

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

LED LCD TV

Model No.	Brand
LHD32K366HS	Hisense
32K366HS	

FCC ID : W9HLCDC0022

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

Prepared By : Audix Technology (Shanghai) Co., Ltd.
3F and 4F, 34Bldg 680 Guiping Rd,
Caohejing Hi-Tech Park,
Shanghai 200233, China

Tel: +86-21-64955500

Fax: +86-21-64955491

Report No. : ACI-F13115
Date of Test : Jul 12 – 18, 2013
Date of Report : Jul 26, 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
LHD32K366HS	Hisense	120V/60Hz
32K366HS		

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 Jul 12 – 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.F13116, a Verification report.

Date of Test : Jul 12 – 18, 2013 Date of Report : Jul 26, 2013

Producer : 
 KATHY WANG / Supervisor

Review : 
 DIO YANG / Assistant Manager

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

Signatory : 
 Authorized Signature EMC SAMMY CHEN / Deputy Manager

1 SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

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

Description of Test Item	Standard	Limits	Results
EMISSION			
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 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.	:	LHD32K366HS, 32K366HS
Note	:	The above models are all the same except for the different model name. The LHD32K366HS was tested and reported in the report.
Bread Name	:	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
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-E71
Max Resolution	:	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 COMPONENT IN Port : Connected with DVD PLAYER
- (2) One ANT Port : Connected with ATSC SG / TV SG
- (3) One HDMI1 Port : Connected with PC
- (4) One SERVICE Port : Connected with PC

Side Port:

- (1) One VGA Port : Connected with PC
- (2) One PC AUDIO Port : Connected with PC
- (3) One DIGITAL AUDIO OUT Port : Connected with SPEAKER #1
- (4) One HDMI2 Port : Connected with DVD PLAYER
- (5) One USB Port : Connected with U-Disk
- (6) One Audio Out Port : Connected with Earphone
- (7) One RJ12 Port : Connected with PC
- (8) One PILLOW SPEAKER Port : Connected with SPEAKER #2

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 : 1406
Serial Number : 0200702302609
Data Cable : Shielded, undetachable ,1.8m
Certificate : CE/EMC, FCC DoC, VCCI, MIC, C-Tick,
BSMI

2.2.4 Mouse

Manufacturer : Microsoft
Model Number : 1405
Serial Number : 0204603562213
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 SPEAKER #1

Manufacturer : DIBA
Model Number : FS-04
Serial Number : 002
Power Cord : Unshielded, Undetachable, 1.5m

2.2.10 SPEAKER #2

Manufacturer : EDIFIER
Model Number : SP-F022

2.2.11 Earphone

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

2.2.12 U-DISK

Manufacturer : LG
Model Number : 1GB

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 = 3.42 dB

Radiated Emission Expanded Uncertainty (30-200MHz):
U = 4.14 dB (Horizontal)
U = 4.28 dB (Vertical)

Radiated Emission Expanded Uncertainty (200M-1GHz):
U = 4.18 dB (Horizontal)
U = 4.26 dB (Vertical)

Radiated Emission Expanded Uncertainty (Above 1GHz):
U = 4.50 dB (Horizontal)
U = 4.16 dB (Vertical)

