

Application for FCC Certificate
On Behalf of
Hisense Electric Co., Ltd.

LCD TV

Model No.: LCD32W57KCA

Serial No.: E2010062502

Brand: Hisense

FCC ID : W9H32LCD001

Prepared For : Hisense Electric Co., Ltd.
No.218 Qianwangang Road, Economy & Technology
Development Zone, Qingdao, China

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-F09031A2
Date of Test : Jun 30, 2010
Date of Report : Jul 13, 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.....	7
2.3 Description of Test Facility.....	9
2.4 Measurement Uncertainty.....	9
3 CONDUCTED EMISSION TEST	10
3.2 Block Diagram of Test Setup.....	10
3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)].....	11
3.4 Test Configuration.....	11
3.5 Operating Condition of EUT.....	12
3.6 Test Procedures.....	12
3.7 Test Results.....	13
4 RADIATED EMISSION TEST	21
4.1 Test Equipment.....	21
4.2 Block Diagram of Test Setup.....	21
4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)].....	22
4.4 Test Configuration.....	22
4.5 Operating Condition of EUT.....	23
4.6 Test Procedures.....	23
4.7 Test Results.....	24
5 DEVIATION TO TEST SPECIFICATIONS	32
6 DEBUG DESCRIPTION	33

TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.
 Manufacturer : Hisense Electric Co., Ltd.
 EUT Description : LCD TV
 (A) Model No. : LCD32W57KCA
 (B) Serial No. : E2010062502
 (C) Brand : Hisense
 (D) 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) 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: Refer to Sec.2.1; S/N: Refer to Sec.2.1) which was tested in 3m anechoic chamber Jun 30, 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.

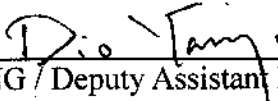
This report contains data that are not covered by the NVLAP accreditation.


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.

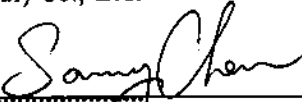
The test results for EUT's TV function are contained in No.F09034A2, a Verification report.

Date of Test : Jun 30, 2010 Date of Report : Jul 13, 2010

Producer : 
 CANDY XI / Assistant

Review : 
 DIO YANG / Deputy Assistant Manager

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

Signatory : 
 Authorized Signature EMC SAMMY CHEN / Assistant Manager

1 SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Description of Test Item	Standard	Limits	Results
EMISSION			
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 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 TV

Type of EUT : Production Pre-product Pro-type

Model No. : LCD32W57KCA

Serial No. : E2010062502

Brand : Hisense

Note #1 : The different list for all the models are as follows:

Report No.	Model No.	Rev. Summary	Edition No.	Data of Rev.
ACI-F09031	LHD32W57US, 32LC30S57, 32LC30S60	Original Report.	0	Apr 20, 2009
ACI-F09031A1	LCD32W57KCA	To add new model, change LCD panel, main board and power.	Rev. A1	Oct 29, 2009
ACI-F09031A2	LCD32W57KCA	To change LCD panel and power board	Rev. A2	Jul 13, 2010

Note #2 : The LCD32W57KCA was tested and recorded in this report.

Applicant : Hisense Electric Co., Ltd.
No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China

Manufacturer : Hisense Electric Co., Ltd.
No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China

LCD Panel : Manufacturer : SAMSUNG
M/N : LTA320AP05
S/N : 8CAD1VJ10H S02

Max Resolution : 1024*768@60Hz

D-Sub Cable	:	Shielded, Detachable, 1.85m, with two cores on cable
HDMI Cable	:	Shielded, Detachable, 1.85m, without core on cable
Power Cord	:	Unshielded, Detachable, 1.80m

Remark:

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

Bottom View:

- | | | |
|------------|------------------------------------|------------------------------|
| (1) | One component of YPbPr1 Port | Connected with DVD #1 |
| (2) | One component of YPbPr1 Audio Port | Connected with DVD #1 |
| (3) | One component of YPbPr2 Port | Connected with DVD #2 |
| (4) | One component of YPbPr2 Audio Port | Connected with DVD #2 |
| (5) | One HDMI2 Port | Connected with DVD #2 |
| (6) | One VGA Port | Connected with PC |
| (7) | One PC Audio Port | Connected with PC |
| (8) | One COAXIAL Port | Connected with DVD #1 |
| (9) | One Component of AV In2 Port | Connected with DVD #2 |
| Side View: | | |
| (10) | One S-Video Port | Connected with TV SG |
| (11) | One ANT Port | Connected with ATSC SG/TV SG |
| (12) | One Component of AV In1 Port | Connected with DVD#1 |
| (13) | One HDMI1 Port | Connected with DVD#1 |
| (14) | One Earphone Port | Connected with Earphone |
| (15) | One USB Port | Connected with U-Disk |
| (16) | One Component of AV Out Port | Connected with TV |

