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

LED LCD TV

Model No.	Brand
LHD32A300MUS	Hisense
32A320	

FCC ID : W9HLCDC0026

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-F13195
Date of Test : Oct 30 – Nov 04, 2013
Date of Report : Nov 11, 2013

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TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.

Manufacturer : Hisense Electric Co., Ltd.

Factory #1 : Hisense Electric Co., Ltd.

Factory #2 : Tatung Mexico S.A. de C.V.

EUT Description : LED LCD TV

Model No.	Brand	Power Supply
LHD32A300MUS	Hisense	120V/60Hz
32A320		

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2012 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 Sec2.1) which was tested in 3m anechoic chamber Oct 30 – Nov 04, 2013 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.F13196, a Verification report.

Date of Test : Oct 30 – Nov 04, 2013 **Date of Report :** Nov 11, 2013

Producer : KATHY WANG / Supervisor

Review : DIO YANG / Assistant Manager

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

Signatory : SAMMY CHEN / Deputy Manager

Authorized Signature EMC

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 2012 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2012 AND ANSI C63.4-2003	15.109(a) Class B	Pass

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description	:	LED LCD TV
Type of EUT	:	☐ Production ☑ Pre-product ☐ Pro-type
Model No.	:	LHD32A300MUS, 32A320
Brand Name	:	Hisense
Note	:	The above models are all the same except for the model name. LHD32A300US model was tested and recorded in the 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
Factory #1	:	Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China
Factory #2	:	Tatung Mexico S.A. de C.V. Miguel Catalán 420, Parque Industrial Rio Bravo, Cd. Juarez, Chih., CP 32557
LCD Panel	:	Manufacturer : Hisense M/N : HE315GH-E77
Max Resolution	:	D-Sub 1024*768@60Hz HDMI 1920*1080@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 LED LCD TV which input/output ports as follows:

Bottom Port:

(1) One VGA Port
: Connected with PC

(2) One PC AUDIO Port
: Connected with PC

(3) One HDMI1 Port
: Connected with PC

(4) One USB Port
: Connected with U-Disk

(5) One AV/ COMPONENT IN Port
: Connected with DVD PLAYER

Side Port:

(1) One DIGITAL AUDIO OUT
: Connected with DVD PLAYER

(2) One ANT /Cable in Port
: Connected with ATSC SG / TV SG

(3) One Audio Out Port
: Connected with Earphone

(4) One HDMI2/MHL Port
: Connected with Smart Mobile Phone

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 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

2.2.7 ATSC Signal Generator

Manufacturer	:	SENCORE
Model Number	:	ATSC997
Serial Number	:	6790071

2.2.8 DVD PLAYER

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

2.2.9 Earphone

Manufacturer	:	audio-technica
Model Number	:	ATH-CKL200

2.2.10 U-DISK

Manufacturer	:	LG
Model Number	:	1GB

2.2.11 Smart Mobile Phone

Manufacturer	:	SAMSUNG
Model Number	:	GT-I9100G
Serial Number	:	RV1C2250B7J
Certificate	:	CE/EMC, CCC

2.3 Description of Test Facility

Site Description (No.3 3m Chamber)	:	Sept. 17, 1998 file on Mar 16, 2012 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 = 3.02 dB
Radiated Emission Expanded Uncertainty (30-200MHz):
U = 4.17 dB (Horizontal)
U = 4.02 dB (Vertical)
Radiated Emission Expanded Uncertainty (200M-1GHz):
U = 3.38 dB (Horizontal)
U = 3.28 dB (Vertical)
Radiated Emission Expanded Uncertainty (Above 1GHz):
U = 4.68 dB (Horizontal)
U = 4.87 dB (Vertical)

