

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

LED LCD TV

Model No.	Brand
LHD39A300US	Hisense
39A320	

FCC ID : W9HLCDD0034

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-F13182
Date of Test : Oct 15 – 18, 2013
Date of Report : Oct 23, 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
LHD39A300US	Hisense	120V/60Hz
39A320		

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 15 – 18, 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.F13183, a Verification report.

Date of Test : Oct 15 – 18, 2013 Date of Report : Oct 23, 2013

Producer :

Kathy Wang
KATHY WANG / Supervisor

Review :



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

Dio Yang
DIO YANG / Assistant Manager

Signatory :

Authorized Signature EMC Sammy Chen
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 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	:	<input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-product <input type="checkbox"/> Pro-type
Model No.	:	LHD39A300US, 39A320
Brand Name	:	Hisense
Note	:	The above models are all the same except for the model name. LHD39A300US 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 : HE390HH-E01\S9\PW1
Max Resolution	:	HDMI 1920*1080@60Hz D-Sub 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 LED LCD TV which input/output ports as follows:

Bottom Port:

- (1) One HDMI1/ARC/DVI Port : Connected with PC
- (2) One USB Port : Connected with U-Disk
- (3) One AV/ COMPONENT IN Port : Connected with DVD PLAYER
- (4) One VGA Port : Connected with PC
- (5) One PC AUDIO Port : Connected with PC

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 : Skullcandy
Model Number : FMJ

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

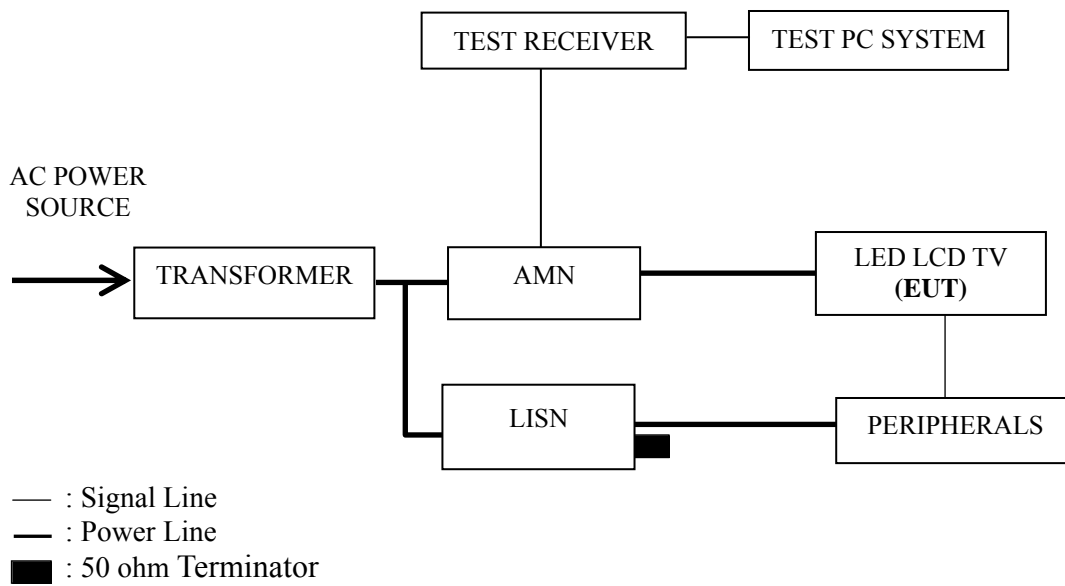
Conducted Emission Expanded Uncertainty: U = 3.02 dB

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)

3.2.2 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 6.951 MHz (Average Value) with corrected signal level of 46.62 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. : LHD39A300US Humidity : 48%RH

