

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

LCD Monitor

Model No.: IPS234VA

Serial No.: E1203241-01/01

FCC ID : BEJIPS234VA

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 and 4F 34Bldg 680 Guiping Rd,
Caohejing Hi-Tech Park,
Shanghai 200233, China

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

Report No. : ACI-F12040
Date of Test : Mar 07 – 10, 2012
Date of Report : Mar 14, 2012

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.....	8
2.4 Measurement Uncertainty.....	8
3 CONDUCTED EMISSION TEST.....	9
3.1 Test Equipment.....	9
3.2 Block Diagram of Test Setup.....	9
3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)].....	10
3.4 Test Configuration.....	10
3.5 Operating Condition of EUT.....	11
3.6 Test Procedures.....	12
3.7 Test Results.....	12
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)].....	25
4.4 Test Configuration.....	25
4.5 Operating Condition of EUT.....	25
4.6 Test Procedures.....	26
4.7 Test Results.....	27
5 DEVIATION TO TEST SPECIFICATIONS.....	42

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. : IPS234VA
(B) Serial No. : E1203241-01/01
(C) Power Supply : 120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2010
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.

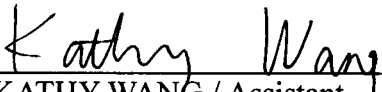
The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report shows that the EUT (M/N: IPS234VA; S/N: E1203241-01/01) which was tested in 3m anechoic chamber Mar 07 – 10, 2012 is technically compliance with the FCC official limits also.

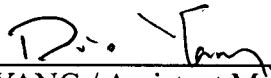
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

This report contains data that are not covered by the NVLAP accreditation.

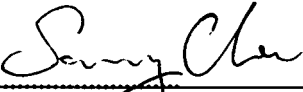
This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

Date of Test : Mar 07 – 10, 2012 Date of Report : Mar 14, 2012

Producer : 
KATHY WANG / Assistant

Review : 
DIO YANG / Assistant Manager

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

Signatory : 
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 2010 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2010 AND ANSI C63.4-2003	15.109(a) Class B	Pass

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	: LCD Monitor
Model No.	: IPS234VA
Serial No.	: E1203241-01/01
Real Power	: 24.60W (Adapter #1) 24.60W (Adapter #2) 24.90W (Adapter #3) 24.80W (Adapter #4)
AC Adapter #1	: Manufacturer : LIEN CHANG Model Number : LCAP21A Input : 100-240V~, 50-60Hz 1.1A Output : 19V  1.7A Output Cable : Unshielded, Undetachable, 1.8m, with one core
AC Adapter #2	: Manufacturer : HONOR Model Number : ADS-40SG-19-3 19032G Input : 100-240V~, 50-60Hz 1.0A Output : 19V  1.7A Output Cable : Unshielded, Undetachable, 1.8m
AC Adapter #3	: Manufacturer : HONOR Model Number : ADS-40FSG-19 19032G***-1 (*** can be PG, PBR, PI, PCU, ADS-40FSG-19 19032GPCU-1 was selected was the test model.) Input : 100-240V~, 50-60Hz 1.0A Output : 19V  1.7A Output Cable : Unshielded, Undetachable, 1.8m
AC Adapter #4	: Manufacturer : LIEN CHANG Model Number : LCAP26A-* (* can be A, E, I, B, LCAP26A-A was selected as the test model.) Input : 100-240V~, 50-60Hz 1.1A Output : 19V  1.7A Output Cable : Unshielded, Undetachable, 1.8m

Applicant	: LG Electronics Nanjing Display Co., Ltd. No.346, YaoXin Road Economic&Technical Development Zone, Nanjing, China
Manufacturer	: LG Electronics Nanjing Display Co., Ltd. No.346, YaoXin Road Economic&Technical Development Zone, Nanjing, China
LCD Panel	: Manufacturer : LG Display M/N : LM230WF3
Max Resolution	: 1920*1080@60Hz
D-Sub Cable #1	: Shielded, Detachable, 1.85m, with two cores on cable
D-Sub Cable #2	: Shielded, Detachable, 1.50m, with two cores in connector
DVI Cable #1	: Shielded, Detachable, 1.85m, with two cores on cable
DVI Cable #2	: Shielded, Detachable, 1.50m, with two cores in connector
Power Cord	Unshielded, Detachable, 1.50m
Note	: The D-Sub cable #2 and DVI cable #2 were selected to be used in the test.

Remark:

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

- | | |
|-----------------------|----------------------------------|
| (1) One D-Sub Port | : Connected with PC |
| (2) One DVI Port | : Connected with PC |
| (3) One HDMI Port | : Connected with DVD PLAYER / PC |
| (4) One Earphone Port | : Connected with Earphone |
| (5) One DC In Port | : Connected with Adapter |

2.2 Peripherals

2.2.1 PC

Manufacturer	: HP
Model Number	: dx7200MT
Serial Number	: CNG622017W
Power Cord	: Unshielded, Detachable, 1.8m
Certificate	: FCC DoC; CE/EMC; VCCI; C-Tick; UL BSMI (R33001) 3C (A000111) MIC (E-A011-04-2659(B))

2.2.2 Graphics Card (Used in PC)

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

2.2.3 Printer

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

2.2.4 Keyboard

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

2.2.5 Mouse

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

2.2.6 Modem

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

2.2.7 DVD PLAYER

Manufacturer : PHILIPS
Model Number : DVP3986K/93
Serial Number : KX1A0902120108
Data Cable : Shielded, Detachable, 1.80m
Certificate : FCC DoC, CE/EMC, CCC

2.2.8 Earphone

Manufacturer : SONY
Model Number : MDR-E808

2.3 Description of Test Facility

Site Description (Semi-Anechoic Chamber) : Sept. 17, 1998 file on
Apr 29, 2009 Renewed
Federal Communications Commission
FCC Engineering Laboratory
7435 Oakland Mills Road
Columbia, MD 21046, USA

Name of Firm : Audix Technology (Shanghai) Co., Ltd.

Site Location : 3F 34Bldg 680 Guiping Rd,
Caohejing Hi-Tech Park,
Shanghai 200233, China

NVLAP Lab Code : 200371-0

2.4 Measurement Uncertainty

Conducted Emission Expanded Uncertainty: U = 3.38 dB

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

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

Radiated Emission Expanded Uncertainty (Above 1GHz):
U= 4.60 dB (Horizontal)
U= 4.18 dB (Vertical)

