

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

LCD Monitor

Model No.: E2441VX

Serial No.: 010NDVWGT503

FCC ID : BEJE2441VX

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

Prepared By : Audix Technology (Shanghai) Co., Ltd.
3F 34Bldg 680 Guiping Rd,
Caohejing Hi-Tech Park,
Shanghai 200233, China

Tel: +86-21-64955500
Fax: +86-21-64955491

Report No. : ACI-F10161
Date of Test : Nov 19 – 21, 2010
Date of Report : Nov 24, 2010

TABLE OF CONTENTS

	Page
1 SUMMARY OF STANDARDS AND RESULTS.....	4
1.1 Description of Standards and Results.....	4
2 GENERAL INFORMATION.....	5
2.1 Description of Equipment Under Test.....	5
2.2 Peripherals.....	6
2.3 Description of Test Facility.....	7
2.4 Measurement Uncertainty.....	7
3 CONDUCTED EMISSION TEST.....	8
3.1 Test Equipment.....	8
3.2 Block Diagram of Test Setup.....	8
3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)].....	9
3.4 Test Configuration.....	9
3.5 Operating Condition of EUT.....	10
3.6 Test Procedures.....	10
3.7 Test Results.....	11
4 RADIATED EMISSION TEST.....	23
4.1 Test Equipment.....	23
4.2 Block Diagram of Test Setup.....	23
4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)].....	24
4.4 Test Configuration.....	24
4.5 Operating Condition of EUT.....	25
4.6 Test Procedures.....	25
4.7 Test Results.....	26
5 DEVIATION TO TEST SPECIFICATIONS.....	44
6 DEBUG DESCRIPTION.....	45

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. : E2441VX
(B) Serial No. : 010NDVWGT503
(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: E2441VX; S/N: 010NDVWGT503) which was tested in 3m anechoic chamber Nov 19 – 21, 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 19 – 21, 2010 Date of Report : Nov 24, 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.	: E2441VX
Serial No.	: 010NDVWGT503
Real Power	: 28.10W
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: AU Optronics M/N : M240HW01
Max Resolution	: 1920*1080@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
HDMI Cable	: Shielded, Detachable, 1.00m, without core
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 Earphone Port | : Connected with Earphone |
| (4) One HDMI Port | : Connected with DVD |
| (5) One AC In Port | : Connected with Power |

2.2 Peripherals

2.2.1 PC #1

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 PC #2

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))

2.2.3 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	:	KU-0459
Serial Number	:	7691402450604
Data Cable	:	Shielded, Undetachable, 1.8m
Certificate	:	CE/EMC, FCC DoC, VCCI, MIC, C-Tick, BSMI

2.2.5 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

2.2.6 Modem

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

2.2.7 DVD

Manufacturer : PHILIPS
Model Number : DVP3986K/93
Serial Number : KX1A0902120108
Certificate : FCC DoC, CE/EMC, CCC

2.2.8 Earphone

Manufacturer : SONY
Model Number : MDR-E808
Serial Number : 1808030805305506

Note: PC #1 was used in Conducted Emission Test while PC #2 was used in Radiated Emission Test.

2.3 Description of Test Facility

Site Description : Sept. 17, 1998 file on
(Semi-Anechoic Chamber) 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

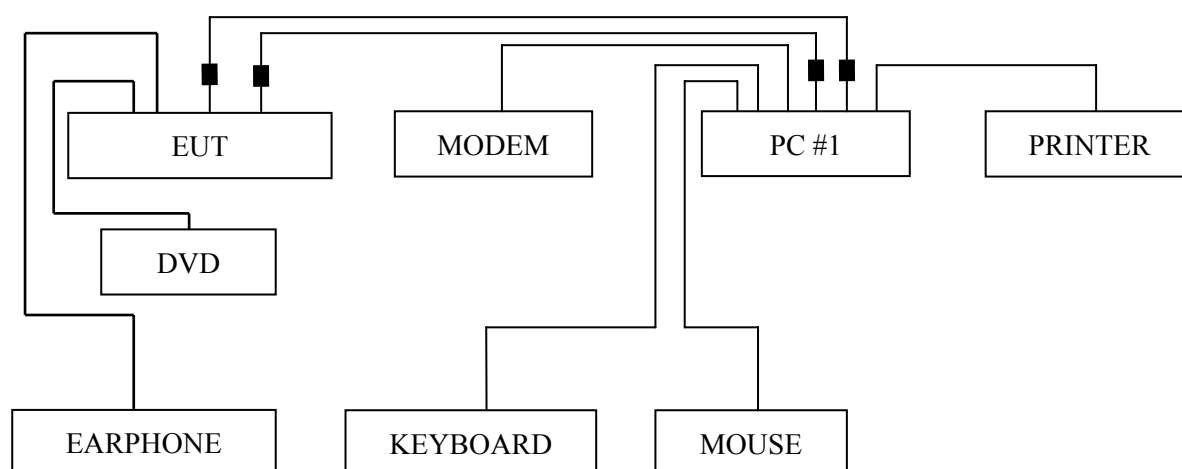
3.1 Test Equipment

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	--	--

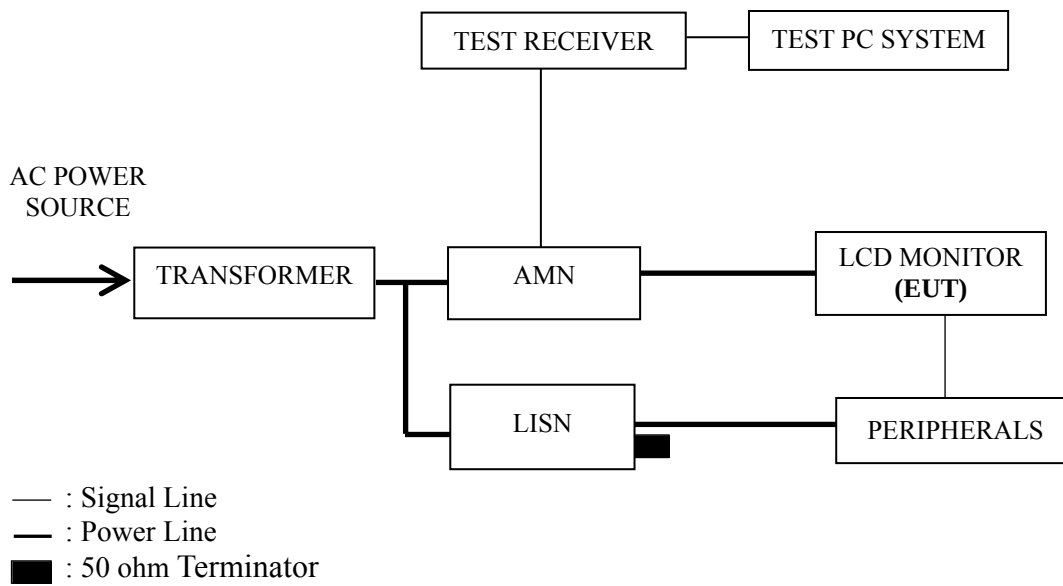
3.2 Block Diagram of Test Setup

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 In HDMI mode, the EUT connected to DVD through HDMI port.