3 CONDUCTED EMISSION TEST

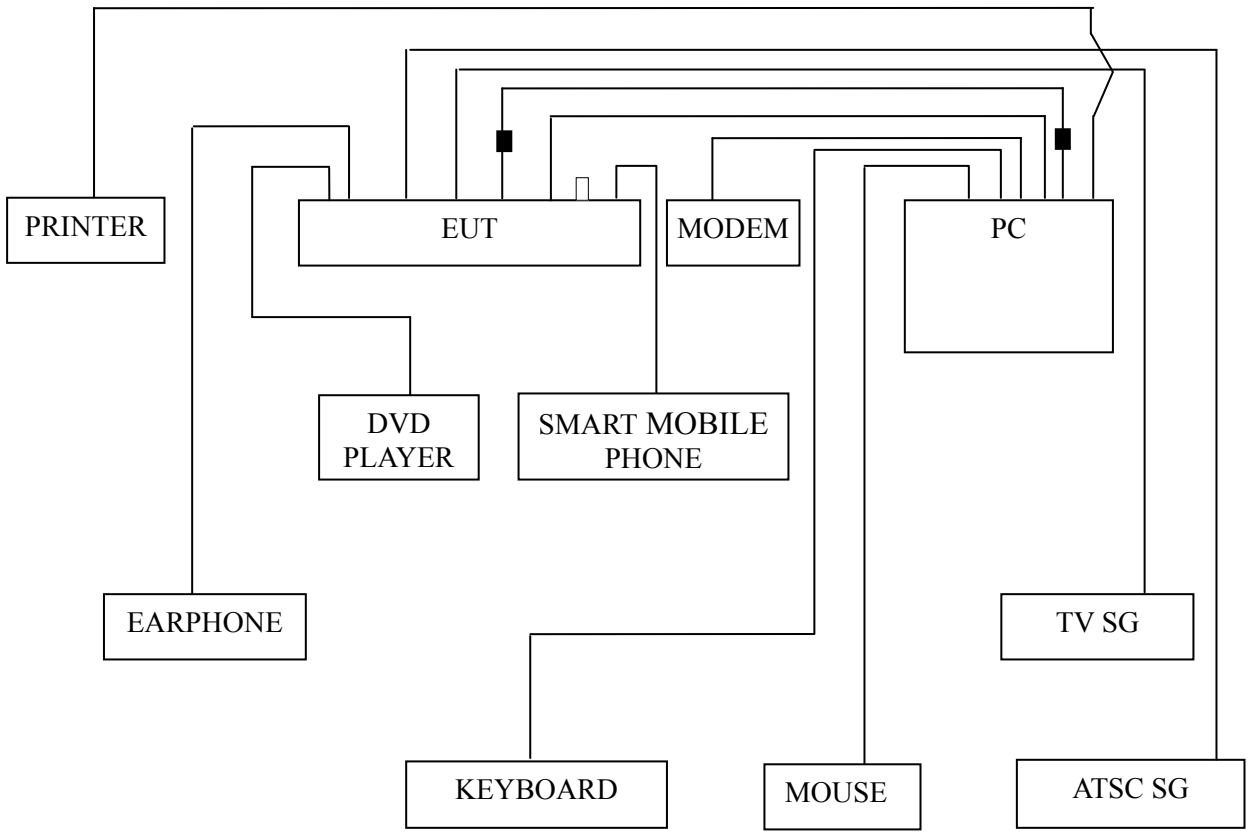
3.1 Test Equipment

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 20, 2013	Mar 19, 2014
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Feb 25, 2013	Feb 24, 2014
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2013	Mar 19, 2014
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Sep 18, 2013	Mar 17, 2014
5.	50Ω Terminator	Anritsu	BNC	001	Mar 20, 2013	Mar 19, 2014
6.	Software	Audix	E3	6.2009-1-15	--	--