3 CONDUCTED EMISSION TEST

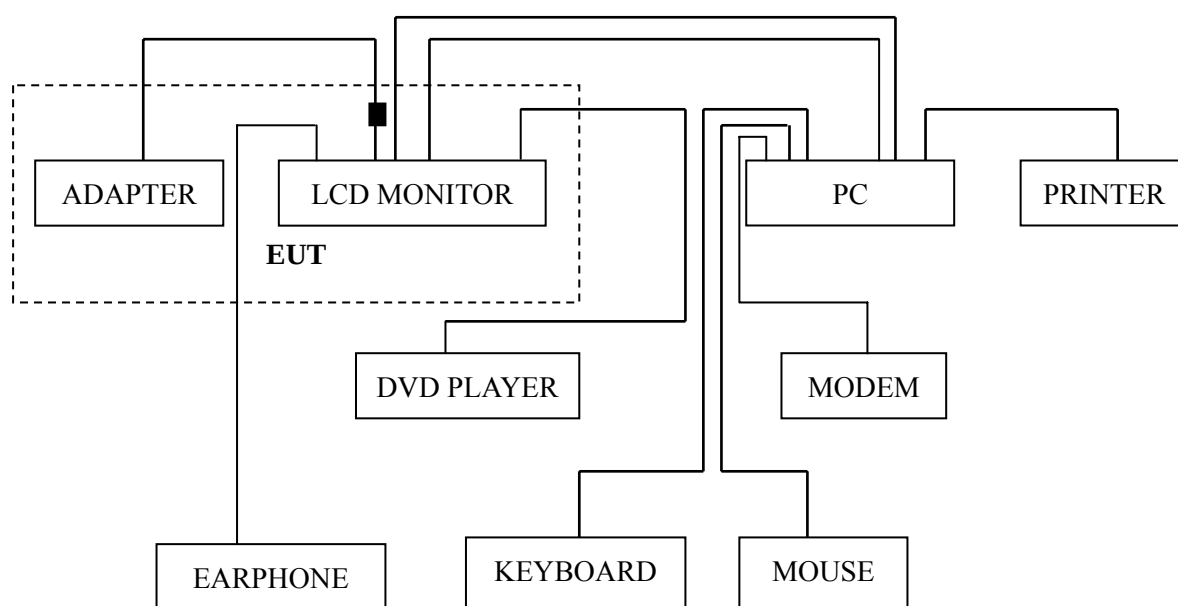
3.1 Test Equipment

The following test equipments are used during the conducted emission test in a shielded room:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Mar 22, 2011	Mar 22, 2012
2.	Artificial Mains Network (AMN #1)	R&S	ESH2-Z5	843890/011	Mar 22, 2011	Mar 22, 2012
3.	Artificial Mains Network (AMN #2)	R&S	ENV4200	100125	Mar 22, 2011	Mar 22, 2012
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Sep 18, 2011	Mar 18, 2012
5.	50 Ω Terminator	Anritsu	BNC	001	Mar 22, 2011	Mar 22, 2012
6.	Software	Audix	E3	SET00200 9804M592	--	--

3.2 Block Diagram of Test Setup

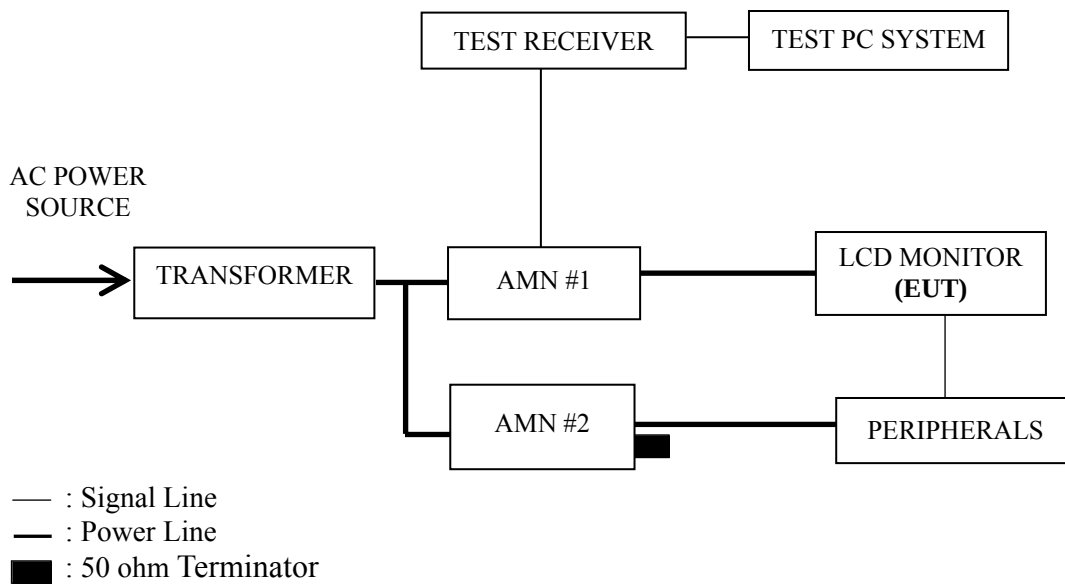
3.2.1 EUT & Peripherals



■ : Ferrite core

Note: Ferrite core only for Adapter #1

3.2.2 Conducted Disturbance Test Setup



3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)]

Frequency Range (MHz)	Limits dB (μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66~56	56~46
0.5 ~ 5	56	46
5 ~ 30	60	50
NOTE 1 – The lower limit shall apply at the transition frequencies. NOTE 2 – The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz~0.50 MHz		

3.4 Test Configuration

The EUT (listed in Sec.2.1) and the peripherals (listed in Sec 2.2) were installed as shown on Sec.3.2 to meet FCC requirement and operating in a manner that tends to maximize its emission level in a normal application.

3.5 Operating Condition of EUT

3.5.1 Setup the EUT and peripherals as shown in Sec. 3.2.

3.5.2 Turn on the power of all equipments and the EUT.

3.5.3 Set the contrast & brightness of EUT to maximum.

3.5.4 PC system ran the self-test program "EMC Test" by windows XP and sent "H" characters to EUT through graphic card (we use white letters on a black background to represent all colors), the EUT's screen displayed and filled with "H" pattern by its resolution (Via D-Sub/DVI Input).

3.5.5 In HDMI mode, the EUT connected to PC or DVD PLAYER through HDMI port.

3.5.6 Repeat above procedure from 3.5.3 to 3.5.4 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:

Adapter	Test Mode
Adapter #1	D-Sub 1920*1080@60Hz
	DVI 1920*1080@60Hz
	HDMI 1920*1080@60Hz
	HDMI 1080P
	D-Sub 1680*1050@60Hz
	D-Sub 1280*1024@75Hz
	D-Sub 640*480@60Hz
Adapter #2	D-Sub 1920*1080@60Hz
Adapter #3	D-Sub 1920*1080@60Hz
Adapter #4	D-Sub 1920*1080@60Hz

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

3.6 Test Procedures

The EUT and peripherals were connected to the power mains through an Artificial Mains Network (AMN). This provided a 50 ohm coupling impedance for the measuring equipment.

Both sides of AC line (Line & Neutral) were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed or manipulated according to ANSI C63.4:2003 during conducted emission test.

The bandwidth of R&S Test Receiver ESCI was set at 9 kHz.

The frequency range from 150 kHz to 30 MHz was checked.

The test modes were done on conducted disturbance test and all the test results are listed in Sec. 3.7.

3.7 Test Results

< **PASS** >

The frequency and amplitude of the highest conducted emission relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