3 CONDUCTED EMISSION TEST

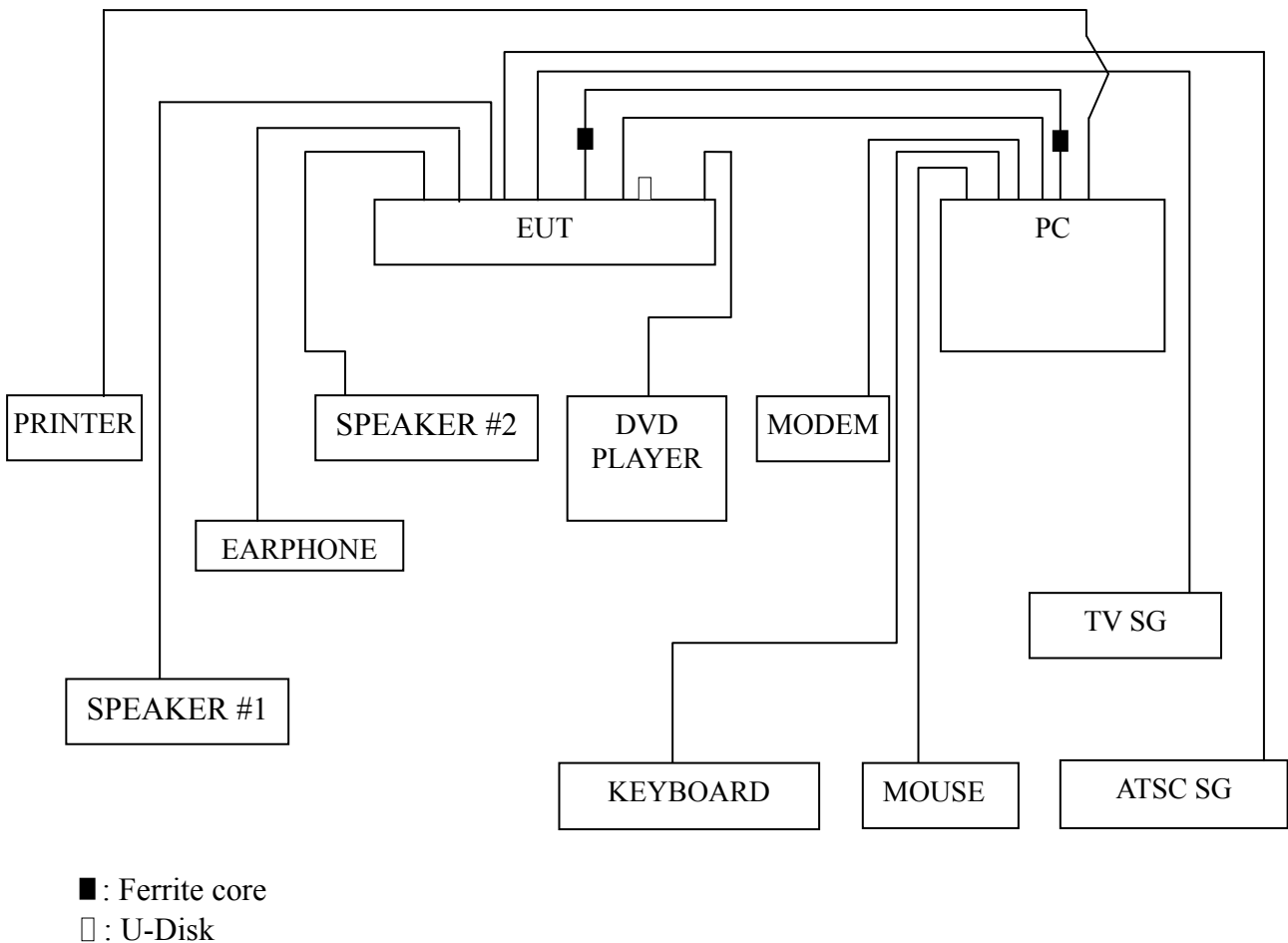
3.1 Test Equipment

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

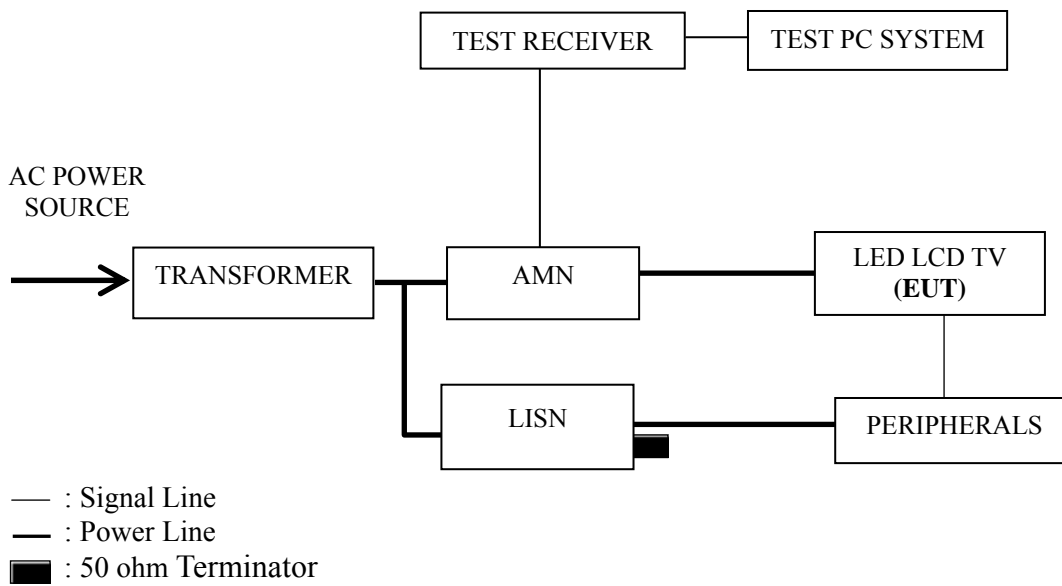
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Mar 20, 2013	Mar 20, 2014
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Feb 25, 2013	Feb 25, 2014
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2013	Mar 20, 2014
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Mar 18, 2013	Sep 18, 2013
5.	50 Ω Terminator	Anritsu	BNC	001	Mar 20, 2013	Mar 20, 2014
6.	Software	Audix	E3	SET00200 9804M592	--	--