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 Printer

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

2.2.3 Keyboard

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

2.2.4 Mouse

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

2.2.5 Modem

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

2.2.6 Earphone

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

2.2.7 TV

Manufacturer : SOYEA
Model Number : V1453 (M)
Data Cable : Unshielded, Undetachable, 1.5m
Certificate : FCC DoC, CE/EMC, CCC

2.2.8 TV Signal Generator

Manufacturer : FLUKE
Model Number : 54200m01
Serial Number : 814008
Data Cable : Shielded, detachable, 2.0m
Power Cord : Unshielded, detachable, 2.0m
Certificate : CE/EMC, FCC DoC, CCC

2.2.9 ATSC Signal Generator

Manufacturer : SENCORE
Model Number : ATSC997
Serial Number : 6790071

2.2.10 DVD#1

Manufacturer : LG
Model Number : DF9921N
Serial Number : 3850R-M846W
Certificate : FCC DoC, CE/EMC, CCC

2.2.11 DVD#2

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

2.3 Description of Test Facility

Site Description (Semi-Anechoic Chamber)	:	Sept. 17, 1998 file on Apr 29, 2009 Renewed Federal Communications Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, USA
Name of Firm	:	Audix Technology (Shanghai) Co., Ltd.
Site Location	:	3F 34Bldg 680 Guiping Rd, Caohejing Hi-Tech Park, Shanghai 200233, China
NVLAP Lab Code	:	200371-0

2.4 Measurement Uncertainty

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

3 CONDUCTED EMISSION TEST

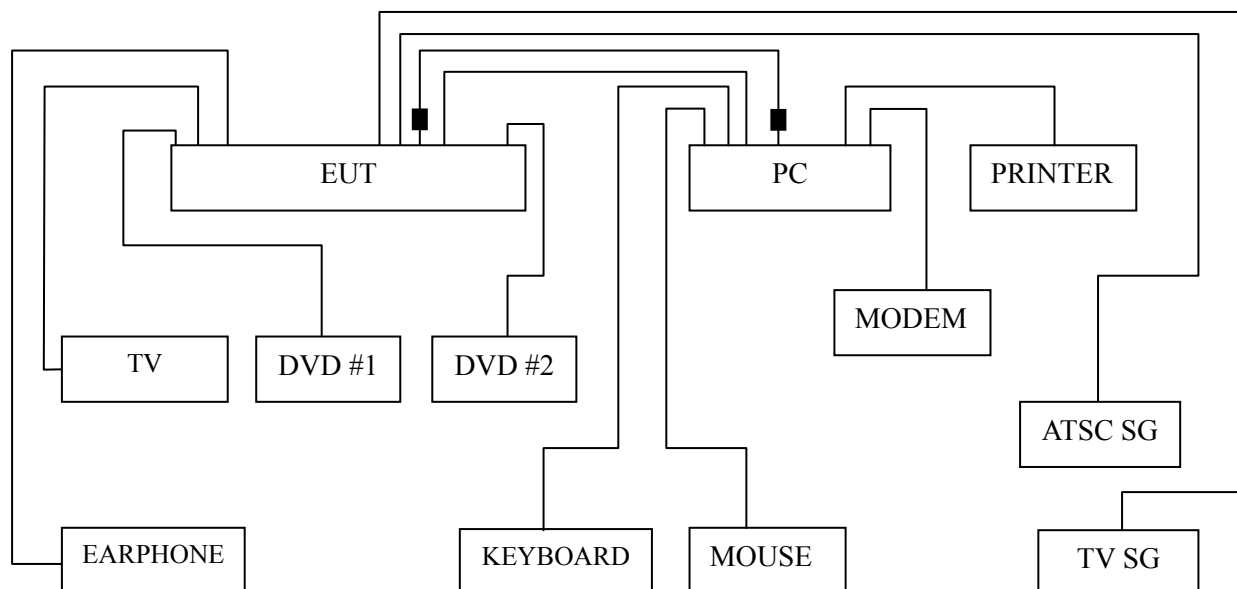
3.1 Test Equipment

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

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Nov 21, 2008	Nov 21, 2009
2.	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	Mar 19, 2010	Sep 19, 2010
5.	50 Ω Terminator	Anritsu	BNC	001	Apr 02, 2010	Apr 02, 2011
6.	Software	Audix	E3	SET00200 9804M592	--	--