Test Mode : D-Sub 1024*768@60Hz Date of Test : Oct 15, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.204	39.49	0.12	39.61	63.45	23.84	QP
	0.466	48.18	-0.04	48.14	56.58	8.44	
	0.839	44.69	0.07	44.76	56.00	11.24	
	2.900	49.11	0.12	49.23	56.00	6.77	
	3.840	45.22	0.17	45.39	56.00	10.61	
	7.100	52.20	0.26	52.46	60.00	7.54	
	0.204	23.83	0.12	23.95	53.45	29.50	AV
	0.466	30.96	-0.04	30.92	46.58	15.66	
	0.839	30.04	0.07	30.11	46.00	15.89	
	2.900	37.15	0.12	37.27	46.00	8.73	
	3.840	34.74	0.17	34.91	46.00	11.09	
	7.100	45.28	0.26	45.54	50.00	4.46	
Neutral	0.188	44.47	0.19	44.66	64.11	19.45	QP
	0.466	47.04	0.21	47.25	56.58	9.33	
	1.043	43.49	0.18	43.67	56.00	12.33	
	2.931	49.36	0.18	49.54	56.00	6.46	
	4.315	45.96	0.21	46.17	56.00	9.83	
	6.951	51.54	0.33	51.87	60.00	8.13	
	0.188	31.54	0.19	31.73	54.11	22.38	AV
	0.466	32.02	0.21	32.23	46.58	14.35	
	1.043	29.14	0.18	29.32	46.00	16.68	
	2.931	36.99	0.18	37.17	46.00	8.83	
	4.315	35.87	0.21	36.08	46.00	9.92	
	6.951	46.29	0.33	46.62	50.00	3.38	

TEST ENGINEER: ERIC TANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 48%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Oct 15, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.197	37.70	0.12	37.82	63.74	25.92	QP
	0.459	46.41	-0.04	46.37	56.72	10.35	
	1.043	42.80	0.05	42.85	56.00	13.15	
	2.726	48.60	0.10	48.70	56.00	7.30	
	4.782	45.40	0.20	45.60	56.00	10.40	
	7.117	50.80	0.26	51.06	60.00	8.94	
	0.197	21.50	0.12	21.62	53.74	32.12	AV
	0.459	29.41	-0.04	29.37	46.72	17.35	
	1.043	29.20	0.05	29.25	46.00	16.75	
	2.726	36.00	0.10	36.10	46.00	9.90	
	4.782	36.00	0.20	36.20	46.00	9.80	
	7.117	45.90	0.26	46.16	50.00	3.84	
Neutral	0.175	42.51	0.17	42.68	64.73	22.05	QP
	0.458	46.20	0.21	46.41	56.73	10.32	
	1.038	42.50	0.18	42.68	56.00	13.32	
	2.948	49.60	0.18	49.78	56.00	6.22	
	4.372	46.31	0.21	46.52	56.00	9.48	
	7.409	50.39	0.36	50.75	60.00	9.25	
	0.175	27.21	0.17	27.38	54.73	27.35	AV
	0.458	29.20	0.21	29.41	46.73	17.32	
	1.038	29.20	0.18	29.38	46.00	16.62	
	2.948	36.60	0.18	36.78	46.00	9.22	
	4.372	35.61	0.21	35.82	46.00	10.18	
	7.409	44.99	0.36	45.35	50.00	4.65	

TEST ENGINEER: ERIC TANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 48%RH

Test Mode : D-Sub 800*600@60Hz Date of Test : Oct 15, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.200	38.94	0.12	39.06	63.62	24.56	QP
	0.461	48.01	-0.04	47.97	56.67	8.70	
	1.043	44.80	0.05	44.85	56.00	11.15	
	2.707	49.30	0.10	49.40	56.00	6.60	
	4.315	45.75	0.18	45.93	56.00	10.07	
	7.025	51.85	0.26	52.11	60.00	7.89	
	0.200	22.64	0.12	22.76	53.62	30.86	AV
	0.461	31.93	-0.04	31.89	46.67	14.78	
	1.043	30.12	0.05	30.17	46.00	15.83	
	2.707	36.76	0.10	36.86	46.00	9.14	
	4.315	35.81	0.18	35.99	46.00	10.01	
	7.025	46.32	0.26	46.58	50.00	3.42	
Neutral	0.192	44.53	0.20	44.73	63.93	19.20	QP
	0.461	47.95	0.21	48.16	56.67	8.51	
	1.043	43.52	0.18	43.70	56.00	12.30	
	2.707	48.84	0.17	49.01	56.00	6.99	
	4.315	46.04	0.21	46.25	56.00	9.75	
	7.175	51.18	0.34	51.52	60.00	8.48	
	0.192	30.61	0.20	30.81	53.93	23.12	AV
	0.461	32.81	0.21	33.02	46.67	13.65	
	1.043	28.67	0.18	28.85	46.00	17.15	
	2.707	36.84	0.17	37.01	46.00	8.99	
	4.315	36.82	0.21	37.03	46.00	8.97	
	7.175	45.58	0.34	45.92	50.00	4.08	