3.2 Block Diagram of Test Setup

3.2.1 EUT & Peripherals



3.2.2 Conducted Disturbance Test Setup



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

Frequency Range (MHz)	Limits dB (μ V)	
	Quasi-peak	Average
0.15 ~ 0.5	66~56	56~46
0.5 ~ 5	56	46
5 ~ 30	60	50

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

3.4 Test Configuration

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

3.5 Operating Condition of EUT

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

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

3.5.3 Set the contrast & brightness of EUT to maximum.

3.5.4 PC system ran the self-test program “EMC Test” by windows XP and sent “H” characters to EUT through graphic card, 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 1920*1080@60Hz
HDMI 1920*1080@60Hz
D-Sub 1280*1024@60Hz
D-Sub 800*600@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 1920*1080@60Hz	P13
HDMI 1920*1080@60Hz	P14
D-Sub 1280*1024@60Hz	P15
D-Sub 800*600@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 1920*1080@60Hz test mode. The worst emission is detected at 0.194 MHz (Quasi-Peak Value) with corrected signal level of 50.88 dB (μV) (limit is 63.85 dB (μV)), when the Line of the EUT is connected to AMN.

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 48%RH

Test Mode : D-Sub 1920*1080@60Hz Date of Test : Jul 18, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.194	50.80	0.08	50.88	63.85	12.97	QP
	0.255	40.51	0.03	40.54	61.59	21.05	
	0.724	31.50	0.08	31.58	56.00	24.42	
	5.886	33.85	0.19	34.04	60.00	25.96	
	8.185	39.24	0.21	39.45	60.00	20.55	
	26.260	35.12	-0.18	34.94	60.00	25.06	
	0.194	37.80	0.08	37.88	53.85	15.97	AV
	0.255	25.40	0.03	25.43	51.59	26.16	
	0.724	16.80	0.08	16.88	46.00	29.12	
	5.886	26.40	0.19	26.59	50.00	23.41	
	8.185	32.20	0.21	32.41	50.00	17.59	
	26.260	29.31	-0.18	29.13	50.00	20.87	
Neutral	0.190	50.32	0.15	50.47	64.02	13.55	QP
	0.252	40.39	0.16	40.55	61.69	21.14	
	0.727	33.53	0.10	33.63	56.00	22.37	
	5.723	35.19	0.23	35.42	60.00	24.58	
	8.051	37.23	0.34	37.57	60.00	22.43	
	15.718	31.64	0.62	32.26	60.00	27.74	
	0.190	34.10	0.15	34.25	54.02	19.77	AV
	0.252	22.10	0.16	22.26	51.69	29.43	
	0.727	17.70	0.10	17.80	46.00	28.20	
	5.723	25.90	0.23	26.13	50.00	23.87	
	8.051	30.60	0.34	30.94	50.00	19.06	
	15.718	25.20	0.62	25.82	50.00	24.18	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 48%RH

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

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.192	48.63	0.09	48.72	63.97	15.25	QP
	0.248	34.97	0.03	35.00	61.81	26.81	
	0.722	32.26	0.08	32.34	56.00	23.66	
	5.955	35.19	0.19	35.38	60.00	24.62	
	8.067	36.16	0.21	36.37	60.00	23.63	
	26.190	35.47	-0.20	35.27	60.00	24.73	
	0.192	35.89	0.09	35.98	53.97	17.99	AV
	0.248	15.80	0.03	15.83	51.81	35.98	
	0.722	17.30	0.08	17.38	46.00	28.62	
	5.955	26.60	0.19	26.79	50.00	23.21	
	8.067	31.30	0.21	31.51	50.00	18.49	
	26.190	29.30	-0.20	29.10	50.00	20.90	
Neutral	0.192	49.50	0.15	49.65	63.95	14.30	QP
	0.274	38.47	0.16	38.63	61.00	22.37	
	0.716	34.60	0.10	34.70	56.00	21.30	
	5.722	34.92	0.23	35.15	60.00	24.85	
	8.049	37.10	0.34	37.44	60.00	22.56	
	26.360	31.32	1.09	32.41	60.00	27.59	
	0.192	35.10	0.15	35.25	53.95	18.70	AV
	0.274	21.80	0.16	21.96	51.00	29.04	
	0.716	18.20	0.10	18.30	46.00	27.70	
	5.722	26.00	0.23	26.23	50.00	23.77	
	8.049	30.90	0.34	31.24	50.00	18.76	
	26.360	25.80	1.09	26.89	50.00	23.11	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 48%RH