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

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

3.5.8 The test modes are as follows:

Test Mode
D-Sub 640*480@60Hz
D-Sub 1280*1024@75Hz
D-Sub 1680*1050@60Hz
D-Sub 1920*1080@60Hz
DVI 640*480@60Hz
DVI 1280*1024@75Hz
DVI 1680*1050@60Hz
DVI 1920*1080@60Hz
HDMI 480P
HDMI 720P
HDMI 1080P

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 1280*1024@75Hz	P13
D-Sub 1680*1050@60Hz	P14
D-Sub 1920*1080@60Hz	P15
DVI 640*480@60Hz	P16
DVI 1280*1024@75Hz	P17
DVI 1680*1050@60Hz	P18
DVI 1920*1080@60Hz	P19
HDMI 480P	P20
HDMI 720P	P21
HDMI 1080P	P22

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 640*480@60Hz test mode. The worst emission is detected at 0.190 MHz (Quasi-Peak Value) with corrected signal level of 48.11 dB (μV) (limit is 64.02 dB (μV)), when the Line of the EUT is connected to AMN.

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 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	0.190	47.73	0.38	48.11	64.02	15.91	QP
	0.256	40.04	0.42	40.46	61.56	21.10	
	0.408	33.38	0.48	33.86	57.68	23.82	
	3.173	32.17	0.71	32.88	56.00	23.12	
	9.654	28.46	1.05	29.51	60.00	30.49	
	26.139	35.22	1.83	37.05	60.00	22.95	
	0.190	32.15	0.38	32.53	54.02	21.49	AV
	0.256	23.54	0.42	23.96	51.56	27.60	
	0.408	23.18	0.48	23.66	47.68	24.02	
	3.173	21.26	0.71	21.97	46.00	24.03	
	9.654	12.46	1.05	13.51	50.00	36.49	
	26.139	24.16	1.83	25.99	50.00	24.01	
Neutral	0.190	46.84	0.31	47.15	64.02	16.87	QP
	0.253	39.74	0.35	40.09	61.64	21.55	
	0.408	32.32	0.44	32.76	57.68	24.92	
	2.809	36.75	0.64	37.39	56.00	18.61	
	7.606	35.26	0.90	36.16	60.00	23.84	
	26.139	36.80	1.89	38.69	60.00	21.31	
	0.190	31.25	0.31	31.56	54.02	22.46	AV
	0.253	25.14	0.35	25.49	51.64	26.15	
	0.408	22.47	0.44	22.91	47.68	24.77	
	2.809	23.17	0.64	23.81	46.00	22.19	
	7.606	24.17	0.90	25.07	50.00	24.93	
	26.139	26.34	1.89	28.23	50.00	21.77	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 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	0.190	42.97	0.38	43.35	64.02	20.67	QP
	0.264	35.63	0.43	36.06	61.29	25.23	
	0.408	30.31	0.48	30.79	57.68	26.89	
	3.025	36.01	0.70	36.71	56.00	19.29	
	8.323	36.48	0.98	37.46	60.00	22.54	
	26.139	36.81	1.83	38.64	60.00	21.36	
	0.190	32.85	0.38	33.23	54.02	20.79	AV
	0.264	25.32	0.43	25.75	51.29	25.54	
	0.408	30.31	0.48	30.79	47.68	16.89	
	3.025	26.33	0.70	27.03	46.00	18.97	
	8.323	26.83	0.98	27.81	50.00	22.19	
	26.139	26.32	1.83	28.15	50.00	21.85	
Neutral	0.150	45.90	0.32	46.22	66.00	19.78	QP
	0.249	37.78	0.35	38.13	61.78	23.65	
	0.408	32.52	0.44	32.96	57.68	24.72	
	3.074	30.25	0.66	30.91	56.00	25.09	
	9.654	28.43	1.01	29.44	60.00	30.56	
	26.139	35.04	1.89	36.93	60.00	23.07	
	0.150	34.35	0.32	34.67	56.00	21.33	AV
	0.249	27.15	0.35	27.50	51.78	24.28	
	0.408	22.15	0.44	22.59	47.68	25.09	
	3.074	20.15	0.66	20.81	46.00	25.19	
	9.654	15.47	1.01	16.48	50.00	33.52	
	26.139	23.16	1.89	25.05	50.00	24.95	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 2010

Test Mode : D-Sub 1680*1050@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.190	45.07	0.38	45.45	64.02	18.57	QP
	0.262	37.94	0.42	38.36	61.38	23.02	
	0.408	32.29	0.48	32.77	57.68	24.91	
	3.041	37.68	0.70	38.38	56.00	17.62	
	7.606	35.91	0.93	36.84	60.00	23.16	
	26.139	35.95	1.83	37.78	60.00	22.22	
	0.190	25.34	0.38	25.72	54.02	28.30	AV
	0.262	24.17	0.42	24.59	51.38	26.79	
	0.408	22.35	0.48	22.83	47.68	24.85	
	3.041	24.17	0.70	24.87	46.00	21.13	
	7.606	25.14	0.93	26.07	50.00	23.93	
	26.139	25.46	1.83	27.29	50.00	22.71	
Neutral	0.190	45.80	0.31	46.11	64.02	17.91	QP
	0.264	38.68	0.36	39.04	61.29	22.25	
	0.408	32.33	0.44	32.77	57.68	24.91	
	3.107	37.05	0.66	37.71	56.00	18.29	
	7.446	35.78	0.89	36.67	60.00	23.33	
	26.558	35.78	1.89	37.67	60.00	22.33	
	0.190	23.14	0.31	23.45	54.02	30.57	AV
	0.264	25.47	0.36	25.83	51.29	25.46	
	0.408	22.34	0.44	22.78	47.68	24.90	
	3.107	21.47	0.66	22.13	46.00	23.87	
	7.446	24.17	0.89	25.06	50.00	24.94	
	26.558	25.34	1.89	27.23	50.00	22.77	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 2010