3.2 Block Diagram of Test Setup

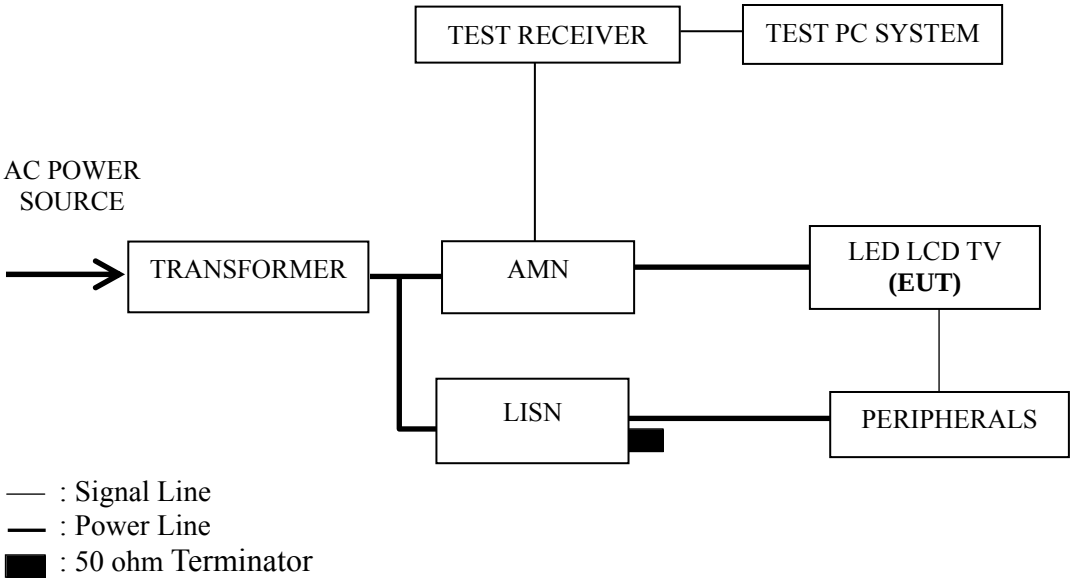
3.2.1 EUT & Peripherals



■ : Ferrite core

 : U-Disk

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 In USB Play mode, set the EUT play digital media from U-Disk.

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 1024*768@60Hz
HDMI 1920*1080@60Hz
D-Sub 800*600@60Hz
D-Sub 640*480@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 1024*768@60Hz	P13
HDMI 1920*1080@60Hz	P14
D-Sub 800*600@60Hz	P15
D-Sub 640*480@60Hz	P16
USB Play	P17