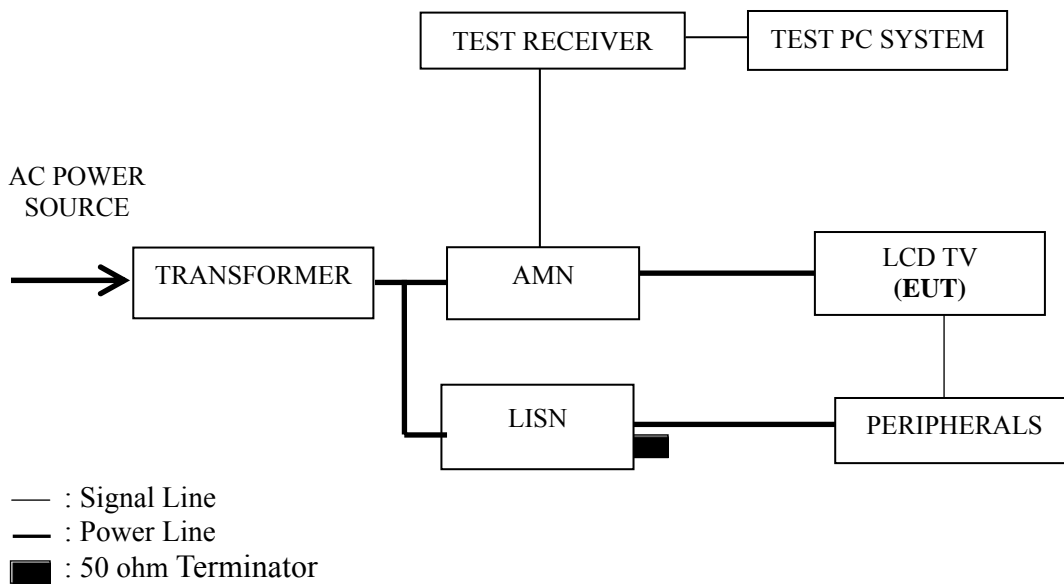
3.2 Block Diagram of Test Setup

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 (μV)	
	Quasi-peak	Average
0.15 ~ 0.5	66~56	56~46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE 1 – The lower limit shall apply at the transition frequencies.
 NOTE 2 – The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz~0.50 MHz

3.4 Test Configuration

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

3.5 Operating Condition of EUT

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

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

3.5.3 Set the contrast & brightness of EUT to maximum.

3.5.4 PC system ran the self-test program “EMC Test” by windows XP and sent “H” characters to EUT through graphic card, the EUT’s screen displayed and filled with “H” pattern by its resolution (Via D-Sub & HDMI Input).

3.5.5 Repeat above procedure from 3.5.3 to 3.5.4 for difference test mode.

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

3.5.7 The test modes are as follows:

Test Mode
D-Sub 640*480@60Hz
D-Sub 800*600@60Hz
D-Sub 1024*768@60Hz
HDMI 640*480@60Hz
HDMI 800*600@60Hz
HDMI 1024*768@60Hz
USB Play

3.6 Test Procedures

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

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

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

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

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

3.7 Test Results

< **PASS** >

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

Test Mode	Data Page
D-Sub 640*480@60Hz	P14
D-Sub 800*600@60Hz	P15
D-Sub 1024*768@60Hz	P16
HDMI 640*480@60Hz	P17
HDMI 800*600@60Hz	P18
HDMI 1024*768@60Hz	P19
USB Play	P20

NOTE 1 – Factor = Cable Loss + AMN Factor.

NOTE 2 – Emission Level = Meter Reading + Factor.

NOTE 3 – “QP” means “Quasi-Peak” values, “AV” means “Average” values.

NOTE 4 – The worst case is for HDMI 640*480@60Hz test mode. The worst emission is detected at 0.150 MHz (Quasi-Peak value) with corrected signal level of 58.03 dB (μ V) (limit is 65.99 dB (μ V)), when the Neutral of the EUT is connected to AMN.

EUT : LCD TV Temperature : 20°C

Model No. : LCD32W57KCA Humidity : 46%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : D-Sub 640*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.150	56.60	0.37	56.97	65.99	9.02	QP
	0.367	41.25	0.47	41.72	58.56	16.84	
	0.510	38.62	0.52	39.14	56.00	16.86	
	1.610	32.38	0.58	32.96	56.00	23.04	
	7.446	24.20	0.92	25.12	60.00	34.88	
	22.063	42.71	1.70	44.41	60.00	15.59	
	0.150	30.41	0.37	30.78	55.99	25.21	AV
	0.367	19.38	0.47	19.85	48.56	28.71	
	0.510	24.94	0.52	25.46	46.00	20.54	
	1.610	23.26	0.58	23.84	46.00	22.16	
	7.446	16.26	0.92	17.18	50.00	32.82	
	22.063	31.27	1.70	32.97	50.00	17.03	
Neutral	0.150	57.44	0.32	57.76	65.99	8.23	QP
	0.300	42.62	0.39	43.01	60.24	17.23	
	0.510	36.60	0.49	37.09	56.00	18.91	
	1.610	31.20	0.55	31.75	56.00	24.25	
	5.476	27.54	0.77	28.31	60.00	31.69	
	22.063	45.60	1.81	47.41	60.00	12.59	
	0.150	31.11	0.32	31.43	55.99	24.56	AV
	0.300	28.92	0.39	29.31	50.24	20.93	
	0.510	20.29	0.49	20.78	46.00	25.22	
	1.610	21.64	0.55	22.19	46.00	23.81	
	5.476	17.65	0.77	18.42	50.00	31.58	
	22.063	34.09	1.81	35.90	50.00	14.10	