Test Mode : D-Sub 1280*1024@60Hz Date of Test : Jul 18, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.191	48.50	0.09	48.59	64.01	15.42	QP
	0.253	39.07	0.03	39.10	61.65	22.55	
	0.723	32.49	0.08	32.57	56.00	23.43	
	7.789	37.09	0.22	37.31	60.00	22.69	
	15.910	32.09	0.02	32.11	60.00	27.89	
	26.300	34.89	-0.18	34.71	60.00	25.29	
	0.191	35.20	0.09	35.29	54.01	18.72	AV
	0.253	23.70	0.03	23.73	51.65	27.92	
	0.723	17.50	0.08	17.58	46.00	28.42	
	7.789	30.80	0.22	31.02	50.00	18.98	
	15.910	26.11	0.02	26.13	50.00	23.87	
	26.300	29.21	-0.18	29.03	50.00	20.97	
Neutral	0.190	48.55	0.15	48.70	64.02	15.32	QP
	0.256	39.43	0.16	39.59	61.57	21.98	
	0.713	35.00	0.10	35.10	56.00	20.90	
	5.778	34.72	0.23	34.95	60.00	25.05	
	8.104	38.44	0.34	38.78	60.00	21.22	
	26.550	30.97	1.10	32.07	60.00	27.93	
	0.190	33.20	0.15	33.35	54.02	20.67	AV
	0.256	23.90	0.16	24.06	51.57	27.51	
	0.713	18.40	0.10	18.50	46.00	27.50	
	5.778	26.40	0.23	26.63	50.00	23.37	
	8.104	31.50	0.34	31.84	50.00	18.16	
	26.550	25.10	1.10	26.20	50.00	23.80	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 48%RH

Test Mode : D-Sub 800*600@60Hz Date of Test : Jul 18, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.191	47.34	0.09	47.43	64.01	16.58	QP
	0.254	38.17	0.03	38.20	61.64	23.44	
	0.692	33.70	0.07	33.77	56.00	22.23	
	5.812	35.24	0.19	35.43	60.00	24.57	
	7.973	37.99	0.21	38.20	60.00	21.80	
	26.650	35.12	-0.15	34.97	60.00	25.03	
	0.191	34.80	0.09	34.89	54.01	19.12	AV
	0.254	24.80	0.03	24.83	51.64	26.81	
	0.692	20.00	0.07	20.07	46.00	25.93	
	5.812	26.30	0.19	26.49	50.00	23.51	
	7.973	31.70	0.21	31.91	50.00	18.09	
	26.650	29.30	-0.15	29.15	50.00	20.85	
Neutral	0.188	47.74	0.15	47.89	64.11	16.22	QP
	0.257	39.07	0.16	39.23	61.53	22.30	
	0.685	36.42	0.10	36.52	56.00	19.48	
	5.954	35.62	0.24	35.86	60.00	24.14	
	8.358	37.04	0.34	37.38	60.00	22.62	
	26.580	31.38	1.10	32.48	60.00	27.52	
	0.188	33.20	0.15	33.35	54.11	20.76	AV
	0.257	24.10	0.16	24.26	51.53	27.27	
	0.685	21.40	0.10	21.50	46.00	24.50	
	5.954	26.50	0.24	26.74	50.00	23.26	
	8.358	31.40	0.34	31.74	50.00	18.26	
	26.580	25.40	1.10	26.50	50.00	23.50	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 48%RH