Adapter	Test Mode	Page
Adapter #1	D-Sub 1920*1080@60Hz	P13
	DVI 1920*1080@60Hz	P14
	HDMI 1920*1080@60Hz	P15
	HDMI 1080P	P16
	D-Sub 1680*1050@60Hz	P17
	D-Sub 1280*1024@75Hz	P18
	D-Sub 640*480@60Hz	P19
Adapter #2	D-Sub 1920*1080@60Hz	P20
Adapter #3	D-Sub 1920*1080@60Hz	P21
Adapter #4	D-Sub 1920*1080@60Hz	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 1920*1080@60Hz test mode (Adapter #2). The worst emission is detected at 0.172 MHz (Quasi-Peak Value) with corrected signal level of 54.74 dB (μV) (limit is 64.86 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : D-Sub 1920*1080@60Hz Adapter #1 : LCAP21A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.166	52.94	0.22	53.16	65.16	12.00	QP
	0.277	39.15	0.23	39.38	60.90	21.52	
	0.456	32.84	0.31	33.15	56.76	23.61	
	1.970	26.68	0.44	27.12	56.00	28.88	
	4.202	36.92	0.54	37.46	56.00	18.54	
	25.055	30.22	1.21	31.43	60.00	28.57	
	0.166	41.64	0.22	41.86	55.16	13.30	AV
	0.277	28.46	0.23	28.69	50.90	22.21	
	0.456	22.18	0.31	22.49	46.76	24.27	
	1.970	16.24	0.44	16.68	46.00	29.32	
	4.202	26.34	0.54	26.88	46.00	19.12	
	25.055	19.32	1.21	20.53	50.00	29.47	
Neutral	0.161	53.82	0.19	54.01	65.43	11.42	QP
	0.273	40.19	0.19	40.38	61.03	20.65	
	0.456	33.24	0.24	33.48	56.76	23.28	
	1.819	27.40	0.55	27.95	56.00	28.05	
	4.202	37.57	0.74	38.31	56.00	17.69	
	25.055	29.16	1.34	30.50	60.00	29.50	
	0.161	41.86	0.19	42.05	55.43	13.38	AV
	0.273	29.40	0.19	29.59	51.03	21.44	
	0.456	22.64	0.24	22.88	46.76	23.88	
	1.819	16.86	0.55	17.41	46.00	28.59	
	4.202	26.84	0.74	27.58	46.00	18.42	
	25.055	18.72	1.34	20.06	50.00	29.94	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #1 : LCAP21A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.162	53.34	0.22	53.56	65.34	11.78	QP
	0.262	39.77	0.23	40.00	61.38	21.38	
	0.449	33.75	0.31	34.06	56.89	22.83	
	1.991	26.10	0.44	26.54	56.00	29.46	
	4.202	36.54	0.54	37.08	56.00	18.92	
	23.636	31.12	1.17	32.29	60.00	27.71	
	0.162	41.62	0.22	41.84	55.34	13.50	AV
	0.262	28.85	0.23	29.08	51.38	22.30	
	0.449	23.43	0.31	23.74	46.89	23.15	
	1.991	15.46	0.44	15.90	46.00	30.10	
	4.202	26.10	0.54	26.64	46.00	19.36	
	23.636	20.55	1.17	21.72	50.00	28.28	
Neutral	0.162	53.18	0.19	53.37	65.34	11.97	QP
	0.270	40.58	0.19	40.77	61.12	20.35	
	0.449	34.09	0.24	34.33	56.89	22.56	
	1.762	26.62	0.54	27.16	56.00	28.84	
	4.202	38.59	0.74	39.33	56.00	16.67	
	25.321	29.76	1.34	31.10	60.00	28.90	
	0.162	41.54	0.19	41.73	55.34	13.61	AV
	0.270	30.10	0.19	30.29	51.12	20.83	
	0.449	23.16	0.24	23.40	46.89	23.49	
	1.762	16.38	0.54	16.92	46.00	29.08	
	4.202	27.84	0.74	28.58	46.00	17.42	
	25.321	19.14	1.34	20.48	50.00	29.52	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : HDMI 1920*1080@60Hz Adapter #1 : LCAP21A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.162	53.25	0.22	53.47	65.34	11.87	QP
	0.270	39.60	0.23	39.83	61.12	21.29	
	0.449	33.02	0.31	33.33	56.89	23.56	
	1.403	27.99	0.40	28.39	56.00	27.61	
	4.224	35.77	0.54	36.31	56.00	19.69	
	24.790	30.93	1.21	32.14	60.00	27.86	
	0.162	42.60	0.22	42.82	55.34	12.52	AV
	0.270	28.87	0.23	29.10	51.12	22.02	
	0.449	22.65	0.31	22.96	46.89	23.93	
	1.403	17.24	0.40	17.64	46.00	28.36	
	4.224	25.14	0.54	25.68	46.00	20.32	
	24.790	19.99	1.21	21.20	50.00	28.80	
Neutral	0.164	53.19	0.19	53.38	65.25	11.87	QP
	0.280	39.68	0.19	39.87	60.81	20.94	
	0.449	34.31	0.24	34.55	56.89	22.34	
	1.970	26.84	0.55	27.39	56.00	28.61	
	4.114	40.26	0.74	41.00	56.00	15.00	
	25.055	29.21	1.34	30.55	60.00	29.45	
	0.164	42.51	0.19	42.70	55.25	12.55	AV
	0.280	28.75	0.19	28.94	50.81	21.87	
	0.449	23.64	0.24	23.88	46.89	23.01	
	1.970	16.20	0.55	16.75	46.00	29.25	
	4.114	29.55	0.74	30.29	46.00	15.71	
	25.055	18.72	1.34	20.06	50.00	29.94	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : HDMI 1080P Adapter #1 : LCAP21A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.159	53.67	0.22	53.89	65.52	11.63	QP
	0.286	38.74	0.24	38.98	60.63	21.65	
	0.452	32.78	0.31	33.09	56.85	23.76	
	1.585	27.36	0.42	27.78	56.00	28.22	
	4.269	38.09	0.54	38.63	56.00	17.37	
	24.529	29.81	1.19	31.00	60.00	29.00	
	0.159	42.77	0.22	42.99	55.52	12.53	AV
	0.286	28.25	0.24	28.49	50.63	22.14	
	0.452	22.07	0.31	22.38	46.85	24.47	
	1.585	16.69	0.42	17.11	46.00	28.89	
	4.269	27.67	0.54	28.21	46.00	17.79	
	24.529	19.34	1.19	20.53	50.00	29.47	
Neutral	0.166	52.78	0.19	52.97	65.16	12.19	QP
	0.274	39.50	0.19	39.69	60.98	21.29	
	0.456	34.40	0.24	34.64	56.76	22.12	
	1.480	26.97	0.51	27.48	56.00	28.52	
	4.269	37.91	0.74	38.65	56.00	17.35	
	24.790	30.68	1.34	32.02	60.00	27.98	
	0.166	41.90	0.19	42.09	55.16	13.07	AV
	0.274	28.76	0.19	28.95	50.98	22.03	
	0.456	23.85	0.24	24.09	46.76	22.67	
	1.480	16.41	0.51	16.92	46.00	29.08	
	4.269	27.41	0.74	28.15	46.00	17.85	
	24.790	20.09	1.34	21.43	50.00	28.57	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : D-Sub 1680*1050@60Hz Adapter #1 : LCAP21A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.164	52.75	0.22	52.97	65.25	12.28	QP
	0.273	39.56	0.23	39.79	61.03	21.24	
	0.449	33.49	0.31	33.80	56.89	23.09	
	1.991	28.50	0.44	28.94	56.00	27.06	
	4.224	36.41	0.54	36.95	56.00	19.05	
	24.142	29.53	1.19	30.72	60.00	29.28	
	0.164	41.57	0.22	41.79	55.25	13.46	AV
	0.273	28.75	0.23	28.98	51.03	22.05	
	0.449	22.68	0.31	22.99	46.89	23.90	
	1.991	17.68	0.44	18.12	46.00	27.88	
	4.224	25.80	0.54	26.34	46.00	19.66	
	24.142	18.90	1.19	20.09	50.00	29.91	
Neutral	0.166	52.62	0.19	52.81	65.16	12.35	QP
	0.283	39.10	0.19	39.29	60.72	21.43	
	0.456	33.93	0.24	34.17	56.76	22.59	
	1.610	28.23	0.53	28.76	56.00	27.24	
	4.202	37.79	0.74	38.53	56.00	17.47	
	25.864	29.04	1.33	30.37	60.00	29.63	
	0.166	41.37	0.19	41.56	55.16	13.60	AV
	0.283	28.40	0.19	28.59	50.72	22.13	
	0.456	23.15	0.24	23.39	46.76	23.37	
	1.610	17.64	0.53	18.17	46.00	27.83	
	4.202	27.34	0.74	28.08	46.00	17.92	
	25.864	18.26	1.33	19.59	50.00	30.41	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : D-Sub 1280*1024@75Hz Adapter #1 : LCAP21A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.159	53.65	0.22	53.87	65.52	11.65	QP
	0.280	38.96	0.23	39.19	60.81	21.62	
	0.452	33.60	0.31	33.91	56.85	22.94	
	1.878	27.05	0.44	27.49	56.00	28.51	
	4.269	36.09	0.54	36.63	56.00	19.37	
	24.790	30.14	1.21	31.35	60.00	28.65	
	0.159	42.50	0.22	42.72	55.52	12.80	AV
	0.280	28.32	0.23	28.55	50.81	22.26	
	0.452	23.12	0.31	23.43	46.85	23.42	
	1.878	16.24	0.44	16.68	46.00	29.32	
	4.269	25.40	0.54	25.94	46.00	20.06	
	24.790	19.63	1.21	20.84	50.00	29.16	
Neutral	0.162	53.32	0.19	53.51	65.34	11.83	QP
	0.264	40.18	0.19	40.37	61.29	20.92	
	0.452	34.72	0.24	34.96	56.85	21.89	
	1.949	27.61	0.55	28.16	56.00	27.84	
	4.158	37.78	0.74	38.52	56.00	17.48	
	24.790	29.56	1.34	30.90	60.00	29.10	
	0.162	42.65	0.19	42.84	55.34	12.50	AV
	0.264	29.40	0.19	29.59	51.29	21.70	
	0.452	24.10	0.24	24.34	46.85	22.51	
	1.949	17.41	0.55	17.96	46.00	28.04	
	4.158	27.30	0.74	28.04	46.00	17.96	
	24.790	18.69	1.34	20.03	50.00	29.97	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : D-Sub 640*480@60Hz Adapter #1 : LCAP21A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.161	53.07	0.22	53.29	65.43	12.14	QP
	0.264	39.72	0.23	39.95	61.29	21.34	
	0.452	33.00	0.31	33.31	56.85	23.54	
	1.839	28.14	0.44	28.58	56.00	27.42	
	4.027	36.06	0.54	36.60	56.00	19.40	
	24.790	31.14	1.21	32.35	60.00	27.65	
	0.161	42.50	0.22	42.72	55.43	12.71	AV
	0.264	29.12	0.23	29.35	51.29	21.94	
	0.452	22.65	0.31	22.96	46.85	23.89	
	1.839	17.45	0.44	17.89	46.00	28.11	
	4.027	25.37	0.54	25.91	46.00	20.09	
	24.790	20.39	1.21	21.60	50.00	28.40	
Neutral	0.161	53.27	0.19	53.46	65.43	11.97	QP
	0.267	39.85	0.19	40.04	61.20	21.16	
	0.452	34.53	0.24	34.77	56.85	22.08	
	1.585	26.58	0.52	27.10	56.00	28.90	
	4.202	38.14	0.74	38.88	56.00	17.12	
	24.529	29.95	1.33	31.28	60.00	28.72	
	0.161	42.45	0.19	42.64	55.43	12.79	AV
	0.267	29.20	0.19	29.39	51.20	21.81	
	0.452	23.76	0.24	24.00	46.85	22.85	
	1.585	15.87	0.52	16.39	46.00	29.61	
	4.202	27.84	0.74	28.58	46.00	17.42	
	24.529	19.30	1.33	20.63	50.00	29.37	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : D-Sub 1920*1080@60Hz Adapter #2 : ADS-40SG-19-3
19032G

