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

LCD TV

Model No.	Serial No.	Brand
LHD32V77US	E11091090-01/01	Hisense
H32V75C	--	

FCC ID : W9HLCDC0010

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

Prepared By : Audix Technology (Shanghai) Co., Ltd.
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Report No. : ACI-F11139
Date of Test : Sep 21– 23, 2011
Date of Report : Sep 27, 2011

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TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.

Manufacturer : Hisense Electric Co., Ltd.

EUT Description : LCD TV

Model No.	Serial No.	Brand	Power Supply
LHD32V77US	E11091090-01/01	Hisense	120V/60Hz
H32V75C	--		

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) 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: LHD32V77US, H32V75C; S/N: E11091090-01/01) which was tested in 3m anechoic chamber Sep 21– 23, 2011 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 functions are contained in No.F11140, a Verification report.

Date of Test : Sep 21– 23, 2011 Date of Report : Sep 27, 2011

Producer : Kathy Wang
KATHY WANG / Assistant

Review : Dio Yang
DIO YANG/ Assistant Manager

AUDIX® 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 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 TV
Type of EUT	:	☑ Production ☐ Pre-product ☐ Pro-type
Model No.	:	LHD32V77US, H32V75C
Serial No.	:	E11091090-01/01
Note	:	LHD32V77US and H32V75C are all the same except for the model name. The data of LHD32V77US was tested and recorded in the report.
Brand	:	Hisense
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 : CHIMEI INNOLUX M/N : V315B6-L04
Tuner	:	Manufacturer : XuGuang Tech. Co., Ltd. M/N : DVT-8C/W41F2HS\ROH
Max Resolution	:	1024*768@60Hz
D-Sub Cable	:	Shielded, Detachable, 1.85m, with two cores on cable
HDMI Cable	:	Shielded, Detachable, 1.00m,
Power Cord	:	Unshielded, Detachable, 1.80m

Remark:

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

Back Port:

(1) One HDMI2 Port
: Connected with DVD #1

(2) One HDMI3 Port
: Connected with DVD #2

(3) One PC /DVI AUDIO In Port
: Connected with PC

(4) One PC (VGA) Port
: Connected with PC

(5) One Digital Audio Out Port
: Connected with DVD #1

Side Port

(1) One SERVICE port
: do not open to customer

(2) One HDMI1 Port
: Connected with PC

(3) One component of YPbPr Port
: Connected with DVD #1

(4) One component of YPbPr Audio Port
: Connected with DVD #1

(5) One component of AV Port
: Connected with DVD #1

(6) One Headphone Port
: Connected with Earphone

(7) One ANT/Cable In Port
: Connected with TV SG

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, undetachable, 1.8m.
Certificate	:	CE/EMC, FCC DoC, VCCI, MIC, C-Tick, BSMI

2.2.6 Earphone

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

2.2.7 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

2.2.8 ATSC Signal Generator

Manufacturer	:	SENCORE
Model Number	:	ATSC997
Serial Number	:	6790071

2.2.9 DVD #1

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

2.2.10 DVD #2

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

2.3 Description of Test Facility

Site Description (No.3 3m 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 = 3.38dB
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)