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 D-Sub 1024*768@60Hz test mode. The worst emission is detected at 6.008 MHz (Average Value) with corrected signal level of 42.98 dB (μV) (limit is 50.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LHD32A300MUS	Humidity	:	48%RH
Test Mode	:	D-Sub 1024*768@60Hz	Date of Test	:	Nov 04, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	42.50	0.16	42.66	66.00	23.34	QP
	0.189	54.10	0.13	54.23	64.09	9.86	
	0.250	44.01	0.08	44.09	61.75	17.66	
	0.732	40.10	0.10	40.20	56.00	15.80	
	6.142	43.00	0.23	43.23	60.00	16.77	
	16.180	37.80	-0.02	37.78	60.00	22.22	
	0.150	14.80	0.16	14.96	56.00	41.04	AV
	0.189	40.10	0.13	40.23	54.09	13.86	
	0.250	28.61	0.08	28.69	51.75	23.06	
	0.732	25.60	0.10	25.70	46.00	20.30	
	6.142	34.60	0.23	34.83	50.00	15.17	
	16.180	30.80	-0.02	30.78	50.00	19.22	
Neutral	0.191	52.60	0.19	52.79	63.98	11.19	QP
	0.255	44.39	0.22	44.61	61.59	16.98	
	0.737	37.09	0.13	37.22	56.00	18.78	
	2.318	29.20	0.17	29.37	56.00	26.63	
	6.008	46.30	0.28	46.58	60.00	13.42	
	16.220	38.11	0.60	38.71	60.00	21.29	
	0.191	41.40	0.19	41.59	53.98	12.39	AV
	0.255	29.29	0.22	29.51	51.59	22.08	
	0.737	23.09	0.13	23.22	46.00	22.78	
	2.318	18.20	0.17	18.37	46.00	27.63	
	6.008	**42.70**	**0.28**	**42.98**	**50.00**	**7.02**	
	16.220	30.71	0.60	31.31	50.00	18.69	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LHD32A300MUS	Humidity	:	48%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test	:	Nov 04, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.189	52.80	0.13	52.93	64.07	11.14	QP
	0.253	44.19	0.09	44.28	61.64	17.36	
	0.745	40.80	0.10	40.90	56.00	15.10	
	1.860	31.60	0.07	31.67	56.00	24.33	
	6.068	43.50	0.23	43.73	60.00	16.27	
	16.340	38.21	-0.03	38.18	60.00	21.82	
	0.189	39.50	0.13	39.63	54.07	14.44	AV
	0.253	28.39	0.09	28.48	51.64	23.16	
	0.745	28.00	0.10	28.10	46.00	17.90	
	1.860	17.90	0.07	17.97	46.00	28.03	
	6.068	34.60	0.23	34.83	50.00	15.17	
	16.340	30.81	-0.03	30.78	50.00	19.22	
Neutral	0.188	52.80	0.19	52.99	64.14	11.15	QP
	0.250	43.11	0.20	43.31	61.74	18.43	
	0.728	36.89	0.13	37.02	56.00	18.98	
	2.107	30.00	0.17	30.17	56.00	25.83	
	6.009	45.90	0.28	46.18	60.00	13.82	
	16.150	37.51	0.60	38.11	60.00	21.89	
	0.188	39.90	0.19	40.09	54.14	14.05	AV
	0.250	27.11	0.20	27.31	51.74	24.43	
	0.728	23.79	0.13	23.92	46.00	22.08	
	2.107	18.70	0.17	18.87	46.00	27.13	
	6.009	**41.90**	**0.28**	**42.18**	**50.00**	**7.82**	
	16.150	30.81	0.60	31.41	50.00	18.59	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LHD32A300MUS	Humidity	:	48%RH
Test Mode	:	D-Sub 800*600@60Hz	Date of Test	:	Nov 04, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.190	51.99	0.13	52.12	64.03	11.91	QP
	0.266	42.00	0.08	42.08	61.25	19.17	
	0.729	40.50	0.10	40.60	56.00	15.40	
	2.664	30.00	0.10	30.10	56.00	25.90	
	6.075	43.30	0.23	43.53	60.00	16.47	
	16.250	37.60	-0.02	37.58	60.00	22.42	
	0.190	38.99	0.13	39.12	54.03	14.91	AV
	0.266	27.00	0.08	27.08	51.25	24.17	
	0.729	26.00	0.10	26.10	46.00	19.90	
	2.664	20.40	0.10	20.50	46.00	25.50	
	6.075	34.70	0.23	34.93	50.00	15.07	
	16.250	30.80	-0.02	30.78	50.00	19.22	
Neutral	**0.188**	**52.60**	**0.19**	**52.79**	**64.12**	**11.33**	QP
	0.251	43.91	0.20	44.11	61.74	17.63	
	0.727	40.50	0.12	40.62	56.00	15.38	
	2.449	30.40	0.16	30.56	56.00	25.44	
	6.068	43.40	0.28	43.68	60.00	16.32	
	15.830	37.99	0.59	38.58	60.00	21.42	
	0.188	39.00	0.19	39.19	54.12	14.93	AV
	0.251	27.21	0.20	27.41	51.74	24.33	
	0.727	25.60	0.12	25.72	46.00	20.28	
	2.449	20.00	0.16	20.16	46.00	25.84	
	6.068	34.60	0.28	34.88	50.00	15.12	
	15.830	31.09	0.59	31.68	50.00	18.32	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LHD32A300MUS	Humidity	:	48%RH
Test Mode	:	D-Sub 640*480@60Hz	Date of Test	:	Nov 04, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.189	51.70	0.13	51.83	64.07	12.24	QP
	0.252	43.39	0.09	43.48	61.68	18.20	
	0.729	40.60	0.10	40.70	56.00	15.30	
	2.659	31.10	0.10	31.20	56.00	24.80	
	6.072	43.80	0.23	44.03	60.00	15.97	
	15.940	37.30	-0.02	37.28	60.00	22.72	
	0.189	38.40	0.13	38.53	54.07	15.54	AV
	0.252	27.79	0.09	27.88	51.68	23.80	
	0.729	26.00	0.10	26.10	46.00	19.90	
	2.659	20.40	0.10	20.50	46.00	25.50	
	6.072	34.80	0.23	35.03	50.00	14.97	
	15.940	30.80	-0.02	30.78	50.00	19.22	
Neutral	**0.189**	**52.00**	**0.19**	**52.19**	**64.08**	**11.89**	QP
	0.252	43.19	0.22	43.41	61.69	18.28	
	0.729	37.49	0.13	37.62	56.00	18.38	
	2.451	28.60	0.16	28.76	56.00	27.24	
	5.662	42.90	0.26	43.16	60.00	16.84	
	16.170	37.91	0.60	38.51	60.00	21.49	
	0.189	41.00	0.19	41.19	54.08	12.89	AV
	0.252	28.09	0.22	28.31	51.69	23.38	
	0.729	24.39	0.13	24.52	46.00	21.48	
	2.451	18.30	0.16	18.46	46.00	27.54	
	5.662	32.90	0.26	33.16	50.00	16.84	
	16.170	30.01	0.60	30.61	50.00	19.39	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LHD32A300MUS	Humidity	:	48%RH
Test Mode	:	USB Play	Date of Test	:	Nov 04, 20133