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.172	54.44	0.23	54.67	64.86	10.19	QP
	0.406	42.01	0.29	42.30	57.73	15.43	
	0.505	40.97	0.31	41.28	56.00	14.72	
	1.839	40.67	0.44	41.11	56.00	14.89	
	4.874	43.13	0.55	43.68	56.00	12.32	
	19.740	32.54	0.97	33.51	60.00	26.49	
	0.172	42.15	0.23	42.38	54.86	12.48	AV
	0.406	31.30	0.29	31.59	47.73	16.14	
	0.505	30.20	0.31	30.51	46.00	15.49	
	1.839	30.41	0.44	30.85	46.00	15.15	
	4.874	31.28	0.55	31.83	46.00	14.17	
	19.740	22.36	0.97	23.33	50.00	26.67	
Neutral	0.172	54.55	0.19	54.74	64.86	10.12	QP
	0.240	41.51	0.18	41.69	62.08	20.39	
	0.521	41.25	0.24	41.49	56.00	14.51	
	1.662	39.60	0.53	40.13	56.00	15.87	
	4.874	37.87	0.76	38.63	56.00	17.37	
	15.388	34.81	1.16	35.97	60.00	24.03	
	0.172	42.54	0.19	42.73	54.86	12.13	AV
	0.240	30.52	0.18	30.70	52.08	21.38	
	0.521	30.58	0.24	30.82	46.00	15.18	
	1.662	29.10	0.53	29.63	46.00	16.37	
	4.874	27.43	0.76	28.19	46.00	17.81	
	15.388	24.16	1.16	25.32	50.00	24.68	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : D-Sub 1920*1080@60Hz Adapter #3 : ADS-40FSG-19
19032GPCU-1

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.166	49.08	0.22	49.30	65.16	15.86	QP
	0.389	34.55	0.29	34.84	58.08	23.24	
	0.494	33.34	0.31	33.65	56.10	22.45	
	1.602	31.15	0.42	31.57	56.00	24.43	
	3.107	28.22	0.47	28.69	56.00	27.31	
	7.977	27.17	0.69	27.86	60.00	32.14	
	0.166	38.42	0.22	38.64	55.16	16.52	AV
	0.389	23.76	0.29	24.05	48.08	24.03	
	0.494	22.86	0.31	23.17	46.10	22.93	
	1.602	20.72	0.42	21.14	46.00	24.86	
	3.107	17.66	0.47	18.13	46.00	27.87	
	7.977	16.88	0.69	17.57	50.00	32.43	
Neutral	0.162	49.53	0.19	49.72	65.34	15.62	QP
	0.385	35.29	0.23	35.52	58.17	22.65	
	0.510	32.90	0.24	33.14	56.00	22.86	
	1.197	33.50	0.45	33.95	56.00	22.05	
	4.224	30.71	0.74	31.45	56.00	24.55	
	8.062	27.25	1.00	28.25	60.00	31.75	
	0.162	38.76	0.19	38.95	55.34	16.39	AV
	0.385	24.37	0.23	24.60	48.17	23.57	
	0.510	22.41	0.24	22.65	46.00	23.35	
	1.197	22.68	0.45	23.13	46.00	22.87	
	4.224	20.41	0.74	21.15	46.00	24.85	
	8.062	16.56	1.00	17.56	50.00	32.44	