TEST ENGINEER: TED ZHU

EUT : LCD TV Temperature : 20°C

Model No. : LCD32W57KCA Humidity : 46%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : D-Sub 800*600@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	56.57	0.37	56.94	65.99	9.05	QP
	0.300	44.05	0.45	44.50	60.24	15.74	
	0.505	38.14	0.52	38.66	56.00	17.34	
	1.610	32.44	0.58	33.02	56.00	22.98	
	7.446	24.38	0.92	25.30	60.00	34.70	
	19.950	40.92	1.62	42.54	60.00	17.46	AV
	0.150	30.48	0.37	30.85	55.99	25.14	
	0.300	33.63	0.45	34.08	50.24	16.16	
	0.505	26.70	0.52	27.22	46.00	18.78	
	1.610	23.46	0.58	24.04	46.00	21.96	
7.446	16.07	0.92	16.99	50.00	33.01	AV	
19.950	31.09	1.62	32.71	50.00	17.29		
0.150	57.38	0.32	57.70	65.99	8.29		QP
0.367	41.46	0.43	41.89	58.56	16.67		
0.510	36.69	0.49	37.18	56.00	18.82		
1.610	31.17	0.55	31.72	56.00	24.28		
5.476	26.64	0.77	27.41	60.00	32.59		
21.830	43.45	1.81	45.26	60.00	14.74	AV	
0.150	31.08	0.32	31.40	55.99	24.59		
0.367	18.98	0.43	19.41	48.56	29.15		
0.510	20.16	0.49	20.65	46.00	25.35		
1.610	22.08	0.55	22.63	46.00	23.37		
5.476	17.26	0.77	18.03	50.00	31.97	AV	
21.830	32.83	1.81	34.64	50.00	15.36		

TEST ENGINEER: TED ZHU

EUT : LCD TV Temperature : 20°C

Model No. : LCD32W57KCA Humidity : 46%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : D-Sub 1024*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	56.48	0.37	56.85	65.99	9.14	QP
	0.367	41.25	0.47	41.72	58.56	16.84	
	0.510	38.67	0.52	39.19	56.00	16.81	
	1.610	32.42	0.58	33.00	56.00	23.00	
	6.698	22.45	0.88	23.33	60.00	36.67	
	18.622	42.59	1.52	44.11	60.00	15.89	
	0.150	30.27	0.37	30.64	55.99	25.35	AV
	0.367	19.41	0.47	19.88	48.56	28.68	
	0.510	24.94	0.52	25.46	46.00	20.54	
	1.610	23.33	0.58	23.91	46.00	22.09	
	6.698	15.35	0.88	16.23	50.00	33.77	
	18.622	32.08	1.52	33.60	50.00	16.40	
Neutral	0.150	57.32	0.32	57.64	65.99	8.35	QP
	0.367	41.41	0.43	41.84	58.56	16.72	
	0.510	36.60	0.49	37.09	56.00	18.91	
	1.610	30.85	0.55	31.40	56.00	24.60	
	5.476	26.83	0.77	27.60	60.00	32.40	
	21.830	44.20	1.81	46.01	60.00	13.99	
	0.150	31.09	0.32	31.41	55.99	24.58	AV
	0.367	19.02	0.43	19.45	48.56	29.11	
	0.510	20.25	0.49	20.74	46.00	25.26	
	1.610	22.00	0.55	22.55	46.00	23.45	
	5.476	17.31	0.77	18.08	50.00	31.92	
	21.830	33.14	1.81	34.95	50.00	15.05	

TEST ENGINEER: TED ZHU

EUT : LCD TV Temperature : 20°C

Model No. : LCD32W57KCA Humidity : 46%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : HDMI 640*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.150	56.87	0.37	57.24	65.99	8.75	QP
	0.300	44.23	0.45	44.68	60.24	15.56	
	0.672	38.73	0.52	39.25	56.00	16.75	
	1.602	31.91	0.58	32.49	56.00	23.51	
	9.966	26.95	1.06	28.01	60.00	31.99	
	18.820	40.47	1.54	42.01	60.00	17.99	
	0.150	30.57	0.37	30.94	55.99	25.05	AV
	0.300	33.49	0.45	33.94	50.24	16.30	
	0.672	33.63	0.52	34.15	46.00	11.85	
	1.602	23.71	0.58	24.29	46.00	21.71	
	9.966	16.66	1.06	17.72	50.00	32.28	
	18.820	31.66	1.54	33.20	50.00	16.80	
Neutral	0.150	57.71	0.32	58.03	65.99	7.96	QP
	0.300	43.31	0.39	43.70	60.24	16.54	
	0.516	35.86	0.49	36.35	56.00	19.65	
	1.602	30.70	0.55	31.25	56.00	24.75	
	5.713	29.02	0.79	29.81	60.00	30.19	
	22.063	44.50	1.81	46.31	60.00	13.69	
	0.150	31.21	0.32	31.53	55.99	24.46	AV
	0.300	28.96	0.39	29.35	50.24	20.89	
	0.516	16.19	0.49	16.68	46.00	29.32	
	1.602	22.49	0.55	23.04	46.00	22.96	
	5.713	19.74	0.79	20.53	50.00	29.47	
	22.063	34.15	1.81	35.96	50.00	14.04	