3 CONDUCTED EMISSION TEST

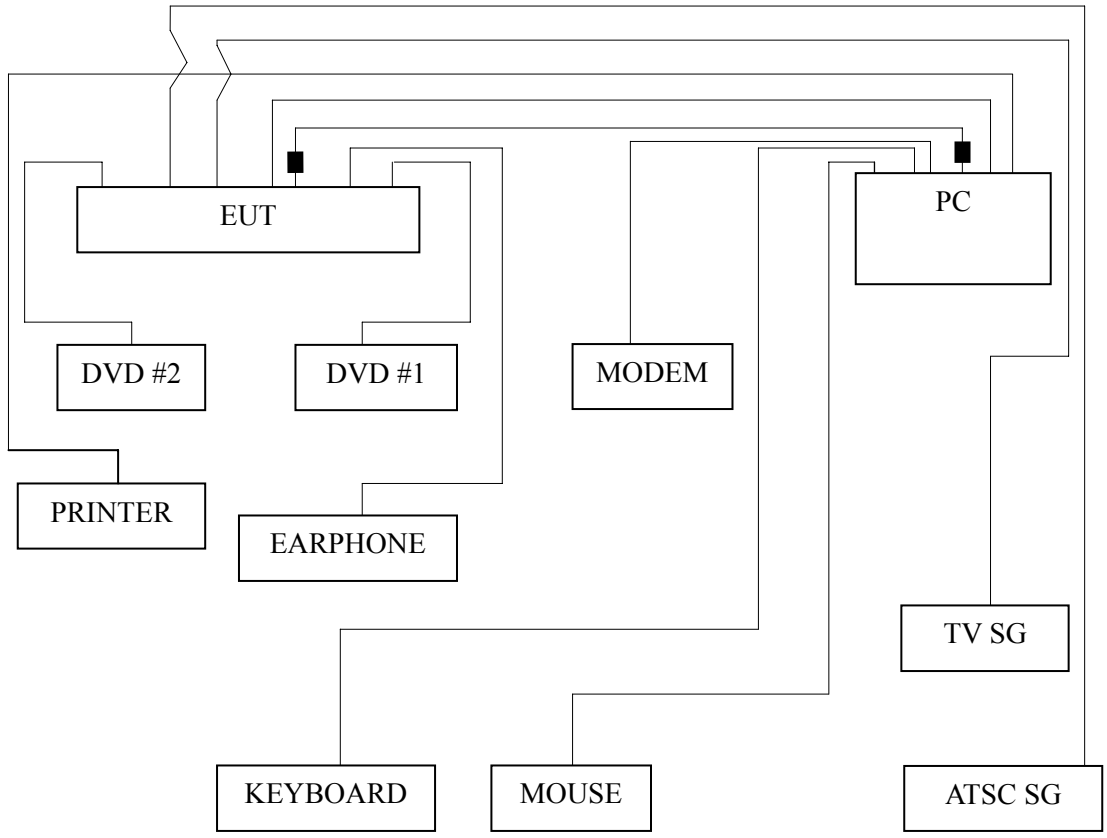
3.1 Test Equipment

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.	50Ω Terminator	Anritsu	BNC	001	Mar 22, 2011	Mar 22, 2012
6.	Software	Audix	E3	SET00200 9804M592	--	--

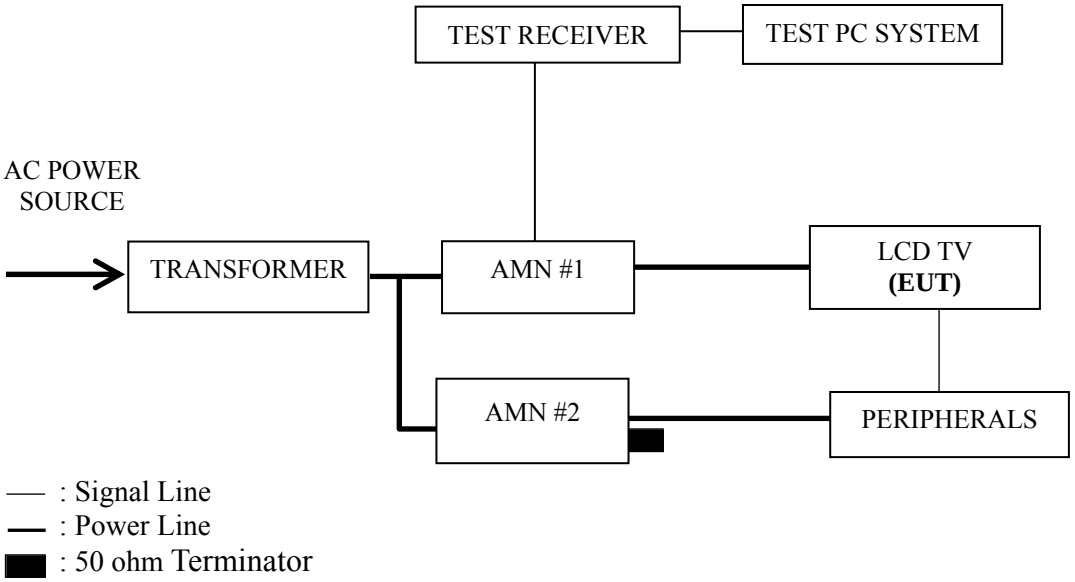
3.2 Block Diagram of Test Setup

3.2.1 EUT & Peripherals



■: Ferrite core

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 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