Test Mode : D-Sub 1920*1080@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.192	45.80	0.38	46.18	63.93	17.75	QP
	0.256	38.07	0.42	38.49	61.56	23.07	
	0.408	31.91	0.48	32.39	57.68	25.29	
	2.931	36.89	0.69	37.58	56.00	18.42	
	7.368	35.34	0.92	36.26	60.00	23.74	
	26.139	35.11	1.83	36.94	60.00	23.06	
	0.192	25.47	0.38	25.85	53.93	28.08	AV
	0.256	25.17	0.42	25.59	51.56	25.97	
	0.408	21.48	0.48	21.96	47.68	25.72	
	2.931	23.14	0.69	23.83	46.00	22.17	
	7.368	25.13	0.92	26.05	50.00	23.95	
	26.139	24.16	1.83	25.99	50.00	24.01	
Neutral	0.190	44.42	0.31	44.73	64.02	19.29	QP
	0.256	38.53	0.35	38.88	61.56	22.68	
	0.413	32.37	0.45	32.82	57.59	24.77	
	3.173	31.56	0.66	32.22	56.00	23.78	
	9.757	28.09	1.01	29.10	60.00	30.90	
	26.139	34.86	1.89	36.75	60.00	23.25	
	0.190	30.25	0.31	30.56	54.02	23.46	AV
	0.256	25.14	0.35	25.49	51.56	26.07	
	0.413	23.15	0.45	23.60	47.59	23.99	
	3.173	21.47	0.66	22.13	46.00	23.87	
	9.757	12.64	1.01	13.65	50.00	36.35	
	26.139	24.14	1.89	26.03	50.00	23.97	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 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	0.150	43.76	0.37	44.13	66.00	21.87	QP
	0.259	34.52	0.42	34.94	61.47	26.53	
	0.413	30.28	0.49	30.77	57.59	26.82	
	3.173	36.88	0.71	37.59	56.00	18.41	
	7.446	35.77	0.92	36.69	60.00	23.31	
	26.139	37.30	1.83	39.13	60.00	20.87	
	0.150	33.15	0.37	33.52	56.00	22.48	AV
	0.259	24.87	0.42	25.29	51.47	26.18	
	0.413	20.57	0.49	21.06	47.59	26.53	
	3.173	26.57	0.71	27.28	46.00	18.72	
	7.446	25.17	0.92	26.09	50.00	23.91	
	26.139	27.45	1.83	29.28	50.00	20.72	
Neutral	0.150	45.35	0.32	45.67	66.00	20.33	QP
	0.234	35.19	0.34	35.53	62.30	26.77	
	0.413	29.34	0.45	29.79	57.59	27.80	
	3.107	29.88	0.66	30.54	56.00	25.46	
	8.729	29.54	0.96	30.50	60.00	29.50	
	26.139	35.52	1.89	37.41	60.00	22.59	
	0.150	35.21	0.32	35.53	56.00	20.47	AV
	0.234	25.83	0.34	26.17	52.30	26.13	
	0.413	19.24	0.45	19.69	47.59	27.90	
	3.107	19.35	0.66	20.01	46.00	25.99	
	8.729	19.47	0.96	20.43	50.00	29.57	
	26.139	25.63	1.89	27.52	50.00	22.48	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 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	0.150	43.94	0.37	44.31	66.00	21.69	QP
	0.259	34.94	0.42	35.36	61.47	26.11	
	0.413	30.62	0.49	31.11	57.59	26.48	
	2.900	36.93	0.69	37.62	56.00	18.38	
	7.329	37.34	0.92	38.26	60.00	21.74	
	26.139	36.58	1.83	38.41	60.00	21.59	
	0.150	33.90	0.37	34.27	56.00	21.73	AV
	0.259	24.89	0.42	25.31	51.47	26.16	
	0.413	20.38	0.49	20.87	47.59	26.72	
	2.900	26.59	0.69	27.28	46.00	18.72	
	7.329	27.66	0.92	28.58	50.00	21.42	
	26.139	26.84	1.83	28.67	50.00	21.33	
Neutral	0.153	43.16	0.32	43.48	65.82	22.34	QP
	0.252	36.49	0.35	36.84	61.69	24.85	
	0.413	30.27	0.45	30.72	57.59	26.87	
	3.041	30.26	0.66	30.92	56.00	25.08	
	9.552	29.12	1.01	30.13	60.00	29.87	
	26.139	35.73	1.89	37.62	60.00	22.38	
	0.153	33.58	0.32	33.90	55.82	21.92	AV
	0.252	26.38	0.35	26.73	51.69	24.96	
	0.413	20.21	0.45	20.66	47.59	26.93	
	3.041	20.58	0.66	21.24	46.00	24.76	
	9.552	19.32	1.01	20.33	50.00	29.67	
	26.139	25.34	1.89	27.23	50.00	22.77	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 2010

Test Mode : DVI 1680*1050@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	43.77	0.37	44.14	66.00	21.86	QP
	0.259	34.72	0.42	35.14	61.47	26.33	
	0.408	29.82	0.48	30.30	57.68	27.38	
	3.107	36.88	0.70	37.58	56.00	18.42	
	7.446	35.45	0.92	36.37	60.00	23.63	
	26.139	36.49	1.83	38.32	60.00	21.68	
	0.150	33.12	0.37	33.49	56.00	22.51	AV
	0.259	24.15	0.42	24.57	51.47	26.90	
	0.408	19.26	0.48	19.74	47.68	27.94	
	3.107	26.45	0.70	27.15	46.00	18.85	
	7.446	25.61	0.92	26.53	50.00	23.47	
	26.139	26.74	1.83	28.57	50.00	21.43	
Neutral	0.155	43.43	0.32	43.75	65.74	21.99	QP
	0.253	36.06	0.35	36.41	61.64	25.23	
	0.413	29.97	0.45	30.42	57.59	27.17	
	2.993	31.58	0.65	32.23	56.00	23.77	
	9.552	28.50	1.01	29.51	60.00	30.49	
	26.139	35.58	1.89	37.47	60.00	22.53	
	0.155	33.24	0.32	33.56	55.74	22.18	AV
	0.253	26.45	0.35	26.80	51.64	24.84	
	0.413	19.25	0.45	19.70	47.59	27.89	
	2.993	21.84	0.65	22.49	46.00	23.51	
	9.552	18.24	1.01	19.25	50.00	30.75	
	26.139	25.17	1.89	27.06	50.00	22.94	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 2010

Test Mode : DVI 1920*1080@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	44.11	0.37	44.48	66.00	21.52	QP
	0.262	35.40	0.42	35.82	61.38	25.56	
	0.413	30.00	0.49	30.49	57.59	27.10	
	3.041	36.30	0.70	37.00	56.00	19.00	
	9.552	35.47	1.04	36.51	60.00	23.49	
	26.139	37.07	1.83	38.90	60.00	21.10	
	0.150	34.12	0.37	34.49	56.00	21.51	AV
	0.262	25.32	0.42	25.74	51.38	25.64	
	0.413	19.32	0.49	19.81	47.59	27.78	
	3.041	26.34	0.70	27.04	46.00	18.96	
	9.552	25.31	1.04	26.35	50.00	23.65	
	26.139	27.13	1.83	28.96	50.00	21.04	
Neutral	0.152	44.24	0.32	44.56	65.91	21.35	QP
	0.273	36.92	0.36	37.28	61.03	23.75	
	0.413	29.48	0.45	29.93	57.59	27.66	
	2.012	29.52	0.58	30.10	56.00	25.90	
	9.552	29.92	1.01	30.93	60.00	29.07	
	26.139	36.98	1.89	38.87	60.00	21.13	
	0.152	34.26	0.32	34.58	55.91	21.33	AV
	0.273	26.55	0.36	26.91	51.03	24.12	
	0.413	19.25	0.45	19.70	47.59	27.89	
	2.012	19.37	0.58	19.95	46.00	26.05	
	9.552	19.35	1.01	20.36	50.00	29.64	
	26.139	26.34	1.89	28.23	50.00	21.77	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 2010