TEST ENGINEER: TED ZHU

EUT : LCD TV Temperature : 20°C

Model No. : LCD32W57KCA Humidity : 46%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : HDMI 800*600@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	56.17	0.37	56.54	65.99	9.45	QP
	0.300	43.83	0.45	44.28	60.24	15.96	
	0.510	38.45	0.52	38.97	56.00	17.03	
	1.602	30.49	0.58	31.07	56.00	24.93	
	9.204	27.04	1.02	28.06	60.00	31.94	
	22.063	40.70	1.70	42.40	60.00	17.60	
	0.150	30.49	0.37	30.86	55.99	25.13	AV
	0.300	33.58	0.45	34.03	50.24	16.21	
	0.510	24.82	0.52	25.34	46.00	20.66	
	1.602	23.71	0.58	24.29	46.00	21.71	
	9.204	15.74	1.02	16.76	50.00	33.24	
	22.063	30.01	1.70	31.71	50.00	18.29	
Neutral	0.150	57.19	0.32	57.51	65.99	8.48	QP
	0.300	42.38	0.39	42.77	60.24	17.47	
	0.510	36.43	0.49	36.92	56.00	19.08	
	2.931	26.93	0.65	27.58	56.00	28.42	
	5.476	27.47	0.77	28.24	60.00	31.76	
	21.830	45.08	1.81	46.89	60.00	13.11	
	0.150	30.93	0.32	31.25	55.99	24.74	AV
	0.300	28.99	0.39	29.38	50.24	20.86	
	0.510	20.23	0.49	20.72	46.00	25.28	
	2.931	20.20	0.65	20.85	46.00	25.15	
	5.476	18.18	0.77	18.95	50.00	31.05	
	21.830	33.88	1.81	35.69	50.00	14.31	

TEST ENGINEER: TED ZHU

EUT : LCD TV Temperature : 20°C

Model No. : LCD32W57KCA Humidity : 46%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : HDMI 1024*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.150	56.45	0.37	56.82	65.99	9.17	QP
	0.300	43.96	0.45	44.41	60.24	15.83	
	0.505	38.20	0.52	38.72	56.00	17.28	
	1.610	32.30	0.58	32.88	56.00	23.12	
	7.446	24.74	0.92	25.66	60.00	34.34	
	21.830	41.98	1.69	43.67	60.00	16.33	AV
	0.150	30.41	0.37	30.78	55.99	25.21	
	0.300	33.60	0.45	34.05	50.24	16.19	
	0.505	26.58	0.52	27.10	46.00	18.90	
	1.610	23.37	0.58	23.95	46.00	22.05	
7.446	16.48	0.92	17.40	50.00	32.60	AV	
21.830	31.02	1.69	32.71	50.00	17.29		
0.150	57.15	0.32	57.47	65.99	8.52		QP
0.363	41.21	0.43	41.64	58.65	17.01		
0.510	36.41	0.49	36.90	56.00	19.10		
2.155	28.09	0.60	28.69	56.00	27.31		
5.476	27.58	0.77	28.35	60.00	31.65		
Neutral	22.298	45.57	1.81	47.38	60.00	12.62	AV
	0.150	31.02	0.32	31.34	55.99	24.65	
	0.363	18.68	0.43	19.11	48.65	29.54	
	0.510	20.13	0.49	20.62	46.00	25.38	
	2.155	19.76	0.60	20.36	46.00	25.64	
	5.476	18.40	0.77	19.17	50.00	30.83	
22.298	33.89	1.81	35.70	50.00	14.30		

TEST ENGINEER: TED ZHU

EUT : LCD TV Temperature : 20°C

Model No. : LCD32W57KCA Humidity : 46%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : USB Play

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.152	50.02	0.26	50.28	65.91	15.63	QP
	0.435	26.37	0.44	26.81	57.15	30.34	
	0.720	19.86	0.46	20.32	56.00	35.68	
	4.822	25.51	0.64	26.15	56.00	29.85	
	5.774	26.32	0.67	26.99	60.00	33.01	
	18.820	27.45	1.10	28.55	60.00	31.45	
	0.152	46.99	0.26	47.25	55.91	8.66	AV
	0.435	8.76	0.44	9.20	47.15	37.95	
	0.720	9.38	0.46	9.84	46.00	36.16	
	4.822	14.56	0.64	15.20	46.00	30.80	
	5.774	12.44	0.67	13.11	50.00	36.89	
	18.820	17.94	1.10	19.04	50.00	30.96	
Neutral	0.153	50.17	0.23	50.40	65.82	15.42	QP
	0.435	26.44	0.41	26.85	57.15	30.30	
	1.010	21.65	0.49	22.14	56.00	33.86	
	4.874	25.98	0.65	26.63	56.00	29.37	
	5.200	27.27	0.65	27.92	60.00	32.08	
	23.636	22.68	1.04	23.72	60.00	36.28	
	0.153	44.68	0.23	44.91	55.82	10.91	AV
	0.435	10.56	0.41	10.97	47.15	36.18	
	1.010	9.47	0.49	9.96	46.00	36.04	
	4.874	13.26	0.65	13.91	46.00	32.09	
	5.200	14.07	0.65	14.72	50.00	35.28	
	23.636	11.20	1.04	12.24	50.00	37.76	