TEST ENGINEER: ERIC TANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 48%RH

Test Mode : D-Sub 640*480@60Hz Date of Test : Oct 15, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.171	37.51	0.13	37.64	64.89	27.25	QP
	0.462	46.31	-0.04	46.27	56.65	10.38	
	1.027	42.50	0.05	42.55	56.00	13.45	
	2.658	49.00	0.10	49.10	56.00	6.90	
	4.412	45.01	0.18	45.19	56.00	10.81	
	7.190	48.90	0.26	49.16	60.00	10.84	
	0.171	19.81	0.13	19.94	54.89	34.95	AV
	0.462	29.91	-0.04	29.87	46.65	16.78	
	1.027	28.50	0.05	28.55	46.00	17.45	
	2.658	36.00	0.10	36.10	46.00	9.90	
	4.412	35.21	0.18	35.39	46.00	10.61	
	7.190	44.67	0.26	44.93	50.00	5.07	
Neutral	0.175	43.51	0.17	43.68	64.72	21.04	QP
	0.460	45.90	0.21	46.11	56.69	10.58	
	1.036	42.00	0.18	42.18	56.00	13.82	
	2.728	49.80	0.17	49.97	56.00	6.03	
	4.833	46.30	0.23	46.53	56.00	9.47	
	7.006	49.50	0.33	49.83	60.00	10.17	
	0.175	28.61	0.17	28.78	54.72	25.94	AV
	0.460	29.90	0.21	30.11	46.69	16.58	
	1.036	27.60	0.18	27.78	46.00	18.22	
	2.728	36.60	0.17	36.77	46.00	9.23	
	4.833	36.90	0.23	37.13	46.00	8.87	
	7.006	44.10	0.33	44.43	50.00	5.57	

TEST ENGINEER: ERIC TANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 48%RH

Test Mode : USB Play Date of Test : Oct 15, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.201	38.10	0.12	38.22	63.58	25.36	QP
	0.485	45.71	-0.05	45.66	56.25	10.59	
	1.027	42.60	0.05	42.65	56.00	13.35	
	2.645	48.50	0.10	48.60	56.00	7.40	
	4.820	45.79	0.21	46.00	56.00	10.00	
	6.985	49.30	0.26	49.56	60.00	10.44	
	0.201	22.00	0.12	22.12	53.58	31.46	AV
	0.485	32.01	-0.05	31.96	46.25	14.29	
	1.027	28.60	0.05	28.65	46.00	17.35	
	2.645	35.60	0.10	35.70	46.00	10.30	
	4.820	36.29	0.21	36.50	46.00	9.50	
	6.985	43.50	0.26	43.76	50.00	6.24	
Neutral	0.200	41.40	0.20	41.60	63.61	22.01	QP
	0.458	46.30	0.21	46.51	56.73	10.22	
	0.839	42.41	0.14	42.55	56.00	13.45	
	2.914	48.60	0.18	48.78	56.00	7.22	
	4.694	47.30	0.22	47.52	56.00	8.48	
	7.003	49.00	0.33	49.33	60.00	10.67	
	0.200	28.90	0.20	29.10	53.61	24.51	AV
	0.458	30.00	0.21	30.21	46.73	16.52	
	0.839	27.41	0.14	27.55	46.00	18.45	
	2.914	36.30	0.18	36.48	46.00	9.52	
	4.694	36.60	0.22	36.82	46.00	9.18	
	7.003	42.80	0.33	43.13	50.00	6.87	