Test Mode : HDMI 480P

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	44.17	0.37	44.54	66.00	21.46	QP
	0.259	36.98	0.42	37.40	61.47	24.07	
	0.413	30.68	0.49	31.17	57.59	26.42	
	3.107	37.18	0.70	37.88	56.00	18.12	
	7.687	35.29	0.93	36.22	60.00	23.78	
	26.139	36.97	1.83	38.80	60.00	21.20	
	0.150	34.17	0.37	34.54	56.00	21.46	AV
	0.259	26.58	0.42	27.00	51.47	24.47	
	0.413	20.85	0.49	21.34	47.59	26.25	
	3.107	27.19	0.70	27.89	46.00	18.11	
	7.687	25.95	0.93	26.88	50.00	23.12	
	26.139	26.74	1.83	28.57	50.00	21.43	
Neutral	0.150	44.82	0.32	45.14	66.00	20.86	QP
	0.252	38.09	0.35	38.44	61.69	23.25	
	0.408	29.78	0.44	30.22	57.68	27.46	
	2.066	29.97	0.58	30.55	56.00	25.45	
	9.552	29.17	1.01	30.18	60.00	29.82	
	26.139	35.88	1.89	37.77	60.00	22.23	
	0.150	34.82	0.32	35.14	56.00	20.86	AV
	0.252	28.49	0.35	28.84	51.69	22.85	
	0.408	19.56	0.44	20.00	47.68	27.68	
	2.066	19.38	0.58	19.96	46.00	26.04	
	9.552	19.36	1.01	20.37	50.00	29.63	
	26.139	26.56	1.89	28.45	50.00	21.55	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 2010

Test Mode : HDMI 720P

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	44.89	0.37	45.26	66.00	20.74	QP
	0.253	35.45	0.42	35.87	61.64	25.77	
	0.413	30.23	0.49	30.72	57.59	26.87	
	3.107	37.25	0.70	37.95	56.00	18.05	
	7.687	36.06	0.93	36.99	60.00	23.01	
	26.139	36.62	1.83	38.45	60.00	21.55	
	0.150	34.25	0.37	34.62	56.00	21.38	AV
	0.253	25.87	0.42	26.29	51.64	25.35	
	0.413	20.58	0.49	21.07	47.59	26.52	
	3.107	27.19	0.70	27.89	46.00	18.11	
	7.687	26.85	0.93	27.78	50.00	22.22	
	26.139	26.37	1.83	28.20	50.00	21.80	
Neutral	0.150	44.86	0.32	45.18	66.00	20.82	QP
	0.256	38.10	0.35	38.45	61.56	23.11	
	0.413	30.06	0.45	30.51	57.59	27.08	
	2.178	29.18	0.60	29.78	56.00	26.22	
	8.729	28.01	0.96	28.97	60.00	31.03	
	26.418	35.76	1.89	37.65	60.00	22.35	
	0.150	34.85	0.32	35.17	56.00	20.83	AV
	0.256	28.97	0.35	29.32	51.56	22.24	
	0.413	20.84	0.45	21.29	47.59	26.30	
	2.178	19.00	0.60	19.60	46.00	26.40	
	8.729	18.24	0.96	19.20	50.00	30.80	
	26.418	26.84	1.89	28.73	50.00	21.27	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 48%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 23, 2010

Test Mode : HDMI 1080P

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	43.14	0.37	43.51	66.00	22.49	QP
	0.249	35.71	0.42	36.13	61.78	25.65	
	0.413	29.62	0.49	30.11	57.59	27.48	
	3.173	35.79	0.71	36.50	56.00	19.50	
	8.729	35.80	0.99	36.79	60.00	23.21	
	26.139	36.55	1.83	38.38	60.00	21.62	
	0.150	33.58	0.37	33.95	56.00	22.05	AV
	0.249	25.36	0.42	25.78	51.78	26.00	
	0.413	19.37	0.49	19.86	47.59	27.73	
	3.173	25.75	0.71	26.46	46.00	19.54	
	8.729	25.88	0.99	26.87	50.00	23.13	
	26.139	26.83	1.83	28.66	50.00	21.34	
Neutral	0.150	44.40	0.32	44.72	66.00	21.28	QP
	0.273	36.50	0.36	36.86	61.03	24.17	
	0.413	29.22	0.45	29.67	57.59	27.92	
	3.107	31.12	0.66	31.78	56.00	24.22	
	9.552	28.28	1.01	29.29	60.00	30.71	
	26.139	34.97	1.89	36.86	60.00	23.14	
	0.150	34.82	0.32	35.14	56.00	20.86	AV
	0.273	26.55	0.36	26.91	51.03	24.12	
	0.413	19.48	0.45	19.93	47.59	27.66	
	3.107	21.48	0.66	22.14	46.00	23.86	
	9.552	18.53	1.01	19.54	50.00	30.46	
	26.139	24.76	1.89	26.65	50.00	23.35	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

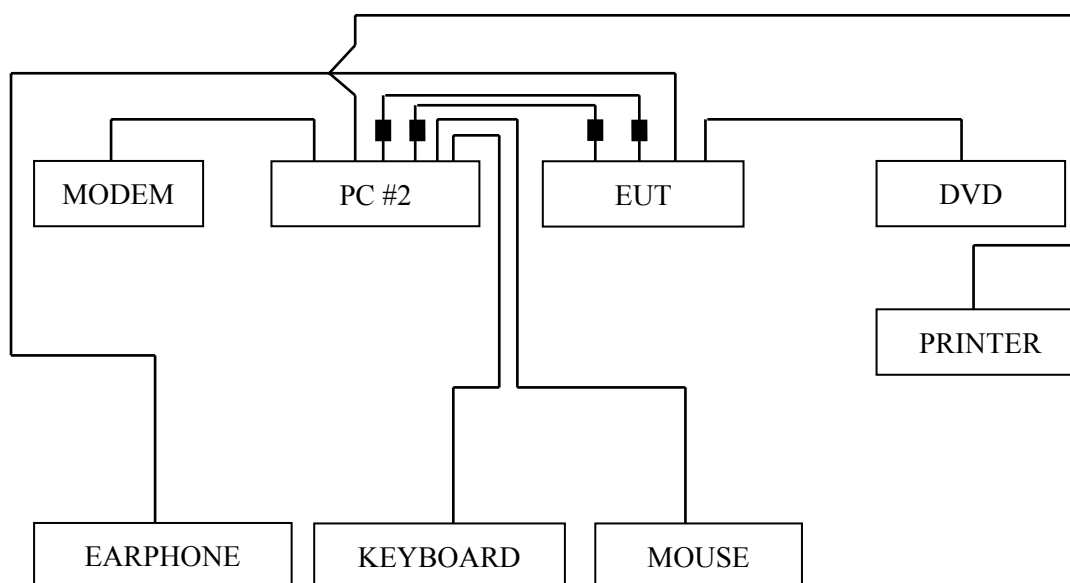
4.1 Test Equipment

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, 2009	Dec 01, 2010
5.	Spectrum	Agilent	E7405A	MY45106600	May 19, 2010	May 19, 2011
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