TEST ENGINEER: TED ZHU

4 RADIATED EMISSION TEST

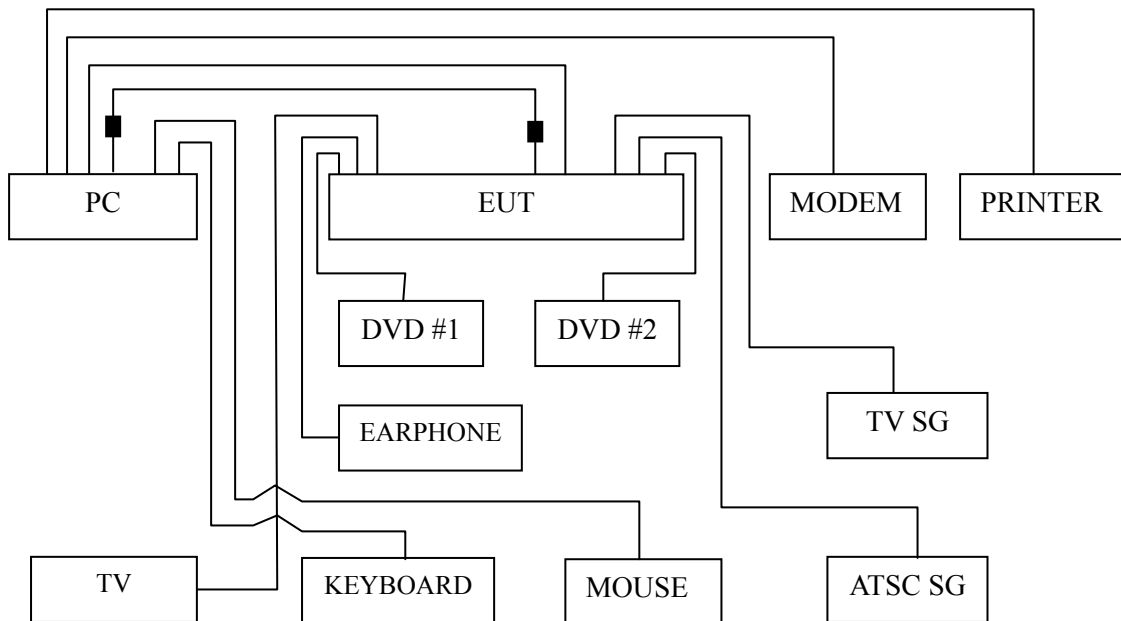
4.1 Test Equipment

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	Mar 19, 2010	Sep 19, 2010
3.	Bi-log Antenna	TESEQ	CBL6112D	23192	Dec 01, 2009	Dec 01, 2010
4.	Spectrum	Agilent	E7405A	MY45106600	May 19, 2010	May 19, 2011
5.	Software	Audix	E3	SET00200 9912M295-2	--	--

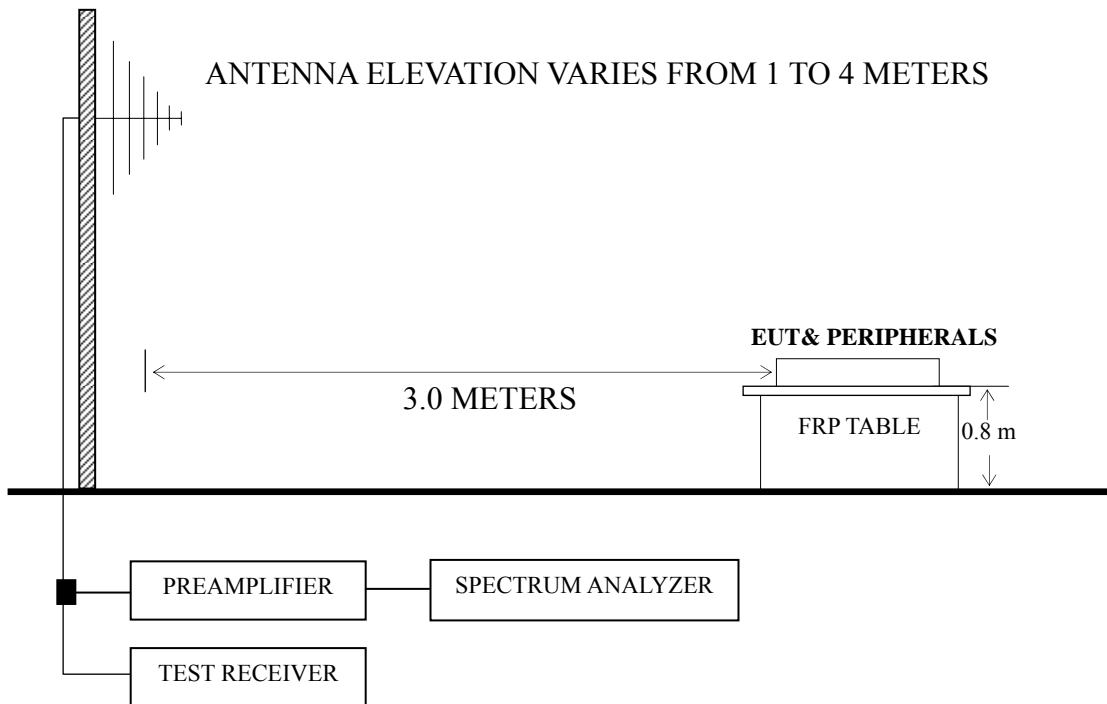
4.2 Block Diagram of Test Setup

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.