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	**0.190**	**51.69**	**0.13**	**51.82**	**64.04**	**12.22**	QP
	0.253	43.49	0.09	43.58	61.67	18.09	
	0.744	41.10	0.10	41.20	56.00	14.80	
	2.475	30.80	0.09	30.89	56.00	25.11	
	6.071	43.50	0.23	43.73	60.00	16.27	
	15.970	39.10	-0.02	39.08	60.00	20.92	
	0.190	39.39	0.13	39.52	54.04	14.52	AV
	0.253	27.79	0.09	27.88	51.67	23.79	
	0.744	28.10	0.10	28.20	46.00	17.80	
	2.475	20.30	0.09	20.39	46.00	25.61	
	6.071	34.60	0.23	34.83	50.00	15.17	
	15.970	31.50	-0.02	31.48	50.00	18.52	
Neutral	0.188	51.70	0.19	51.89	64.12	12.23	QP
	0.250	42.41	0.20	42.61	61.75	19.14	
	0.730	37.39	0.13	37.52	56.00	18.48	
	2.113	30.10	0.17	30.27	56.00	25.73	
	5.946	42.29	0.28	42.57	60.00	17.43	
	15.900	38.50	0.59	39.09	60.00	20.91	
	0.188	39.90	0.19	40.09	54.12	14.03	AV
	0.250	26.81	0.20	27.01	51.75	24.74	
	0.730	24.19	0.13	24.32	46.00	21.68	
	2.113	19.00	0.17	19.17	46.00	26.83	
	5.946	34.19	0.28	34.47	50.00	15.53	
	15.900	31.20	0.59	31.79	50.00	18.21	