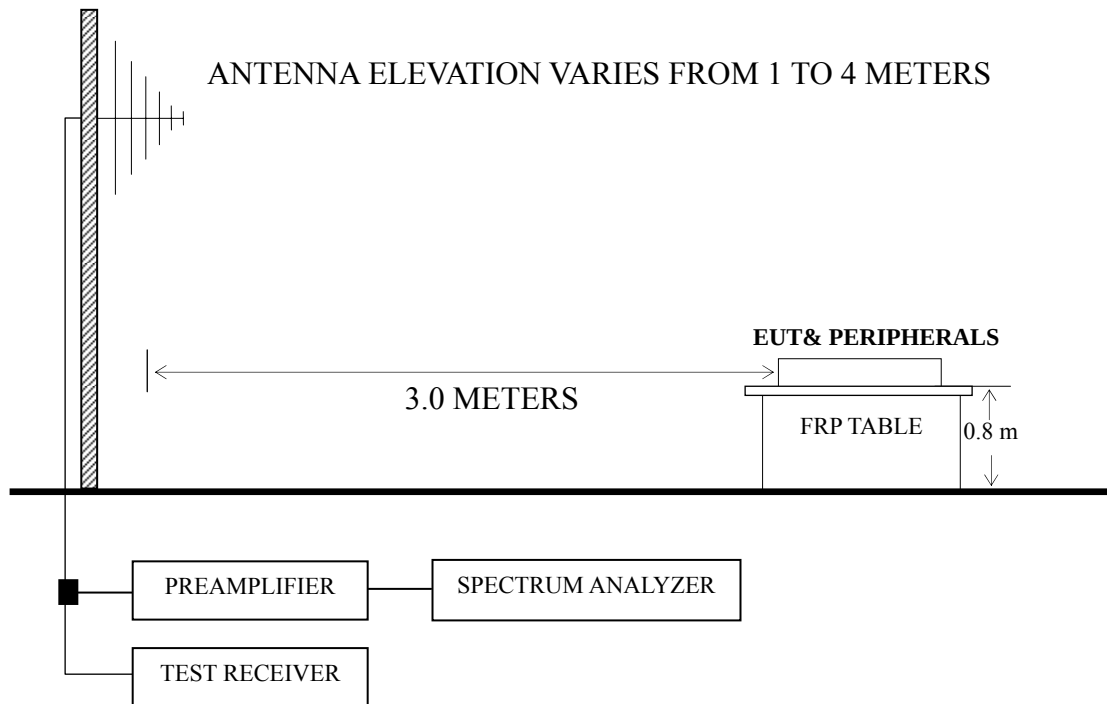
4.2 Block Diagram of Test Setup

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, 1680*1050@60Hz and 1920*1080@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	Page
D-Sub 640*480@60Hz	P27
D-Sub 1280*1024@75Hz	P28 – P29
D-Sub 1680*1050@60Hz	P30 – P31
D-Sub 1920*1080@60Hz	P32 – P33
DVI 640*480@60Hz	P34
DVI 1280*1024@75Hz	P35 – P36
DVI 1680*1050@60Hz	P37 – P38
DVI 1920*1080@60Hz	P39 – P40
HDMI 480P	P41
HDMI 720P	P42
HDMI 1080P	P43

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 881.400 MHz with corrected signal level of 42.93 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 881.660 MHz with corrected signal level of 43.87 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 250° .

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 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	39.700	7.84	14.08	0.72	22.64	40.00	17.36
	68.800	16.98	6.51	0.89	24.38	40.00	15.62
	153.190	24.96	11.04	1.25	37.25	43.50	6.25
	231.760	20.80	12.20	1.55	34.55	46.00	11.45
	534.400	11.01	18.36	2.33	31.70	46.00	14.30
	806.000	17.68	20.77	2.90	41.35	46.00	4.65
Vertical	38.730	21.38	14.62	0.71	36.71	40.00	3.29
	66.860	21.72	6.53	0.88	29.13	40.00	10.87
	147.370	25.27	11.51	1.23	38.01	43.50	5.49
	306.450	20.21	14.07	1.78	36.06	46.00	9.94
	515.000	15.49	18.09	2.29	35.87	46.00	10.13
	872.930	16.08	21.46	2.98	40.52	46.00	5.48