4.4 Test Configuration

The configuration of the EUT and peripherals are same as those used in conducted emission test.

Please refer to Sec.3.4.

4.5 Operating Condition of EUT

Same as conducted emission test which is listed in Sec.3.5, except for the test setup replaced by Sec.4.2.

4.6 Test Procedures

The EUT and peripherals were placed on a FRP turntable that is 0.8 meter above ground. The FRP turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. Broadband antenna (Calibrated Bilog Antenna) was used as receiving antenna. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.4:2003 requirements during radiated emission test.

The bandwidth of Test Receiver R&S ESVS10 was set at 120 kHz.

The frequency range from 30 MHz to 1000MHz was checked for all test modes.

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

4.7 Test Results

<PASS>

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

Test Mode	Data Page
D-Sub 640*480@60Hz	P25
D-Sub 800*600@60Hz	P26
D-Sub 1024*768@60Hz	P27
HDMI 640*480@60Hz	P28
HDMI 800*600@60Hz	P29
HDMI 1024*768@60Hz	P30
USB Play	P31

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading.

NOTE 2 – The emission levels that are 20dB below the official limit are not reported.

NOTE 3 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

NOTE 4 – The worst case is for USB Play test mode. The worst emission at horizontal polarization was detected at 300.630 MHz with corrected signal level of 42.81 dB ($\mu\text{V}/\text{m}$) (limit is 46.00dB ($\mu\text{V}/\text{m}$)), when the antenna was 1.00 m height and the turntable was at 30°. The worst emission at vertical polarization was detected at 829.280 MHz with corrected signal level of 44.13 dB ($\mu\text{V}/\text{m}$) (limit is 46.00 dB ($\mu\text{V}/\text{m}$)), when the antenna was 1.00 m height and the turntable was at 330°.

EUT : LCD TV Temperature : 22°C

Model No. : LCD32W57KCA Humidity : 60%RH

Serial No. : E2010062502 Date of Test : Jun 30, 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	94.990	19.50	10.45	1.02	30.97	43.50	12.53
	198.780	23.17	10.64	1.44	35.25	43.50	8.25
	300.630	18.91	13.93	1.77	34.61	46.00	11.39
	557.680	22.06	18.68	2.38	43.12	46.00	2.88
	691.540	16.81	19.66	2.65	39.12	46.00	6.88
	764.290	14.12	20.36	2.82	37.30	46.00	8.70
Vertical	35.820	16.00	16.45	0.68	33.13	40.00	6.87
	58.130	24.83	6.96	0.83	32.62	40.00	7.38
	203.630	23.86	10.85	1.46	36.17	43.50	7.33
	559.590	20.99	18.72	2.38	42.09	46.00	3.91
	795.330	14.43	20.64	2.89	37.96	46.00	8.04
	948.590	13.45	22.05	3.58	39.08	46.00	6.92

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LCD32W57KCA Humidity : 60%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : D-Sub 800*600@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	94.990	20.19	10.45	1.02	31.66	43.50	11.84
	148.340	20.04	11.41	1.23	32.68	43.50	10.82
	201.690	22.72	10.78	1.45	34.95	43.50	8.55
	315.180	20.72	14.32	1.81	36.85	46.00	9.15
	559.590	20.99	18.72	2.38	42.09	46.00	3.91
	960.230	14.93	22.13	3.76	40.82	54.00	13.18
Vertical	36.790	16.29	15.80	0.69	32.78	40.00	7.22
	135.730	17.70	12.28	1.19	31.17	43.50	12.33
	203.630	23.63	10.85	1.46	35.94	43.50	7.56
	407.330	17.41	16.59	2.08	36.08	46.00	9.92
	560.590	19.23	18.72	2.38	40.33	46.00	5.67
	960.230	14.52	22.13	3.76	40.41	54.00	13.59

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LCD32W57KCA Humidity : 60%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : D-Sub 1024*768@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	153.190	21.77	11.04	1.25	34.06	43.50	9.44
	198.780	24.02	10.64	1.44	36.10	43.50	7.40
	300.630	19.54	13.93	1.77	35.24	46.00	10.76
	557.680	19.55	18.68	2.38	40.61	46.00	5.39
	686.690	16.60	19.63	2.65	38.88	46.00	7.12
	994.180	12.31	22.37	4.25	38.93	54.00	15.07
Vertical	58.130	23.13	6.96	0.83	30.92	40.00	9.08
	87.230	23.30	8.96	0.98	33.24	40.00	6.76
	201.690	24.20	10.78	1.45	36.43	43.50	7.07
	407.330	16.24	16.59	2.08	34.91	46.00	11.09
	557.680	18.01	18.68	2.38	39.07	46.00	6.93
	798.240	15.71	20.67	2.89	39.27	46.00	6.73