TEST ENGINEER: WENCY YANG

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 48%RH

Serial No. : E1203241-01/01 Date of Test : Mar 07, 2012

Test Mode : D-Sub 1920*1080@60Hz Adapter #4 : LCAP26A-A

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.162	54.30	0.22	54.52	65.34	10.82	QP
	0.240	43.05	0.23	43.28	62.08	18.80	
	0.516	34.27	0.31	34.58	56.00	21.42	
	1.744	29.37	0.44	29.81	56.00	26.19	
	5.005	32.51	0.55	33.06	60.00	26.94	
	6.488	29.99	0.64	30.63	60.00	29.37	
	0.162	42.57	0.22	42.79	55.34	12.55	AV
	0.240	32.40	0.23	32.63	52.08	19.45	
	0.516	23.31	0.31	23.62	46.00	22.38	
	1.744	18.69	0.44	19.13	46.00	26.87	
	5.005	21.64	0.55	22.19	50.00	27.81	
	6.488	19.39	0.64	20.03	50.00	29.97	
Neutral	0.168	54.46	0.19	54.65	65.08	10.43	QP
	0.240	42.39	0.18	42.57	62.08	19.51	
	0.452	36.36	0.24	36.60	56.85	20.25	
	1.054	32.01	0.44	32.45	56.00	23.55	
	4.315	31.93	0.74	32.67	56.00	23.33	
	6.186	30.44	0.90	31.34	60.00	28.66	
	0.168	42.67	0.19	42.86	55.08	12.22	AV
	0.240	31.56	0.18	31.74	52.08	20.34	
	0.452	26.15	0.24	26.39	46.85	20.46	
	1.054	21.40	0.44	21.84	46.00	24.16	
	4.315	21.41	0.74	22.15	46.00	23.85	
	6.186	20.16	0.90	21.06	50.00	28.94	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

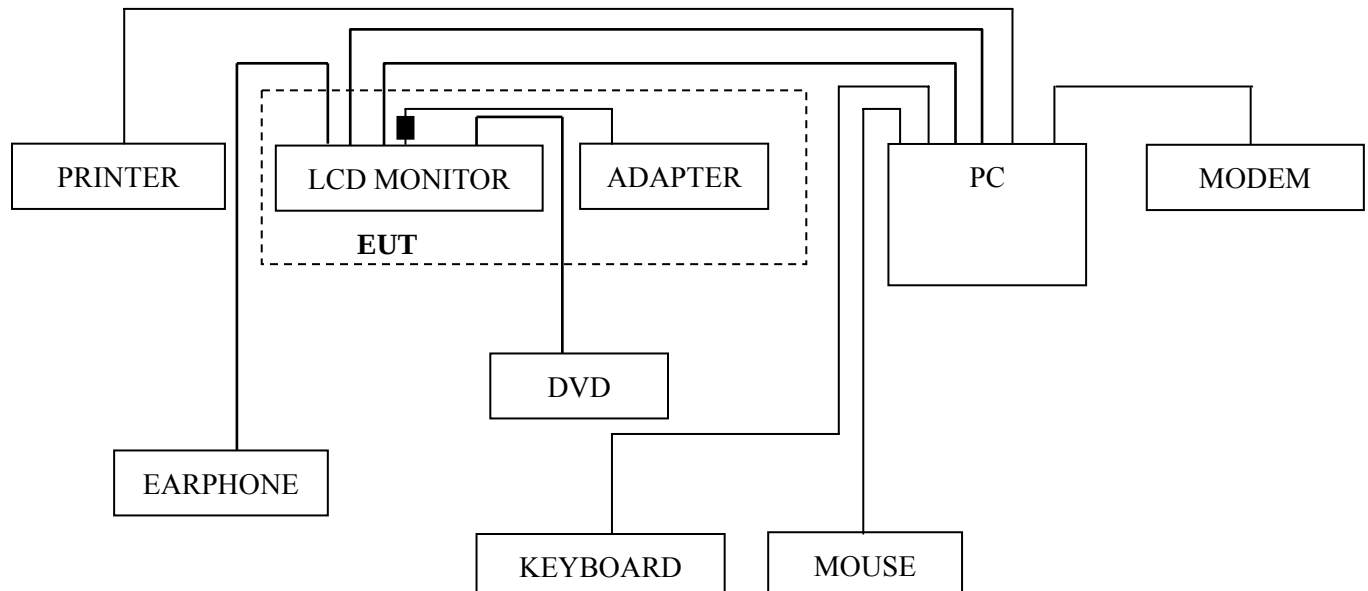
4.1 Test Equipment

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

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESVS10	844594/001	Mar 22, 2011	Mar 22, 2012
2.	Preamplifier	Agilent	8447D	2944A10548	Sep 18, 2011	Mar 18, 2012
3.	Preamplifier	HP	8449B	3008A00864	Mar 22, 2011	Mar 22, 2012
4.	Bi-log Antenna	TESEQ	CBL6112D	23192	Dec 01, 2011	Dec 01, 2012
5.	Horn Antenna	EMCO	3115	9607-4878	May 06, 2011	May 06, 2012
6.	Spectrum	Agilent	E7405A	MY45106600	Mar 22, 2011	Mar 22, 2012
7.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426390	Sep 18, 2011	Mar 18, 2012
8.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