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

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 1024*768@60Hz test mode. The worst emission is detected at 2.678 MHz (Average Value) with corrected signal level of 37.87 dB (μV) (limit is 46.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT	:	LCD TV	Temperature :	22℃	
Model No.	:	LHD32V77US	Humidity :	48%RH	
Serial No.	:	E11091090-01/01	Date of Test :	Sep 21, 2011	
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	0.234	39.61	0.02	39.83	62.30	22.47	QP
	0.564	42.86	0.04	43.19	56.00	12.81	
	1.184	43.25	0.07	43.63	56.00	12.37	
	2.201	36.53	0.09	36.97	56.00	19.03	
	4.114	34.67	0.17	35.21	56.00	20.79	
	19.950	44.13	0.38	45.10	60.00	14.90	
	0.234	29.62	0.02	29.84	52.30	22.46	AV
	0.564	33.29	0.04	33.62	46.00	12.38	
	1.184	**35.48**	**0.07**	**35.86**	**46.00**	**10.14**	
	2.201	27.48	0.09	27.92	46.00	18.08	
	4.114	26.15	0.17	26.69	46.00	19.31	
	19.950	35.26	0.38	36.23	50.00	13.77	
Neutral	0.233	39.41	0.02	39.59	62.35	22.76	QP
	0.564	44.19	0.04	44.44	56.00	11.56	
	1.184	42.59	0.07	43.04	56.00	12.96	
	2.309	37.60	0.10	38.17	56.00	17.83	
	4.114	33.36	0.17	34.10	56.00	21.90	
	19.950	44.45	0.38	45.63	60.00	14.37	
	0.233	29.61	0.02	29.79	52.35	22.56	AV
	0.564	34.78	0.04	35.03	46.00	10.97	
	1.184	35.09	0.07	35.54	46.00	10.46	
	2.309	28.62	0.10	29.19	46.00	16.81	
	4.114	22.45	0.17	23.19	46.00	22.81	
	19.950	33.09	0.38	34.27	50.00	15.73	

TEST ENGINEER: WENCY YANG

EUT	:	LCD TV	Temperature :	22℃	
Model No.	:	LHD32V77US	Humidity :	48%RH	
Serial No.	:	E11091090-01/01	Date of Test :	Sep 21, 2011	
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	0.230	39.61	0.02	39.83	62.44	22.61	QP
	0.564	43.22	0.04	43.55	56.00	12.45	
	1.184	42.41	0.07	42.79	56.00	13.21	
	2.309	37.35	0.10	37.80	56.00	18.20	
	4.269	33.82	0.17	34.36	56.00	21.64	
	19.950	44.63	0.38	45.60	60.00	14.40	
	0.230	29.61	0.02	29.83	52.44	22.61	AV
	0.564	34.69	0.04	35.02	46.00	10.98	
	1.184	33.56	0.07	33.94	46.00	12.06	
	2.309	28.66	0.10	29.11	46.00	16.89	
	4.269	23.90	0.17	24.44	46.00	21.56	
	19.950	35.06	0.38	36.03	50.00	13.97	
Neutral	0.228	38.80	0.02	38.98	62.52	23.54	QP
	0.564	43.78	0.04	44.03	56.00	11.97	
	1.310	42.49	0.08	42.96	56.00	13.04	
	2.309	37.68	0.10	38.25	56.00	17.75	
	12.649	33.37	0.33	34.49	60.00	25.51	
	19.950	44.78	0.38	45.96	60.00	14.04	
	0.228	29.70	0.02	29.88	52.52	22.64	AV
	0.564	**35.70**	**0.04**	**35.95**	**46.00**	**10.05**	
	1.310	32.09	0.08	32.56	46.00	13.44	
	2.309	28.09	0.10	28.66	46.00	17.34	
	12.649	24.13	0.33	25.25	50.00	24.75	
	19.950	33.68	0.38	34.86	50.00	15.14	