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LCD32W57KCA Humidity : 60%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : HDMI 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	94.990	17.50	10.45	1.02	28.97	43.50	14.53
	198.780	21.17	10.64	1.44	33.25	43.50	10.25
	300.630	16.91	13.93	1.77	32.61	46.00	13.39
	557.680	20.06	18.68	2.38	41.12	46.00	4.88
	691.540	13.81	19.66	2.65	36.12	46.00	9.88
	953.440	11.52	22.11	3.58	37.21	46.00	8.79
Vertical	35.820	18.00	16.45	0.68	35.13	40.00	4.87
	58.130	26.83	6.96	0.83	34.62	40.00	5.38
	203.630	25.86	10.85	1.46	38.17	43.50	5.33
	407.330	18.36	16.59	2.08	37.03	46.00	8.97
	557.680	20.45	18.68	2.38	41.51	46.00	4.49
	948.590	15.45	22.05	3.58	41.08	46.00	4.92

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LCD32W57KCA Humidity : 60%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : HDMI 800*600@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	94.990	17.19	10.45	1.02	28.66	43.50	14.84
	148.340	17.04	11.41	1.23	29.68	43.50	13.82
	201.690	19.72	10.78	1.45	31.95	43.50	11.55
	560.590	18.14	18.72	2.38	39.24	46.00	6.76
	693.480	12.69	19.67	2.67	35.03	46.00	10.97
	956.350	10.34	22.11	3.76	36.21	46.00	9.79
Vertical	36.790	12.29	15.80	0.69	28.78	40.00	11.22
	135.730	15.70	12.28	1.19	29.17	43.50	14.33
	203.630	20.63	10.85	1.46	32.94	43.50	10.56
	407.330	15.41	16.59	2.08	34.08	46.00	11.92
	560.590	16.23	18.72	2.38	37.33	46.00	8.67
	960.230	12.52	22.13	3.76	38.41	54.00	15.59

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LCD32W57KCA Humidity : 60%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : HDMI 1024*768@60Hz

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	87.230	19.41	8.96	0.98	29.35	40.00	10.65
	153.190	18.77	11.04	1.25	31.06	43.50	12.44
	197.810	19.54	10.60	1.44	31.58	43.50	11.92
	300.630	16.54	13.93	1.77	32.24	46.00	13.76
	557.680	16.55	18.68	2.38	37.61	46.00	8.39
	686.690	13.60	19.63	2.65	35.88	46.00	10.12
Vertical	36.790	12.87	15.80	0.69	29.36	40.00	10.64
	58.130	19.13	6.96	0.83	26.92	40.00	13.08
	87.230	19.30	8.96	0.98	29.24	40.00	10.76
	153.190	15.18	11.04	1.25	27.47	43.50	16.03
	201.690	20.20	10.78	1.45	32.43	43.50	11.07
	557.680	14.01	18.68	2.38	35.07	46.00	10.93

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LCD32W57KCA Humidity : 60%RH

Serial No. : E2010062502 Date of Test : Jun 30, 2010

Test Mode : USB Play

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	31.940	43.11	18.49	0.65	33.79	40.00	6.21
	80.440	48.93	7.85	0.95	29.61	40.00	10.39
	300.630	54.29	13.93	1.77	42.81	46.00	3.19
	415.090	52.45	16.72	2.09	42.35	46.00	3.65
	526.640	48.93	18.24	2.32	40.85	46.00	5.15
	829.280	44.83	20.98	2.93	40.25	46.00	5.75
Vertical	31.940	41.09	18.49	0.65	31.77	40.00	8.23
	80.440	52.53	7.85	0.95	33.21	40.00	6.79
	288.990	53.15	13.71	1.73	41.39	46.00	4.61
	378.230	49.95	16.03	2.00	39.34	46.00	6.66
	567.380	49.09	18.81	2.39	41.68	46.00	4.32
	829.280	48.71	20.98	2.93	44.13	46.00	1.87

TEST ENGINEER: RAVEN JIN

5 DEVIATION TO TEST SPECIFICATIONS

None.

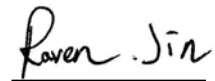
6 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Manufacturer	Location
Ferrite core	BNF-12\ZCAT1519-08 30\ROH	FEELUX	See Intpho Figure 16
		Rui Feng Electronic Co., Ltd.	
		Hai An Magnetic Material No.2 Factory	
Ferrite core	ZCAT2132-1130\ROH	FEELUX	See Intpho Figure 17
		Rui Feng Electronic Co., Ltd.	
		Hai An Magnetic Material No.2 Factory	

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)