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 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	39.700	7.83	14.08	0.72	--	22.63	40.00	17.37	QP
	69.770	17.24	6.50	0.89	--	24.63	40.00	15.37	
	146.400	23.95	11.61	1.23	--	36.79	43.50	6.71	
	349.130	14.25	15.29	1.91	--	31.45	46.00	14.55	
	715.790	9.77	19.85	2.72		32.34	46.00	13.66	
	806.000	16.95	20.77	2.90	--	40.62	46.00	5.38	
	1041.000	55.32	22.69	4.49	37.33	45.17	74.00	28.83	PK
	1201.000	54.87	23.74	4.51	37.00	46.12	74.00	27.88	
	1334.000	54.86	24.78	4.53	36.71	47.46	74.00	26.54	
	1467.000	54.89	25.60	4.55	36.36	48.68	74.00	25.32	
	1797.000	53.70	26.90	4.58	35.81	49.37	74.00	24.63	
	1880.000	51.63	27.35	4.67	35.72	47.93	74.00	26.07	
	1041.000	42.32	22.69	4.49	37.33	32.17	54.00	21.83	AV
	1201.000	41.87	23.74	4.51	37.00	33.12	54.00	20.88	
	1334.000	33.86	24.78	4.53	36.71	26.46	54.00	27.54	
	1467.000	43.89	25.60	4.55	36.36	37.68	54.00	16.32	
	1797.000	43.70	26.90	4.58	35.81	39.37	54.00	14.63	
	1880.000	40.63	27.35	4.67	35.72	36.93	54.00	17.07	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 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	38.730	22.02	14.62	0.71	--	37.35	40.00	2.65	QP
	94.020	16.43	10.27	1.02	--	27.72	43.50	15.78	
	153.190	17.02	11.04	1.25	--	29.31	43.50	14.19	
	279.290	18.60	13.52	1.70	--	33.82	46.00	12.18	
	512.090	9.96	18.06	2.29	--	30.31	46.00	15.69	
	878.750	13.91	21.49	3.00	--	38.40	46.00	7.60	
	1031.000	49.82	22.60	4.49	37.34	39.57	74.00	34.43	PK
	1125.000	49.35	23.27	4.50	37.16	39.96	74.00	34.04	
	1200.000	49.51	23.70	4.51	37.00	40.72	74.00	33.28	
	1333.000	47.06	24.74	4.53	36.71	39.62	74.00	34.38	
	1498.000	51.44	25.80	4.55	36.30	45.49	74.00	28.51	
	1600.000	50.50	26.40	4.56	36.10	45.36	74.00	28.64	
	1031.000	34.82	22.60	4.49	37.34	24.57	54.00	29.43	AV
	1125.000	36.35	23.27	4.50	37.16	26.96	54.00	27.04	
	1200.000	36.51	23.70	4.51	37.00	27.72	54.00	26.28	
	1333.000	35.06	24.74	4.53	36.71	27.62	54.00	26.38	
	1498.000	39.44	25.80	4.55	36.30	33.49	54.00	20.51	
	1600.000	37.50	26.40	4.56	36.10	32.36	54.00	21.64	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : D-Sub 1680*1050@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	39.700	5.55	14.08	0.72	--	20.35	40.00	19.65	QP
	92.080	7.53	9.82	1.00	--	18.35	43.50	25.15	
	141.550	20.15	12.01	1.21	--	33.37	43.50	10.13	
	263.770	15.93	13.20	1.65	--	30.78	46.00	15.22	
	515.000	7.94	18.09	2.29	--	28.32	46.00	17.68	
	806.000	10.69	20.77	2.90	--	34.36	46.00	11.64	
	1041.000	44.32	22.69	4.49	37.33	34.17	74.00	39.83	PK
	1201.000	43.87	23.74	4.51	37.00	35.12	74.00	38.88	
	1393.000	43.61	25.16	4.54	36.55	36.76	74.00	37.24	
	1500.000	42.44	25.80	4.55	36.30	36.49	74.00	37.51	
	1716.000	43.00	26.71	4.57	35.92	38.36	74.00	35.64	
	1797.000	42.70	26.90	4.58	35.81	38.37	74.00	35.63	
	1041.000	33.32	22.69	4.49	37.33	23.17	54.00	30.83	AV
	1201.000	28.87	23.74	4.51	37.00	20.12	54.00	33.88	
	1393.000	26.61	25.16	4.54	36.55	19.76	54.00	34.24	
	1500.000	29.44	25.80	4.55	36.30	23.49	54.00	30.51	
	1716.000	34.00	26.71	4.57	35.92	29.36	54.00	24.64	
	1797.000	30.70	26.90	4.58	35.81	26.37	54.00	27.63	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : D-Sub 1680*1050@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
Vertical	33.880	16.77	17.44	0.67	--	34.88	40.00	5.12	QP
	52.310	18.59	8.41	0.79	--	27.79	40.00	12.21	
	107.600	21.38	12.10	1.07	--	34.55	43.50	8.95	
	215.270	14.86	11.39	1.50	--	27.75	43.50	15.75	
	492.690	15.92	17.80	2.25	--	35.97	46.00	10.03	
	878.750	15.11	21.49	3.00	--	39.60	46.00	6.40	
	1044.000	51.62	22.69	4.49	37.32	41.48	74.00	32.52	PK
	1200.000	51.51	23.70	4.51	37.00	42.72	74.00	31.28	
	1333.000	49.06	24.74	4.53	36.71	41.62	74.00	32.38	
	1600.000	52.50	26.40	4.56	36.10	47.36	74.00	26.64	
	1799.000	49.35	26.90	4.58	35.81	45.02	74.00	28.98	
	1921.000	46.54	27.60	4.72	35.68	43.18	74.00	30.82	
	1044.000	40.62	22.69	4.49	37.32	30.48	54.00	23.52	AV
	1200.000	35.51	23.70	4.51	37.00	26.72	54.00	27.28	
	1333.000	30.06	24.74	4.53	36.71	22.62	54.00	31.38	
	1600.000	33.50	26.40	4.56	36.10	28.36	54.00	25.64	
	1799.000	39.35	26.90	4.58	35.81	35.02	54.00	18.98	
	1921.000	36.54	27.60	4.72	35.68	33.18	54.00	20.82	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : D-Sub 1920*1080@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	39.700	9.90	14.08	0.72	--	24.70	40.00	15.30	QP
	69.770	20.65	6.50	0.89	--	28.04	40.00	11.96	
	146.400	25.91	11.61	1.23	--	38.75	43.50	4.75	
	303.540	16.58	14.00	1.78	--	32.36	46.00	13.64	
	513.060	12.18	18.06	2.29	--	32.53	46.00	13.47	
	806.000	16.99	20.77	2.90	--	40.66	46.00	5.34	
	1041.000	50.32	22.69	4.49	37.33	40.17	74.00	33.83	PK
	1201.000	49.87	23.74	4.51	37.00	41.12	74.00	32.88	
	1334.000	49.86	24.78	4.53	36.71	42.46	74.00	31.54	
	1467.000	49.89	25.60	4.55	36.36	43.68	74.00	30.32	
	1600.000	51.16	26.40	4.56	36.10	46.02	74.00	27.98	
	1716.000	49.00	26.71	4.57	35.92	44.36	74.00	29.64	
	1041.000	38.32	22.69	4.49	37.33	28.17	54.00	25.83	AV
	1201.000	33.87	23.74	4.51	37.00	25.12	54.00	28.88	
	1334.000	37.86	24.78	4.53	36.71	30.46	54.00	23.54	
	1467.000	37.89	25.60	4.55	36.36	31.68	54.00	22.32	
	1600.000	41.16	26.40	4.56	36.10	36.02	54.00	17.98	
	1716.000	39.00	26.71	4.57	35.92	34.36	54.00	19.64	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : D-Sub 1920*1080@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
Vertical	38.730	21.95	14.62	0.71	--	37.28	40.00	2.72	QP
	60.070	20.10	6.60	0.84	--	27.54	40.00	12.46	
	131.850	20.32	12.42	1.18	--	33.92	43.50	9.58	
	215.270	15.42	11.39	1.50	--	28.31	43.50	15.19	
	364.650	15.28	15.73	1.96	--	32.97	46.00	13.03	
	856.440	12.21	21.28	2.97	--	36.46	46.00	9.54	
	1125.000	52.35	23.27	4.50	37.16	42.96	74.00	31.04	PK
	1233.000	50.07	23.98	4.52	36.94	41.63	74.00	32.37	
	1286.000	50.80	24.40	4.53	36.82	42.91	74.00	31.09	
	1396.000	49.57	25.16	4.54	36.55	42.72	74.00	31.28	
	1600.000	53.50	26.40	4.56	36.10	48.36	74.00	25.64	
	1794.000	49.57	26.88	4.58	35.82	45.21	74.00	28.79	
	1125.000	40.35	23.27	4.50	37.16	30.96	54.00	23.04	AV
	1233.000	40.07	23.98	4.52	36.94	31.63	54.00	22.37	
	1286.000	38.80	24.40	4.53	36.82	30.91	54.00	23.09	
	1396.000	38.57	25.16	4.54	36.55	31.72	54.00	22.28	
	1600.000	45.50	26.40	4.56	36.10	40.36	54.00	13.64	
	1794.000	41.57	26.88	4.58	35.82	37.21	54.00	16.79	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 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	40.670	9.18	13.62	0.72	23.52	40.00	16.48
	89.170	18.92	9.24	0.99	29.15	43.50	14.35
	179.380	27.44	9.92	1.37	38.73	43.50	4.77
	540.000	15.70	18.42	2.33	36.45	46.00	9.55
	809.900	16.41	20.80	2.90	40.11	46.00	5.89
	870.020	18.56	21.42	2.98	42.96	46.00	3.04
Vertical	39.700	22.39	14.08	0.72	37.19	40.00	2.81
	67.830	22.11	6.52	0.88	29.51	40.00	10.49
	179.380	24.91	9.92	1.37	36.20	43.50	7.30
	358.830	25.68	15.57	1.95	43.20	46.00	2.80
	540.000	21.20	18.42	2.33	41.95	46.00	4.05
	809.880	16.33	20.80	2.90	40.03	46.00	5.97