TEST ENGINEER: ERIC TANG

4 RADIATED EMISSION TEST

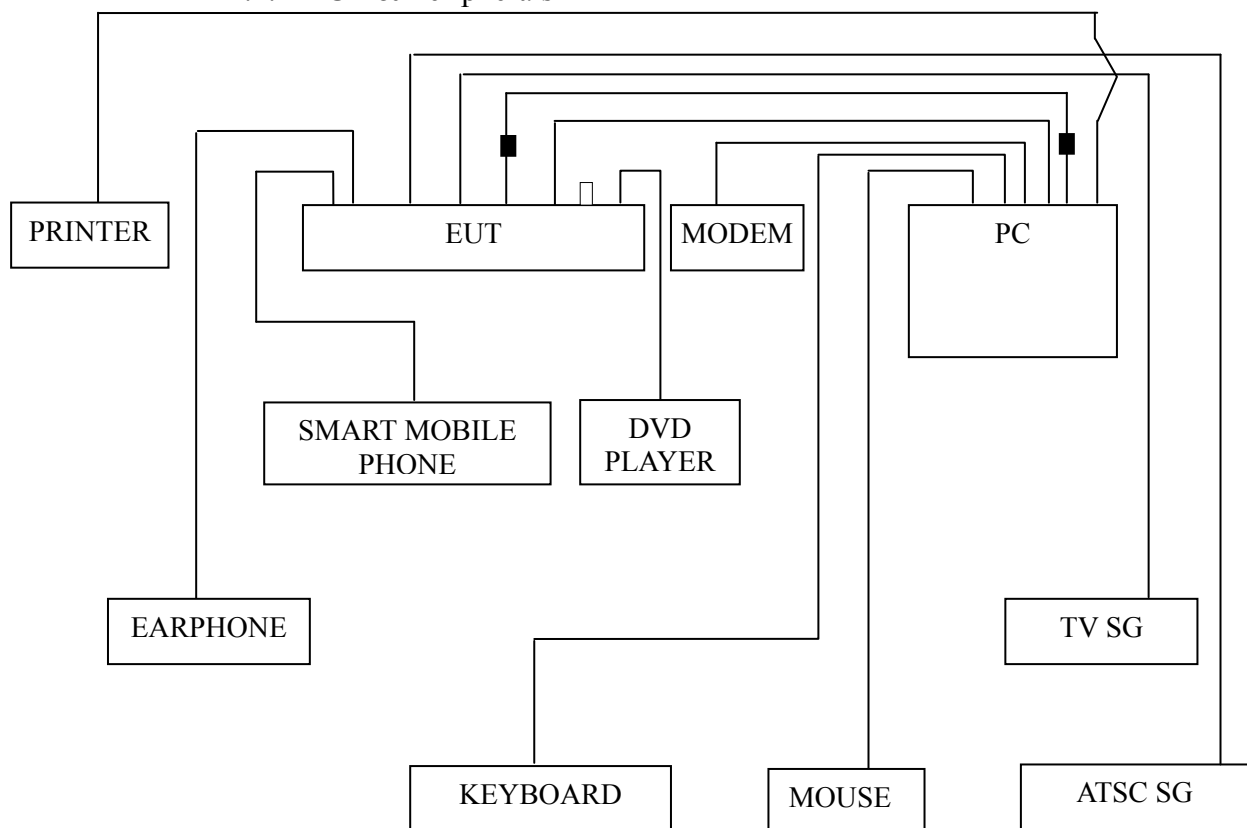
4.1 Test Equipment

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.	50 Coaxial Switch	Anritsu	MP59B	6200426390	Sep 18, 2013	Mar 17, 2014
8.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