TEST ENGINEER: ERIC TANG

4 RADIATED EMISSION TEST

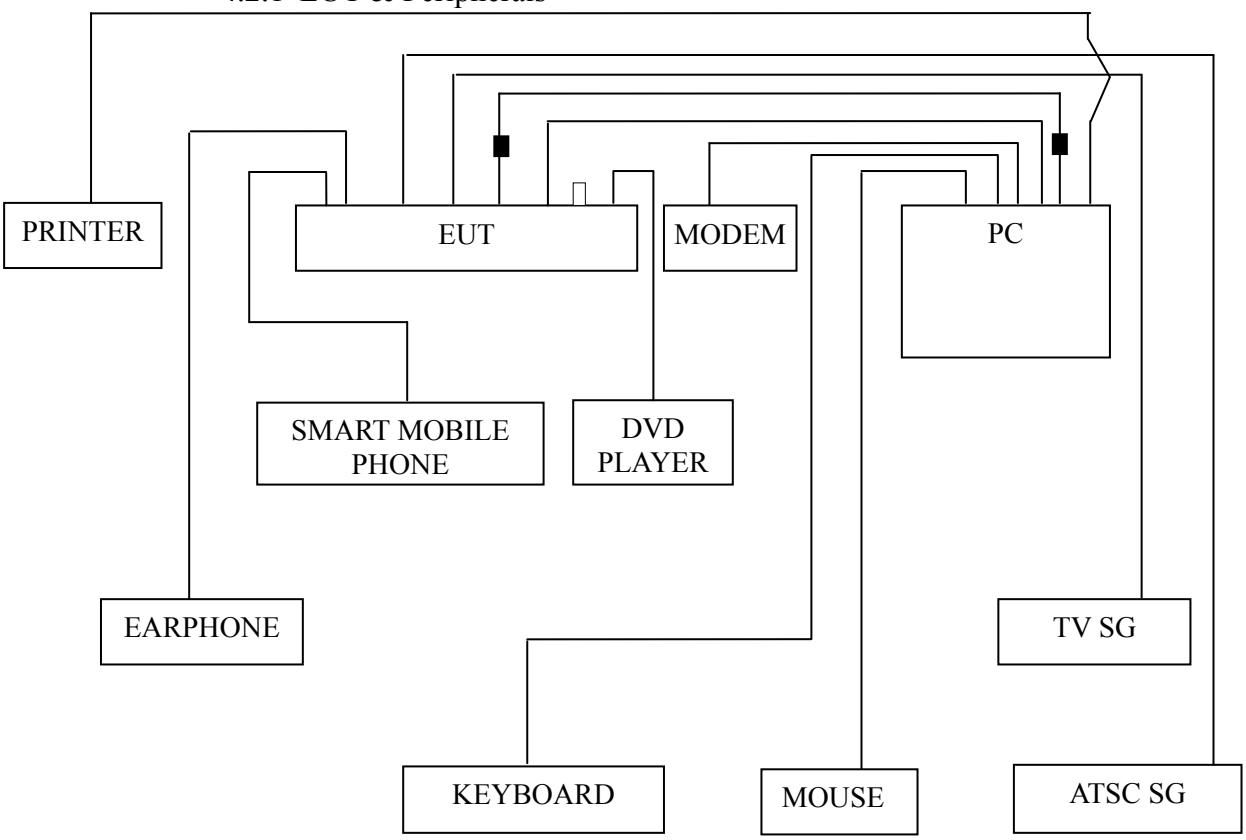
4.1 Test Equipment

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	ESCI	101302	Sep 03, 2013	Sep 02, 2014
2.	Preamplifier	Agilent	8447D	2944A10548	Sep 18, 2013	Mar 17, 2014
3.	Preamplifier	HP	8449B	3008A00864	Mar 20, 2013	Mar 19, 2014
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 03, 2013	May 02, 2014
5.	Horn Antenna	EMCO	3115	9607-4878	May 11, 2013	May 10, 2014
6.	Spectrum	Agilent	E7405A	MY45106600	Dec 17, 2012	Dec 16, 2013
7.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Sep 18, 2013	Mar 17, 2014
8.	Software	Audix	E3	6.2007-9-10	--	--

4.2 Block Diagram of Test Setup

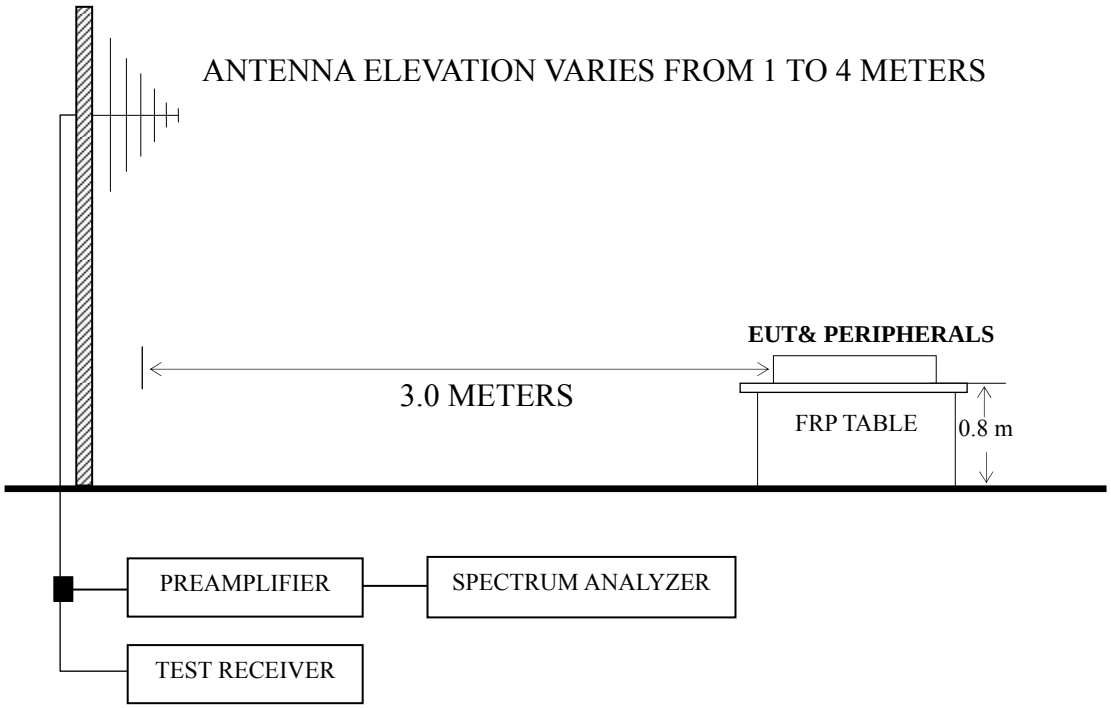
4.2.1 EUT & Peripherals



■: Ferrite core

□: U-Disk

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.
NOTE 5 - Above 1 GHz, the limit on peak emission is 20 dB above the maximum permitted average emission limit applicable to the EUT.

4.4 Test Configuration

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

Please refer to Sec.3.4.