TEST ENGINEER: WENCY YANG

EUT	:	LCD TV	Temperature :	22℃	
Model No.	:	LHD32V77US	Humidity :	48%RH	
Serial No.	:	E11091090-01/01	Date of Test :	Sep 21, 2011	
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	0.226	39.35	0.02	39.57	62.61	23.04	QP
	0.564	43.56	0.04	43.89	56.00	12.11	
	1.184	42.81	0.07	43.19	56.00	12.81	
	2.309	38.42	0.10	38.87	56.00	17.13	
	12.649	34.55	0.33	35.38	60.00	24.62	
	19.950	44.33	0.38	45.30	60.00	14.70	
	0.226	29.62	0.02	29.84	52.61	22.77	AV
	0.564	33.62	0.04	33.95	46.00	12.05	
	1.184	32.45	0.07	32.83	46.00	13.17	
	2.309	28.64	0.10	29.09	46.00	16.91	
	12.649	23.89	0.33	24.72	50.00	25.28	
	19.950	35.60	0.38	36.57	50.00	13.43	
Neutral	0.234	38.88	0.02	39.06	62.30	23.24	QP
	0.564	43.68	0.04	43.93	56.00	12.07	
	1.065	42.32	0.07	42.76	56.00	13.24	
	2.309	39.29	0.10	39.86	56.00	16.14	
	12.649	33.26	0.33	34.38	60.00	25.62	
	19.950	44.41	0.38	45.59	60.00	14.41	
	0.234	29.79	0.02	29.97	52.30	22.33	AV
	0.564	**35.78**	**0.04**	**36.03**	**46.00**	**9.97**	
	1.065	34.10	0.07	34.54	46.00	11.46	
	2.309	28.12	0.10	28.69	46.00	17.31	
	12.649	24.60	0.33	25.72	50.00	24.28	
	19.950	35.90	0.38	37.08	50.00	12.92	

TEST ENGINEER: WENCY YANG

EUT	:	LCD TV	Temperature :	22℃	
Model No.	:	LHD32V77US	Humidity :	48%RH	
Serial No.	:	E11091090-01/01	Date of Test :	Sep 21, 2011	
Test Mode	:	HDMI 640*480@60Hz			

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.230	39.63	0.02	39.85	62.44	22.59	QP
	0.564	**44.39**	**0.04**	**44.72**	**56.00**	**11.28**	
	1.065	42.71	0.07	43.08	56.00	12.92	
	2.678	36.70	0.10	37.15	56.00	18.85	
	4.114	33.96	0.17	34.50	56.00	21.50	
	19.950	43.82	0.38	44.79	60.00	15.21	
	0.230	30.90	0.02	31.12	52.44	21.32	AV
	0.564	33.15	0.04	33.48	46.00	12.52	
	1.065	32.45	0.07	32.82	46.00	13.18	
	2.678	26.49	0.10	26.94	46.00	19.06	
	4.114	23.15	0.17	23.69	46.00	22.31	
	19.950	32.78	0.38	33.75	50.00	16.25	
Neutral	0.234	39.21	0.02	39.39	62.30	22.91	QP
	0.564	44.33	0.04	44.58	56.00	11.42	
	1.184	42.10	0.07	42.55	56.00	13.45	
	2.309	37.66	0.10	38.23	56.00	17.77	
	3.840	33.69	0.16	34.42	56.00	21.58	
	19.950	44.91	0.38	46.09	60.00	13.91	
	0.234	31.05	0.02	31.23	52.30	21.07	AV
	0.564	33.26	0.04	33.51	46.00	12.49	
	1.184	31.48	0.07	31.93	46.00	14.07	
	2.309	28.90	0.10	29.47	46.00	16.53	
	3.840	22.61	0.16	23.34	46.00	22.66	
	19.950	33.59	0.38	34.77	50.00	15.23	

TEST ENGINEER: WENCY YANG

EUT	:	LCD TV	Temperature :	22℃	
Model No.	:	LHD32V77US	Humidity :	48%RH	
Serial No.	:	E11091090-01/01	Date of Test :	Sep 21, 2011	
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	0.237	39.29	0.02	39.51	62.22	22.71	QP
	0.564	44.53	0.04	44.86	56.00	11.14	
	1.065	42.60	0.07	42.97	56.00	13.03	
	2.237	36.99	0.09	37.43	56.00	18.57	
	4.224	33.55	0.17	34.09	56.00	21.91	
	19.950	36.36	0.38	37.33	60.00	22.67	
	0.237	29.16	0.02	29.38	52.22	22.84	AV
	0.564	33.86	0.04	34.19	46.00	11.81	
	1.065	32.89	0.07	33.26	46.00	12.74	
	2.237	27.16	0.09	27.60	46.00	18.40	
	4.224	23.09	0.17	23.63	46.00	22.37	
	19.950	27.18	0.38	28.15	50.00	21.85	
Neutral	0.242	39.23	0.02	39.41	62.04	22.63	QP
	0.564	44.21	0.04	44.46	56.00	11.54	
	1.065	41.79	0.07	42.23	56.00	13.77	
	2.237	37.91	0.09	38.46	56.00	17.54	
	4.224	33.82	0.17	34.56	56.00	21.44	
	21.600	36.77	0.41	37.99	60.00	22.01	
	0.242	29.86	0.02	30.04	52.04	22.00	AV
	0.564	**35.08**	**0.04**	**35.33**	**46.00**	**10.67**	
	1.065	31.65	0.07	32.09	46.00	13.91	
	2.237	27.33	0.09	27.88	46.00	18.12	
	4.224	22.08	0.17	22.82	46.00	23.18	
	21.600	27.18	0.41	28.40	50.00	21.60	