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 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	40.670	6.95	13.62	0.72	--	21.29	40.00	18.71	QP
	69.770	16.66	6.50	0.89	--	24.05	40.00	15.95	
	132.820	19.08	12.40	1.18	--	32.66	43.50	10.84	
	224.970	20.63	11.89	1.53	--	34.05	46.00	11.95	
	368.530	11.44	15.81	1.98	--	29.23	46.00	16.77	
	881.400	18.40	21.53	3.00	--	42.93	46.00	3.07	
	1075.000	50.82	25.21	4.50	37.26	43.27	74.00	30.73	PK
	1180.000	50.20	25.71	4.51	37.05	43.37	74.00	30.63	
	1365.000	50.94	26.59	4.54	36.62	45.45	74.00	28.55	
	1465.000	45.89	26.90	4.55	36.37	40.97	74.00	33.03	
	1665.000	45.06	27.14	4.57	36.00	40.77	74.00	33.23	
	1760.000	47.87	27.23	4.58	35.86	43.82	74.00	30.18	
	1075.000	45.82	25.21	4.50	37.26	38.27	54.00	15.73	AV
	1180.000	37.20	25.71	4.51	37.05	30.37	54.00	23.63	
	1365.000	37.94	26.59	4.54	36.62	32.45	54.00	21.55	
	1465.000	28.89	26.90	4.55	36.37	23.97	54.00	30.03	
	1665.000	37.06	27.14	4.57	36.00	32.77	54.00	21.23	
	1760.000	36.87	27.23	4.58	35.86	32.82	54.00	21.18	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 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	40.670	21.72	13.62	0.72	--	36.06	40.00	3.94	QP
	67.830	21.49	6.52	0.88	--	28.89	40.00	11.11	
	154.160	24.84	10.94	1.26	--	37.04	43.50	6.46	
	300.630	18.50	13.93	1.77	--	34.20	46.00	11.80	
	516.940	17.04	18.12	2.29	--	37.45	46.00	8.55	
	881.660	19.34	21.53	3.00	--	43.87	46.00	2.13	
	1080.000	53.23	25.24	4.50	37.25	45.72	74.00	28.28	PK
	1185.000	54.36	25.74	4.51	37.04	47.57	74.00	26.43	
	1315.000	50.23	26.39	4.53	36.75	44.40	74.00	29.60	
	1600.000	48.55	27.08	4.56	36.10	44.09	74.00	29.91	
	1760.000	46.77	27.23	4.58	35.86	42.72	74.00	31.28	
	1985.000	39.32	27.39	4.78	35.62	35.87	74.00	38.13	
	1080.000	47.23	25.24	4.50	37.25	39.72	54.00	14.28	AV
	1185.000	40.36	25.74	4.51	37.04	33.57	54.00	20.43	
	1315.000	33.23	26.39	4.53	36.75	27.40	54.00	26.60	
	1600.000	34.55	27.08	4.56	36.10	30.09	54.00	23.91	
	1760.000	32.77	27.23	4.58	35.86	28.72	54.00	25.28	
	1985.000	30.32	27.39	4.78	35.62	26.87	54.00	27.13	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : DVI 1680*1050@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	31.940	-0.80	18.49	0.65	--	18.34	40.00	21.66	QP
	62.010	20.47	6.58	0.85	--	27.90	40.00	12.10	
	139.610	21.65	12.12	1.21	--	34.98	43.50	8.52	
	216.240	29.08	11.43	1.50	--	42.01	46.00	3.99	
	420.910	20.05	16.79	2.10	--	38.94	46.00	7.06	
	701.240	16.21	19.70	2.67	--	38.58	46.00	7.42	
	1075.000	47.82	25.21	4.50	37.26	40.27	74.00	33.73	PK
	1250.000	44.58	26.08	4.52	36.90	38.28	74.00	35.72	
	1365.000	43.94	26.59	4.54	36.62	38.45	74.00	35.55	
	1520.000	35.65	27.02	4.55	36.24	30.98	74.00	43.02	
	1665.000	38.06	27.14	4.57	36.00	33.77	74.00	40.23	
	1760.000	39.87	27.23	4.58	35.86	35.82	74.00	38.18	
	1075.000	41.82	25.21	4.50	37.26	34.27	54.00	19.73	AV
	1250.000	32.58	26.08	4.52	36.90	26.28	54.00	27.72	
	1365.000	27.94	26.59	4.54	36.62	22.45	54.00	31.55	
	1520.000	21.65	27.02	4.55	36.24	16.98	54.00	37.02	
	1665.000	27.06	27.14	4.57	36.00	22.77	54.00	31.23	
	1760.000	29.87	27.23	4.58	35.86	25.82	54.00	28.18	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : DVI 1680*1050@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
Vertical	32.910	14.11	17.95	0.66	--	32.72	40.00	7.28	QP
	67.830	21.03	6.52	0.88	--	28.43	40.00	11.57	
	139.610	26.12	12.12	1.21	--	39.45	43.50	4.05	
	290.930	16.81	13.75	1.74	--	32.30	46.00	13.70	
	515.000	14.19	18.09	2.29	--	34.57	46.00	11.43	
	870.990	16.64	21.42	2.98	--	41.04	46.00	4.96	
	1080.000	50.23	25.24	4.50	37.25	42.72	74.00	31.28	PK
	1185.000	49.36	25.74	4.51	37.04	42.57	74.00	31.43	
	1315.000	49.23	26.39	4.53	36.75	43.40	74.00	30.60	
	1500.000	45.93	27.00	4.55	36.30	41.18	74.00	32.82	
	1600.000	51.55	27.08	4.56	36.10	47.09	74.00	26.91	
	1760.000	52.77	27.23	4.58	35.86	48.72	74.00	25.28	
	1080.000	40.23	25.24	4.50	37.25	32.72	54.00	21.28	AV
	1185.000	35.36	25.74	4.51	37.04	28.57	54.00	25.43	
	1315.000	37.23	26.39	4.53	36.75	31.40	54.00	22.60	
	1500.000	36.93	27.00	4.55	36.30	32.18	54.00	21.82	
	1600.000	38.55	27.08	4.56	36.10	34.09	54.00	19.91	
	1760.000	44.77	27.23	4.58	35.86	40.72	54.00	13.28	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : DVI 1920*1080@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	40.670	7.21	13.62	0.72	--	21.55	40.00	18.45	QP
	67.830	16.19	6.52	0.88	--	23.59	40.00	16.41	
	146.400	24.15	11.61	1.23	--	36.99	43.50	6.51	
	265.710	18.76	13.22	1.65	--	33.63	46.00	12.37	
	559.620	11.84	18.72	2.38	--	32.94	46.00	13.06	
	826.370	18.88	20.98	2.93	--	42.79	46.00	3.21	
	1075.000	53.82	25.21	4.50	37.26	46.27	74.00	27.73	PK
	1250.000	51.58	26.08	4.52	36.90	45.28	74.00	28.72	
	1365.000	52.94	26.59	4.54	36.62	47.45	74.00	26.55	
	1595.000	49.76	27.08	4.56	36.11	45.29	74.00	28.71	
	1720.000	47.47	27.19	4.57	35.92	43.31	74.00	30.69	
	1850.000	46.84	27.30	4.64	35.75	43.03	74.00	30.97	
	1075.000	47.82	25.21	4.50	37.26	40.27	54.00	13.73	AV
	1250.000	36.58	26.08	4.52	36.90	30.28	54.00	23.72	
	1365.000	36.94	26.59	4.54	36.62	31.45	54.00	22.55	
	1595.000	37.76	27.08	4.56	36.11	33.29	54.00	20.71	
	1720.000	37.47	27.19	4.57	35.92	33.31	54.00	20.69	
	1850.000	36.84	27.30	4.64	35.75	33.03	54.00	20.97	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : DVI 1920*1080@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
Vertical	32.910	15.77	17.95	0.66	--	34.38	40.00	5.62	QP
	67.830	22.20	6.52	0.88	--	29.60	40.00	10.40	
	132.820	21.59	12.40	1.18	--	35.17	43.50	8.33	
	291.900	15.50	13.77	1.74	--	31.01	46.00	14.99	
	511.120	18.20	18.04	2.29	--	38.53	46.00	7.47	
	838.980	17.75	21.09	2.95	--	41.79	46.00	4.21	
	1080.000	49.23	25.24	4.50	37.25	41.72	74.00	32.28	PK
	1185.000	49.36	25.74	4.51	37.04	42.57	74.00	31.43	
	1315.000	52.23	26.39	4.53	36.75	46.40	74.00	27.60	
	1520.000	43.62	27.02	4.55	36.24	38.95	74.00	35.05	
	1600.000	48.55	27.08	4.56	36.10	44.09	74.00	29.91	
	1760.000	51.77	27.23	4.58	35.86	47.72	74.00	26.28	
	1080.000	45.23	25.24	4.50	37.25	37.72	54.00	16.28	AV
	1185.000	37.36	25.74	4.51	37.04	30.57	54.00	23.43	
	1315.000	39.23	26.39	4.53	36.75	33.40	54.00	20.60	
	1520.000	32.62	27.02	4.55	36.24	27.95	54.00	26.05	
	1600.000	38.55	27.08	4.56	36.10	34.09	54.00	19.91	
	1760.000	39.77	27.23	4.58	35.86	35.72	54.00	18.28	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : HDMI 480P