4.2.1 EUT and Peripherals

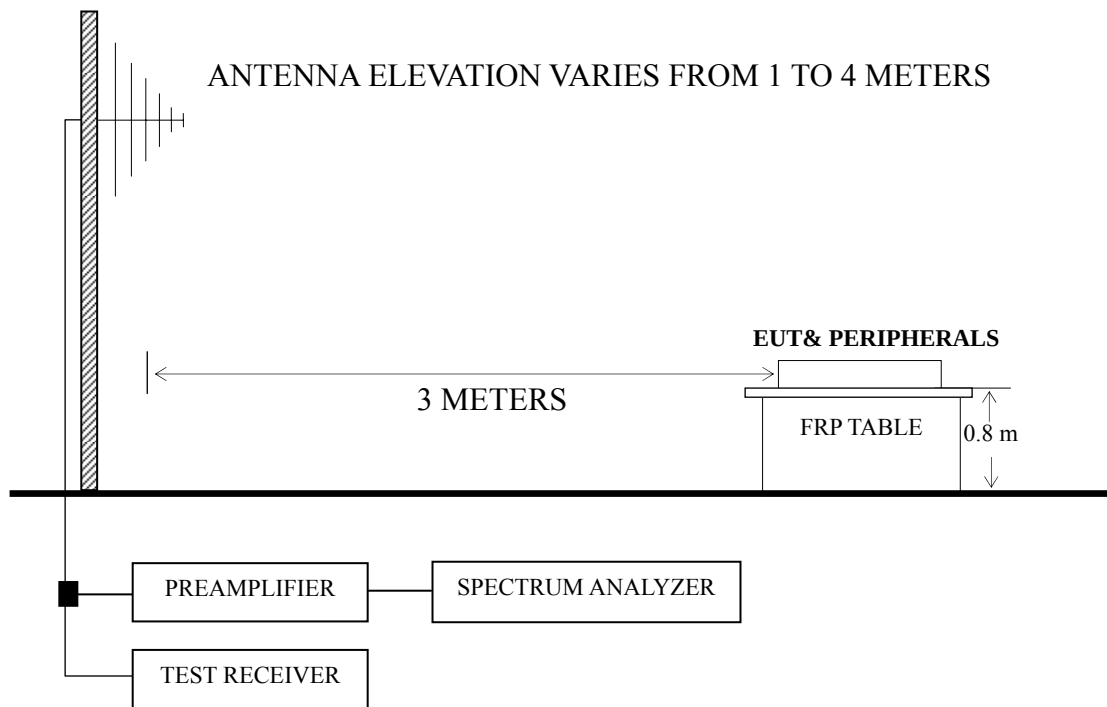


■ : Ferrite core

Note: Ferrite core only for Adapter #1

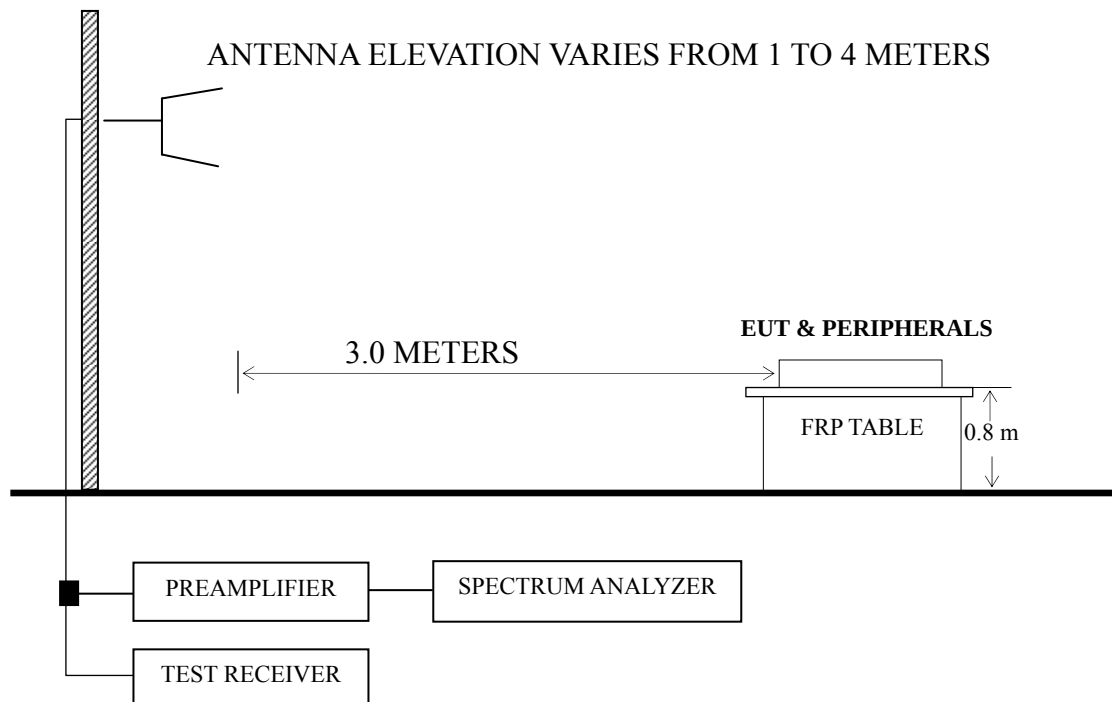
4.2.2 Radiated emission test setup

4.2.2.1 Below 1GHz



■ : 50 ohm Coaxial Switch

4.2.2.2 Above 1GHz



■ : 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) or Horn 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 worst test mode in 30 – 1000 MHz test.

The test modes were done on radiated disturbance test and all the test results are listed in Sec.4.7.

4.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

Adapter	Test Mode	Page
Adapter #1	D-Sub 1920*1080@60Hz	P28
	DVI 1920*1080@60Hz	P29 – P30
	HDMI 1920*1080@60Hz	P31
	HDMI 1080P	P32
	DVI 1680*1050@60Hz	P33
	DVI 1280*1024@75Hz	P34
	DVI 640*480@60Hz	P35
Adapter #2	DVI 1920*1080@60Hz	P36 – P37
Adapter #3	DVI 1920*1080@60Hz	P38 – P39
Adapter #4	DVI 1920*1080@60Hz	P40 – P41

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

NOTE 8 – The worst case is for DVI 1920*1080@60Hz test mode (Adapter #1). The worst emission at horizontal polarization was detected at 481.050 MHz with corrected signal level of 41.36 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 70° . The worst emission at vertical polarization was detected at 578.050 MHz with corrected signal level of 44.23 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 260° .

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : D-Sub 1920*1080@60Hz Adapter #1 : LCAP21A

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	81.410	22.78	10.62	0.95	34.35	40.00	5.65
	194.900	24.32	9.84	1.43	35.59	43.50	7.91
	330.700	24.16	14.54	1.87	40.57	46.00	5.43
	404.420	23.05	16.34	2.06	41.45	46.00	4.55
	773.990	16.84	20.34	2.85	40.03	46.00	5.97
	988.360	14.70	20.74	4.25	39.69	54.00	14.31
Vertical	31.940	17.38	17.29	0.65	35.32	40.00	4.68
	56.190	23.58	8.88	0.82	33.28	40.00	6.72
	81.410	22.07	10.62	0.95	33.64	40.00	6.36
	203.630	24.91	9.94	1.46	36.31	43.50	7.19
	578.050	20.88	18.08	2.41	41.37	46.00	4.63
	716.760	18.98	19.70	2.72	41.40	46.00	4.60

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #1 : LCAP21A

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	88.200	23.78	9.13	0.98	--	33.89	43.50	9.61	QP
	197.810	25.56	10.60	1.44	--	37.60	43.50	5.90	
	481.050	21.46	17.68	2.22	--	41.36	46.00	4.64	
	578.050	18.89	18.94	2.41	--	40.24	46.00	5.76	
	786.600	17.64	20.58	2.87	--	41.09	46.00	4.91	
	991.270	15.04	22.35	4.25	--	41.64	54.00	12.36	
	1075.000	44.83	25.21	5.27	38.04	37.27	74.00	36.73	PK
	1250.000	40.43	26.08	5.42	37.65	34.28	74.00	39.72	
	1365.000	41.64	26.59	5.55	37.33	36.45	74.00	37.55	
	1465.000	37.41	26.90	5.72	37.06	32.97	74.00	41.03	
	1595.000	39.05	27.08	5.93	36.77	35.29	74.00	38.71	
	1760.000	41.91	27.23	6.17	36.49	38.82	74.00	35.18	
	1075.000	29.83	25.21	5.27	38.04	22.27	54.00	31.73	AV
	1250.000	28.43	26.08	5.42	37.65	22.28	54.00	31.72	
	1365.000	27.64	26.59	5.55	37.33	22.45	54.00	31.55	
	1465.000	25.41	26.90	5.72	37.06	20.97	54.00	33.03	
	1595.000	29.05	27.08	5.93	36.77	25.29	54.00	28.71	
	1760.000	25.91	27.23	6.17	36.49	22.82	54.00	31.18	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #1 : LCAP21A

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	31.940	16.67	18.49	0.65	--	35.81	40.00	4.19	QP
	50.370	25.30	8.85	0.78	--	34.93	40.00	5.07	
	98.870	26.06	11.27	1.03	--	38.36	43.50	5.14	
	344.280	24.28	15.16	1.90	--	41.34	46.00	4.66	
	494.630	23.98	17.83	2.25	--	44.06	46.00	1.94	
	578.050	22.88	18.94	2.41	--	44.23	46.00	1.77	
	1080.000	38.24	25.24	5.27	38.03	30.72	74.00	43.28	PK
	1170.000	37.19	25.66	5.34	37.83	30.36	74.00	43.64	
	1315.000	39.98	26.39	5.51	37.48	34.40	74.00	39.60	
	1520.000	34.02	27.02	5.83	36.92	29.95	74.00	44.05	
	1600.000	38.84	27.08	5.93	36.76	35.09	74.00	38.91	
	1760.000	40.81	27.23	6.17	36.49	37.72	74.00	36.28	
	1080.000	24.24	25.24	5.27	38.03	16.72	54.00	37.28	AV
	1170.000	25.19	25.66	5.34	37.83	18.36	54.00	35.64	
	1315.000	25.98	26.39	5.51	37.48	20.40	54.00	33.60	
	1520.000	21.02	27.02	5.83	36.92	16.95	54.00	37.05	
	1600.000	24.84	27.08	5.93	36.76	21.09	54.00	32.91	
	1760.000	24.81	27.23	6.17	36.49	21.72	54.00	32.28	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : HDMI 1920*1080@60Hz Adapter #1 : LCAP21A