TEST ENGINEER: WENCY YANG

EUT	:	LCD TV	Temperature	:	22℃
Model No.	:	LHD32V77US	Humidity	:	48%RH
Serial No.	:	E11091090-01/01	Date of Test	:	Sep 21, 2011
Test Mode	:	HDMI 1024*768@60Hz			

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.230	39.49	0.02	39.71	62.44	22.73	QP
	0.564	44.47	0.04	44.80	56.00	11.20	
	1.184	43.38	0.07	43.76	56.00	12.24	
	2.678	36.93	0.10	37.38	56.00	18.62	
	4.114	34.09	0.17	34.63	56.00	21.37	
	19.950	35.01	0.38	35.98	60.00	24.02	
	0.230	30.16	0.02	30.38	52.44	22.06	AV
	0.564	33.15	0.04	33.48	46.00	12.52	
	1.184	35.16	0.07	35.54	46.00	10.46	
	2.678	27.20	0.10	27.65	46.00	18.35	
	4.114	25.18	0.17	25.72	46.00	20.28	
	19.950	26.15	0.38	27.12	50.00	22.88	
Neutral	0.237	39.27	0.02	39.45	62.22	22.77	QP
	0.564	43.87	0.04	44.12	56.00	11.88	
	1.184	42.64	0.07	43.09	56.00	12.91	
	2.678	37.49	0.10	38.07	56.00	17.93	
	4.224	33.76	0.17	34.50	56.00	21.50	
	21.600	35.76	0.41	36.98	60.00	23.02	
	0.237	30.15	0.02	30.33	52.22	21.89	AV
	0.564	33.48	0.04	33.73	46.00	12.27	
	1.184	34.08	0.07	34.53	46.00	11.47	
	2.678	**37.29**	**0.10**	**37.87**	**46.00**	**8.13**	
	4.224	23.18	0.17	23.92	46.00	22.08	
	21.600	25.67	0.41	26.89	50.00	23.11	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

