140	20.70	21.39	2.98	--	45.07	46.00	0.93	
	1128.000	52.68	23.30	4.50	37.15	43.33	74.00	30.67	PK
	1205.000	54.10	23.74	4.51	37.00	45.35	74.00	28.65	
	1277.000	51.93	24.32	4.53	36.84	43.94	74.00	30.06	
	1441.000	51.69	25.45	4.55	36.43	45.26	74.00	28.74	
	1647.000	51.72	26.52	4.57	36.02	46.79	74.00	27.21	
	1790.000	49.45	26.88	4.58	35.82	45.09	74.00	28.91	
	1128.000	44.68	23.30	4.50	37.15	35.33	54.00	18.67	AV
	1205.000	44.10	23.74	4.51	37.00	35.35	54.00	18.65	
	1277.000	41.93	24.32	4.53	36.84	33.94	54.00	20.06	
	1441.000	41.69	25.45	4.55	36.43	35.26	54.00	18.74	
	1647.000	42.72	26.52	4.57	36.02	37.79	54.00	16.21	
	1790.000	39.45	26.88	4.58	35.82	35.09	54.00	18.91	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

Test Mode : DVI 1280*1024@75Hz

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
Vertical	30.970	-0.85	19.03	0.64	--	18.82	40.00	21.18	QP
	55.220	11.41	7.69	0.81	--	19.91	40.00	20.09	
	203.630	23.79	10.85	1.46	--	36.10	43.50	7.40	
	339.430	23.75	15.03	1.88	--	40.66	46.00	5.34	
	406.360	22.71	16.59	2.08	--	41.38	46.00	4.62	
	865.170	15.29	21.35	2.98	--	39.62	46.00	6.38	
	1216.000	49.88	23.86	4.51	36.97	41.28	74.00	32.72	PK
	1354.000	49.28	24.90	4.54	36.65	42.07	74.00	31.93	
	1505.000	50.26	25.84	4.55	36.28	44.37	74.00	29.63	
	1639.000	51.02	26.50	4.57	36.03	46.06	74.00	27.94	
	1692.000	49.91	26.63	4.57	35.96	45.15	74.00	28.85	
	1791.000	47.66	26.88	4.58	35.82	43.30	74.00	30.70	
	1216.000	39.88	23.86	4.51	36.97	31.28	54.00	22.72	AV
	1354.000	34.28	24.90	4.54	36.65	27.07	54.00	26.93	
	1505.000	34.26	25.84	4.55	36.28	28.37	54.00	25.63	
	1639.000	37.02	26.50	4.57	36.03	32.06	54.00	21.94	
	1692.000	39.91	26.63	4.57	35.96	35.15	54.00	18.85	
	1791.000	38.66	26.88	4.58	35.82	34.30	54.00	19.70	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

Test Mode : DVI 1280*1024@75Hz
(Rotate 90 degree)

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	32.910	0.82	17.95	0.66	--	19.43	40.00	20.57	QP
	134.760	16.10	12.30	1.19	--	29.59	43.50	13.91	
	203.630	29.29	10.85	1.46	--	41.60	43.50	1.90	
	333.610	25.56	14.86	1.87	--	42.29	46.00	3.71	
	665.350	19.39	19.54	2.61	--	41.54	46.00	4.46	
	944.710	16.27	22.02	3.58	--	41.87	46.00	4.13	
	1074.000	50.85	22.92	4.50	37.26	41.01	74.00	32.99	PK
	1205.000	48.10	23.74	4.51	37.00	39.35	74.00	34.65	
	1328.000	47.68	24.70	4.53	36.72	40.19	74.00	33.81	
	1501.000	46.33	25.84	4.55	36.28	40.44	74.00	33.56	
	1593.000	47.25	26.36	4.56	36.11	42.06	74.00	31.94	
	1811.000	43.81	26.94	4.61	35.80	39.56	74.00	34.44	
	1074.000	36.85	22.92	4.50	37.26	27.01	54.00	26.99	AV
	1205.000	33.10	23.74	4.51	37.00	24.35	54.00	29.65	
	1328.000	35.68	24.70	4.53	36.72	28.19	54.00	25.81	
	1501.000	36.33	25.84	4.55	36.28	30.44	54.00	23.56	
	1593.000	36.25	26.36	4.56	36.11	31.06	54.00	22.94	
	1811.000	30.81	26.94	4.61	35.80	26.56	54.00	27.44	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E1910PW Humidity : 60%RH

Serial No. : E2010111503 Date of Test : Nov 29, 2010

Test Mode : DVI 1280*1024@75Hz
(Rotate 90 degree)

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
Vertical	30.000	16.57	19.60	0.63	--	36.80	40.00	3.20	QP
	123.120	15.33	12.86	1.14	--	29.33	43.50	14.17	
	211.390	19.53	11.22	1.49	--	32.24	43.50	11.26	
	338.460	17.59	14.98	1.88	--	34.45	46.00	11.55	
	407.330	20.92	16.59	2.08	--	39.59	46.00	6.41	
	877.780	16.00	21.49	3.00	--	40.49	46.00	5.51	
	1148.000	51.49	23.42	4.51	37.12	42.30	74.00	31.70	PK
	1258.000	44.15	24.19	4.52	36.88	35.98	74.00	38.02	
	1379.000	45.26	25.05	4.54	36.58	38.27	74.00	35.73	
	1453.000	45.59	25.53	4.55	36.39	39.28	74.00	34.72	
	1527.000	45.68	26.00	4.55	36.23	40.00	74.00	34.00	
	1639.000	46.02	26.50	4.57	36.03	41.06	74.00	32.94	
	1148.000	39.49	23.42	4.51	37.12	30.30	54.00	23.70	AV
	1258.000	32.15	24.19	4.52	36.88	23.98	54.00	30.02	
	1379.000	33.26	25.05	4.54	36.58	26.27	54.00	27.73	
	1453.000	35.59	25.53	4.55	36.39	29.28	54.00	24.72	
	1527.000	36.68	26.00	4.55	36.23	31.00	54.00	23.00	
	1639.000	35.02	26.50	4.57	36.03	30.06	54.00	23.94	

TEST ENGINEER: RAVEN JIN

5 DEVIATION TO TEST SPECIFICATIONS

None.