4.5 Operating Condition of EUT

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

4.6 Test Procedures

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

The I.F. bandwidth of Test Receiver R&S ESCI was set at 120 kHz.

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 the 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.

Test Mode	Data Page
D-Sub 1024*768@60Hz	P22
HDMI 1920*1080@60Hz	P23 – P24
HDMI 1280*1024@60Hz	P25
HDMI 640*480@60Hz	P26
USB Play	P27

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading. (< 1GHz);
Emission Level = Antenna Factor + Cable Loss – Preamp Factor + Meter Reading. (> 1GHz)

NOTE 2 – All readings are Quasi-Peak values below or equal to 1GHz, Peak and Average values above 1GHz.

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 HDMI 1920*1080@60Hz test mode. The worst emission at horizontal polarization was detected at 699.300 MHz with corrected signal level of 42.69 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.50 m height and the turntable was at 243°. The worst emission at vertical polarization was detected at 40.670 MHz with corrected signal level of 34.93 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 343°.

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LHD32A300MUS	Humidity :	60%RH
Test Mode	:	D-Sub 1024*768@60Hz	Date of Test :	Oct 30, 2013

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	141.550	19.24	10.30	1.60	31.14	43.50	12.36
	292.870	20.41	12.67	2.49	35.57	46.00	10.43
	431.580	15.31	17.55	2.78	35.64	46.00	10.36
	498.510	13.75	17.98	2.98	34.71	46.00	11.29
	523.000	12.38	18.33	3.03	33.74	46.00	12.26
	699.300	**16.52**	**20.30**	**3.54**	**40.36**	**46.00**	**5.64**
Vertical	35.820	13.45	15.63	0.73	29.81	40.00	10.19
	54.250	**25.16**	**6.18**	**0.87**	**32.21**	**40.00**	**7.79**
	120.210	22.50	11.41	1.48	35.39	43.50	8.11
	259.890	17.78	12.90	2.27	32.95	46.00	13.05
	311.300	18.38	13.37	2.56	34.31	46.00	11.69
	568.350	14.09	19.30	3.14	36.53	46.00	9.47

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LHD32A300MUS	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test :	Oct 30, 2013

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	149.310	19.08	10.12	1.64	--	30.84	43.50	12.66	QP
	287.050	20.41	12.55	2.46	--	35.42	46.00	10.58	
	433.520	17.05	17.50	2.78	--	37.33	46.00	8.67	
	501.420	17.35	18.17	2.98	--	38.50	46.00	7.50	
	568.350	15.98	19.30	3.14	--	38.42	46.00	7.58	
	699.300	**18.85**	**20.30**	**3.54**	**--**	**42.69**	**46.00**	**3.31**	
	1055.000	48.09	23.91	4.94	38.08	38.86	74.00	35.14	PK
	1156.000	46.62	24.32	5.07	37.85	38.16	74.00	35.84	
	1259.000	46.05	24.82	5.30	37.59	38.58	74.00	35.42	
	1451.000	46.20	25.48	5.61	37.04	40.25	74.00	33.75	
	1660.000	52.23	27.37	5.89	36.56	48.93	74.00	25.07	
	1773.000	46.87	28.81	6.11	36.38	45.41	74.00	28.59	
	1055.000	35.40	23.91	4.94	38.08	26.17	54.00	27.83	AV
	1156.000	33.21	24.32	5.07	37.85	24.75	54.00	29.25	
	1259.000	33.20	24.82	5.30	37.59	25.73	54.00	28.27	
	1451.000	33.21	25.48	5.61	37.04	27.26	54.00	26.74	
	1660.000	39.04	27.37	5.89	36.56	35.74	54.00	18.26	
	1773.000	33.74	28.81	6.11	36.38	32.28	54.00	21.72	

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LHD32A300MUS	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test :	Oct 30, 2013