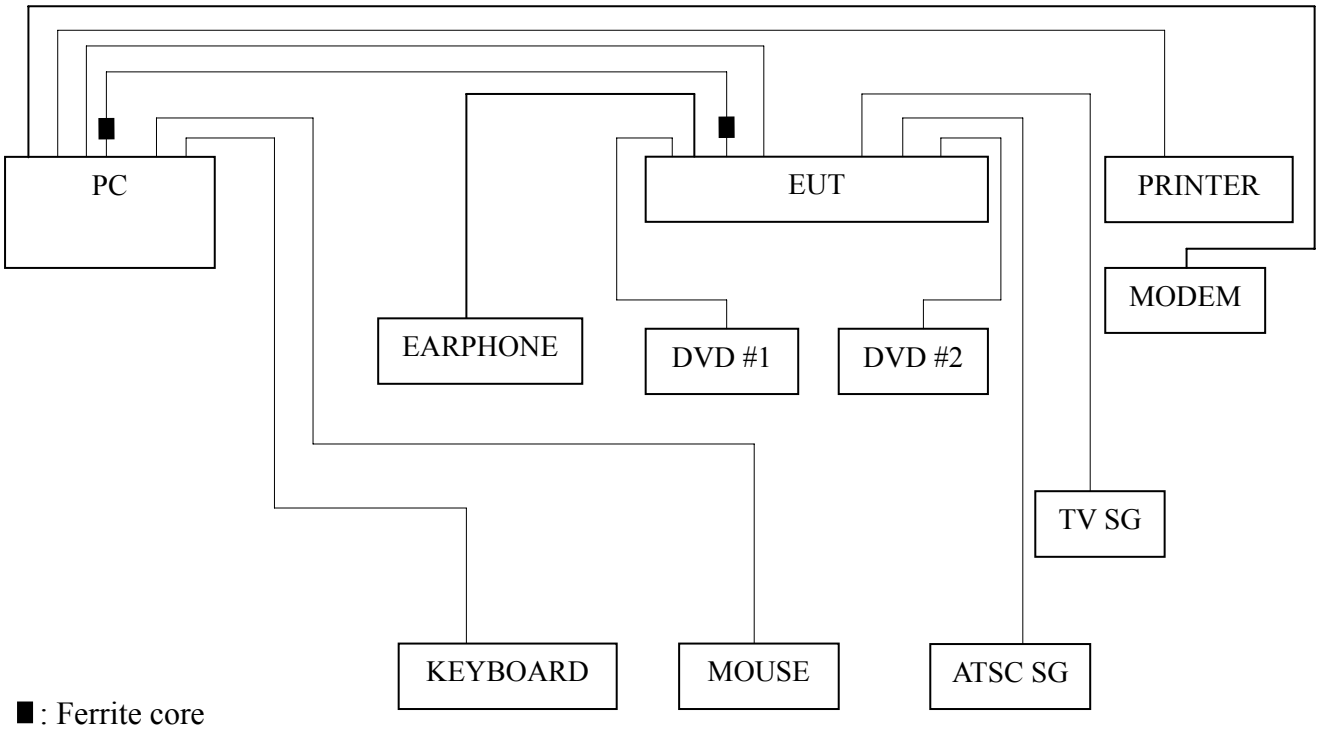
4.1 Test Equipment

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.	Bi-log Antenna	TESEQ	CBL6112D	23192	Dec 01, 2010	Dec 01, 2011
4.	Spectrum Analyzer	Agilent	E7405A	MY45106600	Mar 22, 2011	Mar 22, 2012
5.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Sep 18, 2011	Mar 18, 2012
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

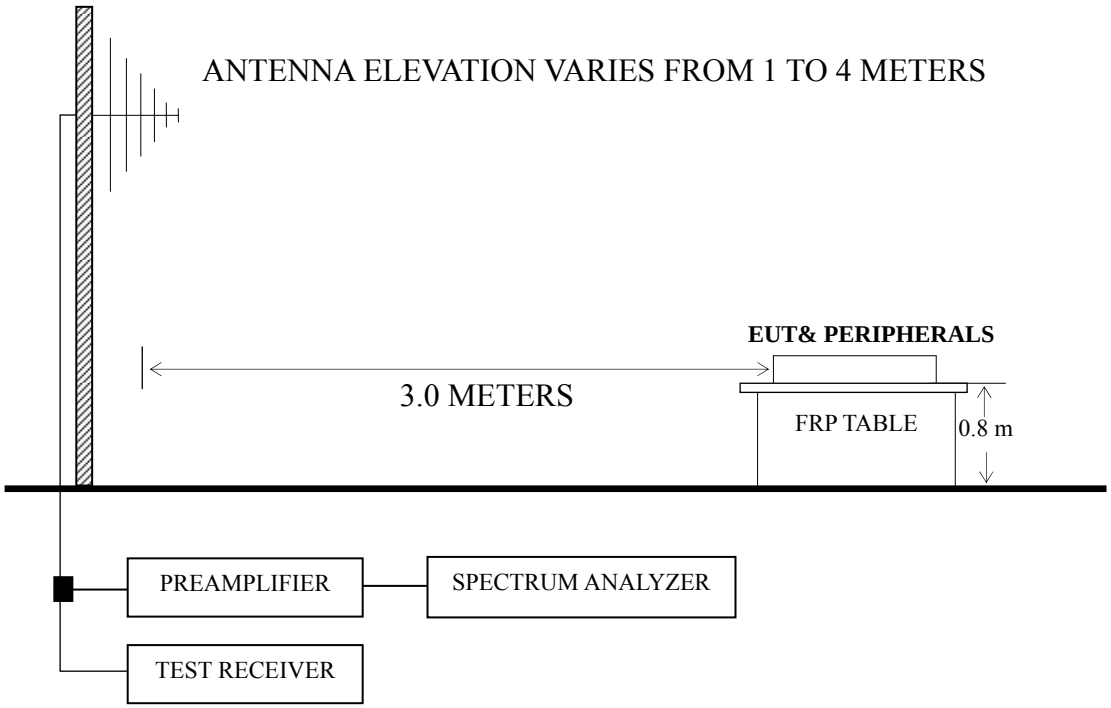
4.2 Block Diagram of Test Setup

4.2.1 EUT and Peripherals



■: Ferrite core

4.2.2 Radiated emission test setup



■ : 50 ohm Coaxial Switch

4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)]

Frequency (MHz)	Distance (m)	Field strength limits	
		(μV/m)	dB (μV/m)
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

NOTE 1 - Emission Level dB (μV/m) = 20 log Emission Level (μV/m)
NOTE 2 - The tighter limit applies at the band edges.
NOTE 3 - Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
NOTE 4 - The limits shown are based on Quasi-peak value detector.