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	39.700	21.37	14.08	0.72	36.17	40.00	3.83
	89.170	15.25	9.24	0.99	25.48	43.50	18.02
	260.860	15.92	13.13	1.64	30.69	46.00	15.31
	399.570	11.11	16.50	2.06	29.67	46.00	16.33
	759.440	13.76	20.30	2.82	36.88	46.00	9.12
	878.750	14.76	21.49	3.00	39.25	46.00	6.75
Vertical	39.700	5.94	14.08	0.72	20.74	40.00	19.26
	66.860	12.05	6.53	0.88	19.46	40.00	20.54
	141.550	17.25	12.01	1.21	30.47	43.50	13.03
	266.680	21.78	13.25	1.66	36.69	46.00	9.31
	399.570	10.32	16.50	2.06	28.88	46.00	17.12
	759.440	18.94	20.30	2.82	42.06	46.00	3.94

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : HDMI 720P

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	38.730	19.64	14.62	0.71	34.97	40.00	5.03
	68.800	18.80	6.51	0.89	26.20	40.00	13.80
	139.610	23.64	12.12	1.21	36.97	43.50	6.53
	262.800	17.64	13.17	1.65	32.46	46.00	13.54
	493.660	9.36	17.83	2.25	29.44	46.00	16.56
	870.990	11.88	21.42	2.98	36.28	46.00	9.72
Vertical	40.670	7.21	13.62	0.72	21.55	40.00	18.45
	68.800	13.48	6.51	0.89	20.88	40.00	19.12
	144.460	25.12	11.76	1.22	38.10	43.50	5.40
	266.680	20.45	13.25	1.66	35.36	46.00	10.64
	500.450	10.56	17.90	2.26	30.72	46.00	15.28
	806.000	13.27	20.77	2.90	36.94	46.00	9.06

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : E2441VX Humidity : 60%RH

Serial No. : 010NDVWGT503 Date of Test : Nov 19, 2010

Test Mode : HDMI 1080P

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	40.670	18.83	13.62	0.72	33.17	40.00	6.83
	67.830	21.16	6.52	0.88	28.56	40.00	11.44
	146.400	21.55	11.61	1.23	34.39	43.50	9.11
	290.930	23.44	13.75	1.74	38.93	46.00	7.07
	526.640	8.21	18.24	2.32	28.77	46.00	17.23
	878.750	12.44	21.49	3.00	36.93	46.00	9.07
Vertical	39.700	6.75	14.08	0.72	21.55	40.00	18.45
	76.560	15.27	7.36	0.93	23.56	40.00	16.44
	141.550	26.87	12.01	1.21	40.09	43.50	3.41
	266.680	18.36	13.25	1.66	33.27	46.00	12.73
	496.570	10.16	17.85	2.26	30.27	46.00	15.73
	759.440	10.34	20.30	2.82	33.46	46.00	12.54

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 (mm)	Manufacturer	Location
Tape	T-308	50*30	DAEHUNG SUBSIDIARY MATERIALS.	See Internal Photos Figure 12, 13, 14
Sponge	LG END 3940TKK043C	90mm*10mm*2 mm	EXPAN Elactronics SuZhou co.,Ltd	See Internal Photos Figure 15

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)