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	139.610	25.00	10.63	1.21	36.84	43.50	6.66
	420.910	20.77	16.57	2.10	39.44	46.00	6.56
	514.030	20.47	17.68	2.29	40.44	46.00	5.56
	560.590	21.08	17.98	2.38	41.44	46.00	4.56
	701.240	20.16	19.50	2.67	42.33	46.00	3.67
	840.920	18.03	20.47	2.95	41.45	46.00	4.55
Vertical	34.850	19.32	15.70	0.68	35.70	40.00	4.30
	350.100	21.97	15.13	1.91	39.01	46.00	6.99
	514.030	19.32	17.68	2.29	39.29	46.00	6.71
	560.590	23.17	17.98	2.38	43.53	46.00	2.47
	701.240	18.01	19.50	2.67	40.18	46.00	5.82
	840.920	17.37	20.47	2.95	40.79	46.00	5.21

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : HDMI 1080P Adapter #1 : LCAP21A

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	139.610	24.95	10.63	1.21	36.79	43.50	6.71
	514.030	21.88	17.68	2.29	41.85	46.00	4.15
	560.590	20.37	17.98	2.38	40.73	46.00	5.27
	701.240	19.28	19.50	2.67	41.45	46.00	4.55
	840.920	15.65	20.47	2.95	39.07	46.00	6.93
	980.600	20.23	20.71	4.01	44.95	54.00	9.05
Vertical	34.850	19.01	15.70	0.68	35.39	40.00	4.61
	47.460	21.93	9.37	0.77	32.07	40.00	7.93
	276.380	25.31	13.02	1.69	40.02	46.00	5.98
	514.030	20.13	17.68	2.29	40.10	46.00	5.90
	578.050	23.27	18.08	2.41	43.76	46.00	2.24
	701.240	15.53	19.50	2.67	37.70	46.00	8.30

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1680*1050@60Hz Adapter #1 : LCAP21A

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	88.200	22.47	10.93	0.98	34.38	43.50	9.12
	194.900	26.59	9.84	1.43	37.86	43.50	5.64
	395.690	21.53	16.20	2.05	39.78	46.00	6.22
	480.080	20.42	17.37	2.22	40.01	46.00	5.99
	773.020	17.01	20.34	2.85	40.20	46.00	5.80
	985.450	16.06	20.73	4.25	41.04	54.00	12.96
Vertical	31.940	18.18	17.29	0.65	36.12	40.00	3.88
	81.410	24.33	10.62	0.95	35.90	40.00	4.10
	158.040	28.34	10.28	1.28	39.90	43.50	3.60
	342.340	25.02	14.91	1.90	41.83	46.00	4.17
	578.050	22.27	18.08	2.41	42.76	46.00	3.24
	872.930	17.84	20.37	2.98	41.19	46.00	4.81

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1280*1024@75Hz Adapter #1 : LCAP21A

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	81.410	21.52	10.62	0.95	33.09	40.00	6.91
	97.900	27.50	11.28	1.03	39.81	43.50	3.69
	194.900	29.78	9.84	1.43	41.05	43.50	2.45
	478.140	21.96	17.34	2.22	41.52	46.00	4.48
	776.900	18.37	20.37	2.85	41.59	46.00	4.41
	983.510	23.40	20.73	4.25	48.38	54.00	5.62
Vertical	31.940	17.49	17.29	0.65	35.43	40.00	4.57
	49.400	24.41	8.69	0.78	33.88	40.00	6.12
	342.340	26.63	14.91	1.90	43.44	46.00	2.56
	493.660	21.52	17.53	2.25	41.30	46.00	4.70
	578.050	20.38	18.08	2.41	40.87	46.00	5.13
	871.960	17.93	20.38	2.98	41.29	46.00	4.71

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 640*480@60Hz Adapter #1 : LCAP21A

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	139.610	26.93	10.63	1.21	38.77	43.50	4.73
	420.910	23.26	16.57	2.10	41.93	46.00	4.07
	560.000	22.09	17.98	2.38	42.45	46.00	3.55
	701.240	20.64	19.50	2.67	42.81	46.00	3.19
	840.920	18.23	20.47	2.95	41.65	46.00	4.35
	980.600	21.17	20.71	4.01	45.89	54.00	8.11
Vertical	31.940	17.48	17.29	0.65	35.42	40.00	4.58
	43.580	23.46	10.86	0.74	35.06	40.00	4.94
	72.680	22.54	10.08	0.91	33.53	40.00	6.47
	514.030	20.85	17.68	2.29	40.82	46.00	5.18
	560.590	22.26	17.98	2.38	42.62	46.00	3.38
	700.000	21.10	19.50	2.67	43.27	46.00	2.73

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #2 : ADS-40SG-19-3
19032G

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	88.200	27.78	9.13	0.98	--	37.89	43.50	5.61	QP
	127.970	24.79	12.63	1.16	--	38.58	43.50	4.92	
	197.810	27.56	10.60	1.44	--	39.60	43.50	3.90	
	344.280	24.92	15.16	1.90	--	41.98	46.00	4.02	
	481.050	22.46	17.68	2.22	--	42.36	46.00	3.64	
	578.050	19.89	18.94	2.41	--	41.24	46.00	4.76	
	1075.000	48.83	25.21	5.27	38.04	41.27	74.00	32.73	PK
	1250.000	41.43	26.08	5.42	37.65	35.28	74.00	38.72	
	1365.000	41.64	26.59	5.55	37.33	36.45	74.00	37.55	
	1520.000	37.05	27.02	5.83	36.92	32.98	74.00	41.02	
	1665.000	40.24	27.14	6.03	36.64	36.77	74.00	37.23	
	1760.000	44.91	27.23	6.17	36.49	41.82	74.00	32.18	
	1075.000	29.83	25.21	5.27	38.04	22.27	54.00	31.73	AV
	1250.000	25.43	26.08	5.42	37.65	19.28	54.00	34.72	
	1365.000	24.64	26.59	5.55	37.33	19.45	54.00	34.55	
	1520.000	22.05	27.02	5.83	36.92	17.98	54.00	36.02	
	1665.000	27.24	27.14	6.03	36.64	23.77	54.00	30.23	
	1760.000	26.91	27.23	6.17	36.49	23.82	54.00	30.18	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #2 : ADS-40SG-19-3
19032G