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.

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	P23
D-Sub 800*600@60Hz	P24
D-Sub 1024*768@60Hz	P25
HDMI 640*480@60Hz	P26
HDMI 800*600@60Hz	P27
HDMI 1024*768@60Hz	P28

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

NOTE 2 – All readings are Quasi-Peak values.

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 D-Sub 640*480@60Hz test mode. The worst emission at horizontal polarization was detected at 182.290 MHz with corrected signal level of 38.89 dB (μV/m) (limit is 43.50 dB (μV/m)), when the antenna was 1.80 m height and the turntable was at 120°. The worst emission at vertical polarization was detected at 80.440 MHz with corrected signal level of 37.76 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.70 m height and the turntable was at 230°.

EUT	:	LCD TV	Temperature :	22℃
Model No.	:	LHD32V77US	Humidity :	60%RH
Serial No.	:	E11091090-01/01	Date of Test :	Sep 23, 2011
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	112.450	47.34	11.14	1.96	32.67	43.50	10.83
	145.430	52.36	10.50	2.20	37.55	43.50	5.95
	182.290	**53.89**	**9.97**	**2.36**	**38.89**	**43.50**	**4.61**
	287.050	46.34	13.35	2.72	35.52	46.00	10.48
	686.690	33.05	19.33	3.66	27.91	46.00	18.09
	881.660	35.96	20.35	4.75	33.53	46.00	12.47
Vertical	36.790	46.55	14.57	0.85	33.82	40.00	6.18
	56.190	50.81	8.88	1.08	32.82	40.00	7.18
	80.440	**53.54**	**10.56**	**1.59**	**37.76**	**40.00**	**2.24**
	113.420	51.88	11.12	1.97	37.21	43.50	6.29
	292.870	47.49	13.53	2.74	36.87	46.00	9.13
	975.750	43.07	20.69	5.15	41.72	54.00	12.28

TEST ENGINEER: RAVEN JIN

EUT	:	LCD TV	Temperature :	22℃
Model No.	:	LHD32V77US	Humidity :	60%RH
Serial No.	:	E11091090-01/01	Date of Test :	Sep 23, 2011
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	59.100	48.44	9.07	1.16	30.75	40.00	9.25
	145.000	**24.11**	**10.51**	**2.20**	**36.82**	**43.50**	**6.68**
	169.680	51.25	10.11	2.32	36.24	43.50	7.26
	289.960	48.19	13.42	2.72	37.44	46.00	8.56
	501.420	36.49	17.61	3.27	29.25	46.00	16.75
	878.750	36.07	20.36	4.75	33.64	46.00	12.36
Vertical	35.820	45.05	15.19	0.84	32.91	40.00	7.09
	50.370	52.91	8.51	0.93	34.33	40.00	5.67
	79.470	**53.07**	**10.51**	**1.58**	**37.24**	**40.00**	**2.76**
	110.510	51.77	11.18	1.94	37.10	43.50	6.40
	230.790	49.87	11.10	2.55	36.58	46.00	9.42
	290.930	48.93	13.46	2.74	38.24	46.00	7.76

TEST ENGINEER: RAVEN JIN

EUT	:	LCD TV	Temperature :	22℃
Model No.	:	LHD32V77US	Humidity :	60%RH
Serial No.	:	E11091090-01/01	Date of Test :	Sep 23, 2011
Test Mode	:	D-Sub 1024*768@60Hz		

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	60.070	47.17	9.14	1.19	29.59	40.00	10.41
	77.530	48.99	10.39	1.56	33.04	40.00	6.96
	182.290	**53.89**	**9.97**	**2.36**	**38.89**	**43.50**	**4.61**
	288.990	49.54	13.39	2.72	38.76	46.00	7.24
	454.860	39.41	17.03	3.13	31.69	46.00	14.31
	701.240	36.28	19.50	3.68	31.37	46.00	14.63
Vertical	36.790	46.55	14.57	0.85	33.82	40.00	6.18
	50.370	51.91	8.51	0.93	33.33	40.00	6.67
	79.470	**53.07**	**10.51**	**1.58**	**37.24**	**40.00**	**2.76**
	113.420	51.88	11.12	1.97	37.21	43.50	6.29
	290.930	47.93	13.46	2.74	37.24	46.00	8.76
	881.660	45.43	20.35	4.75	43.00	46.00	3.00