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Vertical	**40.670**	**22.00**	**12.15**	**0.78**	**--**	**34.93**	**40.00**	**5.07**	QP
	120.210	21.99	11.41	1.48	--	34.88	43.50	8.62	
	138.640	22.90	10.51	1.59	--	35.00	43.50	8.50	
	266.680	19.92	12.83	2.32	--	35.07	46.00	10.93	
	501.420	16.34	18.17	2.98	--	37.49	46.00	8.51	
	568.350	17.75	19.30	3.14	--	40.19	46.00	5.81	
	1047.000	47.03	23.88	4.94	38.10	37.75	74.00	36.25	PK
	1093.000	46.45	24.06	4.99	38.00	37.50	74.00	36.50	
	1199.000	45.42	24.53	5.10	37.74	37.31	74.00	36.69	
	1400.000	44.90	25.33	5.59	37.19	38.63	74.00	35.37	
	1606.000	47.21	26.76	5.66	36.67	42.96	74.00	31.04	
	1909.000	44.51	30.25	6.18	36.21	44.73	74.00	29.27	
	1047.000	34.48	23.88	4.94	38.10	25.20	54.00	28.80	AV
	1093.000	33.21	24.06	4.99	38.00	24.26	54.00	29.74	
	1199.000	32.10	24.53	5.10	37.74	23.99	54.00	30.01	
	1400.000	31.38	25.33	5.59	37.19	25.11	54.00	28.89	
	1606.000	34.20	26.76	5.66	36.67	29.95	54.00	24.05	
	1909.000	31.05	30.25	6.18	36.21	31.27	54.00	22.73	

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LHD32A300MUS	Humidity :	60%RH
Test Mode	:	HDMI 1280*1024@60Hz	Date of Test :	Oct 30, 2013

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	76.560	21.81	6.59	1.03	29.43	40.00	10.57
	110.510	19.59	11.87	1.41	32.87	43.50	10.63
	145.430	23.88	10.28	1.62	35.78	43.50	7.72
	177.440	**26.88**	**8.26**	**1.83**	**36.97**	**43.50**	**6.53**
	373.380	19.29	14.90	2.66	36.85	46.00	9.15
	653.710	10.70	18.70	3.38	32.78	46.00	13.22
Vertical	33.880	14.55	16.12	0.70	31.37	40.00	8.63
	37.760	15.56	14.13	0.75	30.44	40.00	9.56
	120.210	**22.50**	**11.41**	**1.48**	**35.39**	**43.50**	**8.11**
	155.130	21.40	9.60	1.67	32.67	43.50	10.83
	226.910	22.77	9.10	2.09	33.96	46.00	12.04
	335.550	19.10	14.65	2.61	36.36	46.00	9.64

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LHD32A300MUS	Humidity :	60%RH
Test Mode	:	HDMI 640*480@60Hz	Date of Test :	Oct 30, 2013

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	89.170	20.84	8.03	1.20	30.07	43.50	13.43
	117.300	20.19	11.50	1.46	33.15	43.50	10.35
	137.670	**23.87**	**10.58**	**1.58**	**36.03**	**43.50**	**7.47**
	273.470	20.03	12.60	2.35	34.98	46.00	11.02
	378.230	18.01	15.07	2.66	35.74	46.00	10.26
	674.080	11.18	19.40	3.48	34.06	46.00	11.94
Vertical	37.760	15.71	14.13	0.75	30.59	40.00	9.41
	81.410	21.02	6.97	1.10	29.09	40.00	10.91
	95.960	**24.48**	**9.57**	**1.29**	**35.34**	**43.50**	**8.16**
	131.850	21.09	11.54	1.55	34.18	43.50	9.32
	330.700	17.73	14.40	2.60	34.73	46.00	11.27
	536.340	14.73	19.23	3.06	37.02	46.00	8.98

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LHD32A300MUS	Humidity :	60%RH
Test Mode	:	USB Play	Date of Test :	Oct 30, 2013

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	100.810	18.02	10.58	1.35	29.95	43.50	13.55
	121.180	21.25	11.42	1.48	34.15	43.50	9.35
	157.070	22.25	9.60	1.68	33.53	43.50	9.97
	204.600	**26.70**	**7.87**	**1.97**	**36.54**	**43.50**	**6.96**
	282.200	23.41	12.35	2.43	38.19	46.00	7.81
	804.060	12.74	19.93	3.70	36.37	46.00	9.63
Vertical	31.940	11.44	16.50	0.68	28.62	40.00	11.38
	125.060	19.06	11.50	1.50	32.06	43.50	11.44
	147.370	18.40	10.20	1.63	30.23	43.50	13.27
	239.520	21.73	11.00	2.15	34.88	46.00	11.12
	275.410	**24.16**	**12.60**	**2.38**	**39.14**	**46.00**	**6.86**
	614.910	13.74	18.65	3.25	35.64	46.00	10.36

TEST ENGINEER: NEAL WANG

5 DEVIATION TO TEST SPECIFICATIONS

None.