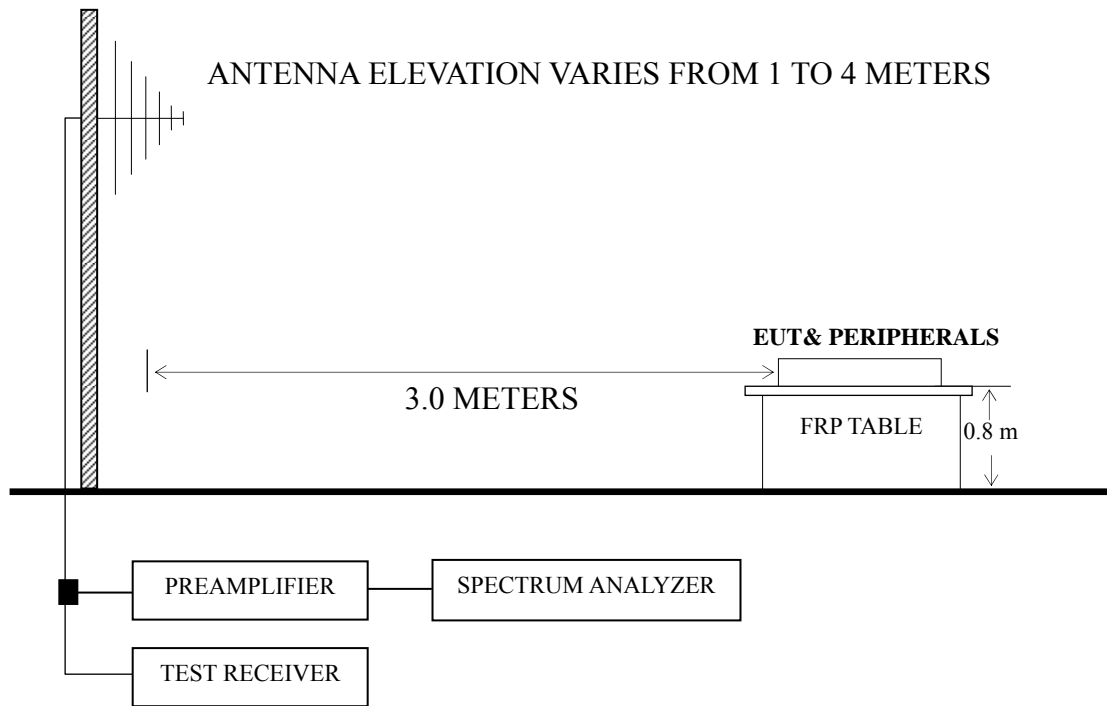
4.2.1 EUT & Peripherals



■ : 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	
		($\mu\text{V/m}$)	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.

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 162.890 MHz with corrected signal level of 33.49 dB ($\mu\text{V/m}$) (limit is 43.50 dB ($\mu\text{V/m}$)), when the antenna was 1.30 m height and the turntable was at 161°. The worst emission at vertical polarization was detected at 123.120 MHz with corrected signal level of 40.58 dB ($\mu\text{V/m}$) (limit is 43.50 dB ($\mu\text{V/m}$)), when the antenna was 1.20 m height and the turntable was at 204°.

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 60%RH

Test Mode : D-Sub 1024*768@60Hz Date of Test : Oct 18, 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	33.880	14.75	16.12	0.70	31.57	40.00	8.43
	45.520	21.74	9.32	0.82	31.88	40.00	8.12
	121.180	16.08	11.42	1.48	28.98	43.50	14.52
	214.300	18.08	7.60	2.03	27.71	43.50	15.79
	551.860	6.61	19.40	3.10	29.11	46.00	16.89
	829.280	5.93	20.57	3.89	30.39	46.00	15.61
Vertical	123.120	13.90	11.46	1.49	26.85	43.50	16.65
	151.250	16.60	9.98	1.65	28.23	43.50	15.27
	189.080	16.62	8.00	1.89	26.51	43.50	16.99
	218.180	17.70	7.95	2.04	27.69	46.00	18.31
	585.810	10.96	18.72	3.18	32.86	46.00	13.14
	887.480	7.63	19.80	4.43	31.86	46.00	14.14

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 60%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Oct 18, 2013

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	119.240	19.72	11.42	1.47	--	32.61	43.50	10.89	QP
	162.890	22.91	8.85	1.73	--	33.49	43.50	10.01	
	300.630	18.44	12.60	2.55	--	33.59	46.00	12.41	
	414.120	11.92	16.60	2.73	--	31.25	46.00	14.75	
	568.350	9.05	19.30	3.14	--	31.49	46.00	14.51	
	701.240	8.96	20.30	3.54	--	32.80	46.00	13.20	
	1123.000	47.97	24.18	5.03	37.92	39.26	74.00	34.74	PK
	1171.000	47.33	24.40	5.08	37.81	39.00	74.00	35.00	
	1318.000	46.03	25.06	5.43	37.43	39.09	74.00	34.91	
	1452.000	46.46	25.48	5.61	37.04	40.51	74.00	33.49	
	1626.000	48.09	26.98	5.74	36.63	44.18	74.00	29.82	
	1739.000	49.38	28.37	6.06	36.44	47.37	74.00	26.63	
	1123.000	34.30	24.18	5.03	37.92	25.59	54.00	28.41	AV
	1171.000	34.30	24.40	5.08	37.81	25.97	54.00	28.03	
	1318.000	33.60	25.06	5.43	37.43	26.66	54.00	27.34	
	1452.000	33.42	25.48	5.61	37.04	27.47	54.00	26.53	
	1626.000	35.57	26.98	5.74	36.63	31.66	54.00	22.34	
	1739.000	36.21	28.37	6.06	36.44	34.20	54.00	19.80	