TEST ENGINEER: RAVEN JIN

EUT	:	LCD TV	Temperature :	22℃
Model No.	:	LHD32V77US	Humidity :	60%RH
Serial No.	:	E11091090-01/01	Date of Test :	Sep 23, 2011
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	77.530	48.99	10.39	1.56	33.04	40.00	6.96
	115.360	45.75	11.09	1.98	31.08	43.50	12.42
	145.430	**52.36**	**10.50**	**2.20**	**37.55**	**43.50**	**5.95**
	183.260	44.86	9.96	2.37	29.87	43.50	13.63
	288.020	47.93	13.39	2.72	37.15	46.00	8.85
	454.860	39.41	17.03	3.13	31.69	46.00	14.31
Vertical	57.160	50.97	8.96	1.12	33.11	40.00	6.89
	77.530	**52.17**	**10.39**	**1.56**	**36.22**	**40.00**	**3.78**
	112.450	52.07	11.14	1.96	37.40	43.50	6.10
	146.400	49.66	10.49	2.20	34.84	43.50	8.66
	287.050	46.36	13.35	2.72	35.54	46.00	10.46
	751.680	38.64	20.09	3.80	34.63	46.00	11.37

TEST ENGINEER: RAVEN JIN

EUT	:	LCD TV	Temperature :	22℃
Model No.	:	LHD32V77US	Humidity :	60%RH
Serial No.	:	E11091090-01/01	Date of Test :	Sep 23, 2011
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	59.100	48.44	9.07	1.16	30.75	40.00	9.25
	79.470	47.81	10.51	1.58	31.98	40.00	8.02
	145.000	**24.11**	**10.51**	**2.20**	**36.82**	**43.50**	**6.68**
	288.990	49.54	13.39	2.72	38.76	46.00	7.24
	452.920	42.25	17.01	3.13	34.52	46.00	11.48
	878.750	36.07	20.36	4.75	33.64	46.00	12.36
Vertical	52.310	52.85	8.63	0.97	34.46	40.00	5.54
	77.530	**53.17**	**10.39**	**1.56**	**37.22**	**40.00**	**2.78**
	110.510	51.77	11.18	1.94	37.10	43.50	6.40
	182.290	51.48	9.97	2.36	36.48	43.50	7.02
	289.960	49.58	13.42	2.72	38.83	46.00	7.17
	888.450	35.96	20.33	4.89	33.66	46.00	12.34

TEST ENGINEER: RAVEN JIN

EUT	:	LCD TV	Temperature :	22℃
Model No.	:	LHD32V77US	Humidity :	60%RH
Serial No.	:	E11091090-01/01	Date of Test :	Sep 23, 2011
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	77.530	48.99	10.39	1.56	33.04	40.00	6.96
	145.430	52.36	10.50	2.20	37.55	43.50	5.95
	182.290	**53.89**	**9.97**	**2.36**	**38.89**	**43.50**	**4.61**
	289.960	48.19	13.42	2.72	37.44	46.00	8.56
	322.940	47.32	14.34	2.82	37.44	46.00	8.56
	454.860	39.41	17.03	3.13	31.69	46.00	14.31
Vertical	49.400	51.79	8.69	0.91	33.35	40.00	6.65
	79.470	**53.07**	**10.51**	**1.58**	**37.24**	**40.00**	**2.76**
	111.480	52.28	11.15	1.96	37.61	43.50	5.89
	182.290	50.48	9.97	2.36	35.48	43.50	8.02
	291.900	47.72	13.49	2.74	37.06	46.00	8.94
	979.630	42.72	20.71	5.15	41.41	54.00	12.59

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	ZCAT3035-1330\ROH	FEELUX	See Internal Photos Figure 13
		Rui Feng Electronic Co., Ltd.	
		Hai An Magnetic Material No.2 Factory	
		JIANGSU LETTALL ELECTRONICS CO., LTD.	
Ferrite core	BNF-12\ZCAT1519-0830\ROH	FEELUX	See Internal Photos Figure 14, 15
		Rui Feng Electronic Co., Ltd.	
		Hai An Magnetic Material No.2 Factory	
		JIANGSU LETTALL ELECTRONICS CO., LTD.	

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

TEST ENGINEER: Raven Jin

(RAVEN JIN)