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	31.940	16.67	18.49	0.65	--	35.81	40.00	4.19	QP
	50.370	26.30	8.85	0.78	--	35.93	40.00	4.07	
	91.110	24.84	9.65	1.00	--	35.49	43.50	8.01	
	344.280	24.28	15.16	1.90	--	41.34	46.00	4.66	
	494.630	20.98	17.83	2.25	--	41.06	46.00	4.94	
	578.050	20.88	18.94	2.41	--	42.23	46.00	3.77	
	1025.000	52.68	25.01	5.22	38.15	44.76	74.00	29.24	PK
	1170.000	51.19	25.66	5.34	37.83	44.36	74.00	29.64	
	1385.000	47.65	26.66	5.57	37.28	42.60	74.00	31.40	
	1465.000	46.47	26.90	5.72	37.06	42.03	74.00	31.97	
	1600.000	49.84	27.08	5.93	36.76	46.09	74.00	27.91	
	1670.000	48.15	27.14	6.03	36.63	44.69	74.00	29.31	
	1025.000	42.68	25.01	5.22	38.15	34.76	54.00	19.24	AV
	1170.000	28.19	25.66	5.34	37.83	21.36	54.00	32.64	
	1385.000	33.65	26.66	5.57	37.28	28.60	54.00	25.40	
	1465.000	31.47	26.90	5.72	37.06	27.03	54.00	26.97	
	1600.000	35.84	27.08	5.93	36.76	32.09	54.00	21.91	
	1670.000	29.15	27.14	6.03	36.63	25.69	54.00	28.31	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #3 : ADS-40FSG-19
19032GPCU-1

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	91.110	24.78	11.05	1.00	--	36.83	43.50	6.67	QP
	344.280	23.73	14.96	1.90	--	40.59	46.00	5.41	
	514.030	22.47	17.68	2.29	--	42.44	46.00	3.56	
	560.590	21.08	17.98	2.38	--	41.44	46.00	4.56	
	701.240	19.16	19.50	2.67	--	41.33	46.00	4.67	
	840.920	17.03	20.47	2.95	--	40.45	46.00	5.55	
	1120.000	45.89	25.42	5.30	37.94	38.67	74.00	35.33	PK
	1250.000	45.43	26.08	5.42	37.65	39.28	74.00	34.72	
	1365.000	46.64	26.59	5.55	37.33	41.45	74.00	32.55	
	1465.000	42.41	26.90	5.72	37.06	37.97	74.00	36.03	
	1595.000	45.05	27.08	5.93	36.77	41.29	74.00	32.71	
	1665.000	45.24	27.14	6.03	36.64	41.77	74.00	32.23	
	1120.000	29.89	25.42	5.30	37.94	22.67	54.00	31.33	AV
	1250.000	29.43	26.08	5.42	37.65	23.28	54.00	30.72	
	1365.000	30.64	26.59	5.55	37.33	25.45	54.00	28.55	
	1465.000	25.41	26.90	5.72	37.06	20.97	54.00	33.03	
	1595.000	33.05	27.08	5.93	36.77	29.29	54.00	24.71	
	1665.000	28.24	27.14	6.03	36.64	24.77	54.00	29.23	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #3 : ADS-40FSG-19
19032GPCU-1

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	34.850	17.32	15.70	0.68	--	33.70	40.00	6.30	QP
	141.550	26.60	10.59	1.21	--	38.40	43.50	5.10	
	350.100	24.97	15.13	1.91	--	42.01	46.00	3.99	
	560.590	22.17	17.98	2.38	--	42.53	46.00	3.47	
	701.240	20.01	19.50	2.67	--	42.18	46.00	3.82	
	840.920	17.37	20.47	2.95	--	40.79	46.00	5.21	
	1025.000	53.68	25.01	5.22	38.15	45.76	74.00	28.24	PK
	1080.000	52.24	25.24	5.27	38.03	44.72	74.00	29.28	
	1275.000	49.69	26.21	5.47	37.57	43.80	74.00	30.20	
	1365.000	43.87	26.59	5.55	37.33	38.68	74.00	35.32	
	1600.000	45.84	27.08	5.93	36.76	42.09	74.00	31.91	
	1670.000	45.15	27.14	6.03	36.63	41.69	74.00	32.31	
	1025.000	38.68	25.01	5.22	38.15	30.76	54.00	23.24	AV
	1080.000	33.24	25.24	5.27	38.03	25.72	54.00	28.28	
	1275.000	35.69	26.21	5.47	37.57	29.80	54.00	24.20	
	1365.000	30.87	26.59	5.55	37.33	25.68	54.00	28.32	
	1600.000	32.84	27.08	5.93	36.76	29.09	54.00	24.91	
	1670.000	29.15	27.14	6.03	36.63	25.69	54.00	28.31	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #4 : LCAP26A-A

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	54.250	26.81	8.76	0.81	--	36.38	40.00	3.62	QP
	134.760	28.83	10.72	1.19	--	40.74	43.50	2.76	
	161.920	27.73	10.23	1.29	--	39.25	43.50	4.25	
	189.080	26.33	9.90	1.41	--	37.64	43.50	5.86	
	405.390	23.91	16.37	2.08	--	42.36	46.00	3.64	
	944.710	17.27	20.53	3.58	--	41.38	46.00	4.62	
	1020.000	47.57	24.98	5.22	38.16	39.61	74.00	34.39	PK
	1135.000	47.31	25.49	5.32	37.91	40.21	74.00	33.79	
	1365.000	46.64	26.59	5.55	37.33	41.45	74.00	32.55	
	1465.000	42.41	26.90	5.72	37.06	37.97	74.00	36.03	
	1595.000	44.05	27.08	5.93	36.77	40.29	74.00	33.71	
	1665.000	44.24	27.14	6.03	36.64	40.77	74.00	33.23	
	1020.000	27.57	24.98	5.22	38.16	19.61	54.00	34.39	AV
	1135.000	33.31	25.49	5.32	37.91	26.21	54.00	27.79	
	1365.000	34.64	26.59	5.55	37.33	29.45	54.00	24.55	
	1465.000	30.41	26.90	5.72	37.06	25.97	54.00	28.03	
	1595.000	31.05	27.08	5.93	36.77	27.29	54.00	26.71	
	1665.000	26.24	27.14	6.03	36.64	22.77	54.00	31.23	

TEST ENGINEER: RAVEN JIN

EUT : LCD Monitor Temperature : 22°C

Model No. : IPS234VA Humidity : 60%RH

Serial No. : E1203241-01/01 Date of Test : Mar 10, 2012

Test Mode : DVI 1920*1080@60Hz Adapter #4 : LCAP26A-A

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	44.550	24.88	10.47	0.75	--	36.10	40.00	3.90	QP
	54.250	25.83	8.76	0.81	--	35.40	40.00	4.60	
	134.760	27.83	10.72	1.19	--	39.74	43.50	3.76	
	161.920	28.82	10.23	1.29	--	40.34	43.50	3.16	
	189.080	25.48	9.90	1.41	--	36.79	43.50	6.71	
	675.050	19.17	19.19	2.63	--	40.99	46.00	5.01	
	1025.000	43.68	25.01	5.22	38.15	35.76	74.00	38.24	PK
	1100.000	41.69	25.33	5.28	37.99	34.31	74.00	39.69	
	1315.000	45.98	26.39	5.51	37.48	40.40	74.00	33.60	
	1365.000	40.87	26.59	5.55	37.33	35.68	74.00	38.32	
	1465.000	38.47	26.90	5.72	37.06	34.03	74.00	39.97	
	1600.000	41.84	27.08	5.93	36.76	38.09	74.00	35.91	
	1025.000	28.68	25.01	5.22	38.15	20.76	54.00	33.24	AV
	1100.000	29.69	25.33	5.28	37.99	22.31	54.00	31.69	
	1315.000	32.98	26.39	5.51	37.48	27.40	54.00	26.60	
	1365.000	29.87	26.59	5.55	37.33	24.68	54.00	29.32	
	1465.000	26.47	26.90	5.72	37.06	22.03	54.00	31.97	
	1600.000	25.84	27.08	5.93	36.76	22.09	54.00	31.91	

TEST ENGINEER: RAVEN JIN

5 DEVIATION TO TEST SPECIFICATIONS

None.