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 60%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Oct 18, 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	31.940	13.33	16.50	0.68	--	30.51	40.00	9.49	QP
	123.120	27.63	11.46	1.49	--	40.58	43.50	2.92	
	152.220	25.95	9.85	1.65	--	37.45	43.50	6.05	
	295.780	16.67	12.58	2.52	--	31.77	46.00	14.23	
	568.350	9.84	19.30	3.14	--	32.28	46.00	13.72	
	916.580	10.37	19.57	4.59	--	34.53	46.00	11.47	
	1027.000	47.19	23.80	4.92	38.14	37.77	74.00	36.23	PK
	1096.000	47.12	24.07	4.99	37.99	38.19	74.00	35.81	
	1230.000	45.28	24.69	5.20	37.66	37.51	74.00	36.49	
	1569.000	45.35	26.35	5.66	36.75	40.61	74.00	33.39	
	1680.000	47.71	27.61	5.97	36.54	44.75	74.00	29.25	
	1820.000	50.07	29.35	6.16	36.32	49.26	74.00	24.74	
	1027.000	34.34	23.80	4.92	38.14	24.92	54.00	29.08	AV
	1096.000	33.22	24.07	4.99	37.99	24.29	54.00	29.71	
	1230.000	32.12	24.69	5.20	37.66	24.35	54.00	29.65	
	1569.000	32.46	26.35	5.66	36.75	27.72	54.00	26.28	
	1680.000	34.13	27.61	5.97	36.54	31.17	54.00	22.83	
	1820.000	36.23	29.35	6.16	36.32	35.42	54.00	18.58	

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 60%RH

Test Mode : HDMI 1280*1024@60Hz Date of Test : Oct 18, 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	49.400	10.64	7.93	0.85	19.42	40.00	20.58
	95.960	17.83	9.57	1.29	28.69	43.50	14.81
	119.240	19.83	11.42	1.47	32.72	43.50	10.78
	163.860	22.33	8.70	1.73	32.76	43.50	10.74
	296.750	21.41	12.55	2.52	36.48	46.00	9.52
	566.410	11.19	19.30	3.14	33.63	46.00	12.37
Vertical	30.970	10.70	17.65	0.67	29.02	40.00	10.98
	118.270	27.03	11.46	1.47	39.96	43.50	3.54
	152.220	25.74	9.85	1.65	37.24	43.50	6.26
	295.780	16.86	12.58	2.52	31.96	46.00	14.04
	566.410	10.33	19.30	3.14	32.77	46.00	13.23
	910.760	10.83	19.43	4.55	34.81	46.00	11.19

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 60%RH

Test Mode : HDMI 640*480@60Hz Date of Test : Oct 18, 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	36.790	8.06	14.92	0.74	23.72	40.00	16.28
	63.950	18.04	4.70	0.90	23.64	40.00	16.36
	110.510	15.12	11.87	1.41	28.40	43.50	15.10
	185.200	17.32	8.30	1.87	27.49	43.50	16.01
	382.110	16.44	15.23	2.66	34.33	46.00	11.67
	497.540	9.38	17.98	2.98	30.34	46.00	15.66
Vertical	35.820	10.80	15.63	0.73	27.16	40.00	12.84
	63.950	16.57	4.70	0.90	22.17	40.00	17.83
	121.180	26.67	11.42	1.48	39.57	43.50	3.93
	187.140	17.10	8.10	1.87	27.07	43.50	16.43
	307.420	14.05	13.10	2.56	29.71	46.00	16.29
	540.220	10.38	19.50	3.06	32.94	46.00	13.06

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD39A300US Humidity : 60%RH

Test Mode : USB Play Date of Test : Oct 18, 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	52.310	16.03	6.83	0.86	23.72	40.00	16.28
	84.320	15.93	7.32	1.13	24.38	40.00	15.62
	139.610	15.95	10.37	1.59	27.91	43.50	15.59
	184.230	18.82	8.28	1.86	28.96	43.50	14.54
	389.870	13.00	15.40	2.68	31.08	46.00	14.92
	576.110	8.67	18.95	3.16	30.78	46.00	15.22
Vertical	31.940	13.33	16.50	0.68	30.51	40.00	9.49
	59.100	19.59	5.20	0.88	25.67	40.00	14.33
	143.490	23.69	10.30	1.61	35.60	43.50	7.90
	193.930	16.03	8.10	1.92	26.05	43.50	17.45
	312.270	14.09	13.45	2.57	30.11	46.00	15.89
	515.000	10.65	18.35	3.01	32.01	46.00	13.99

TEST ENGINEER: NEAL WANG

5 DEVIATION TO TEST SPECIFICATIONS

None.