Test Mode : USB Play Date of Test : Jul 18, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.191	47.34	0.09	47.43	63.98	16.55	QP
	0.256	38.23	0.03	38.26	61.55	23.29	
	0.708	32.57	0.08	32.65	56.00	23.35	
	5.815	34.79	0.19	34.98	60.00	25.02	
	8.028	38.68	0.21	38.89	60.00	21.11	
	26.500	36.96	-0.15	36.81	60.00	23.19	
	0.191	35.36	0.09	35.45	53.98	18.53	AV
	0.256	25.13	0.03	25.16	51.55	26.39	
	0.708	16.82	0.08	16.90	46.00	29.10	
	5.815	26.44	0.19	26.63	50.00	23.37	
	8.028	31.82	0.21	32.03	50.00	17.97	
	26.500	30.75	-0.15	30.60	50.00	19.40	
Neutral	0.191	48.06	0.15	48.21	63.99	15.78	QP
	0.259	38.40	0.16	38.56	61.46	22.90	
	0.719	34.81	0.10	34.91	56.00	21.09	
	5.832	33.40	0.23	33.63	60.00	26.37	
	7.974	37.42	0.33	37.75	60.00	22.25	
	26.310	31.08	1.09	32.17	60.00	27.83	
	0.191	33.70	0.15	33.85	53.99	20.14	AV
	0.259	24.00	0.16	24.16	51.46	27.30	
	0.719	18.40	0.10	18.50	46.00	27.50	
	5.832	25.60	0.23	25.83	50.00	24.17	
	7.974	31.00	0.33	31.33	50.00	18.67	
	26.310	25.20	1.09	26.29	50.00	23.71	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

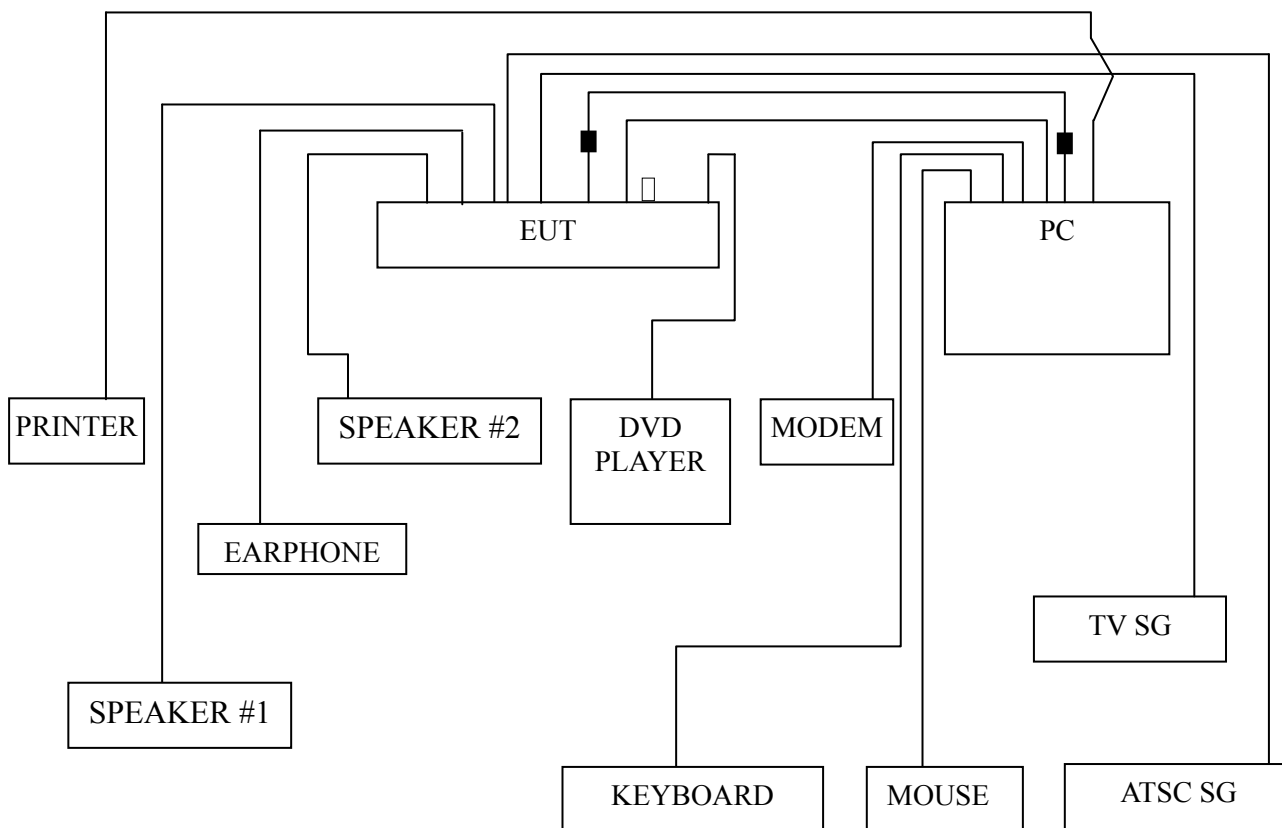
4.1 Test Equipment

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	ESCI	101302	Sep 11, 2012	Sep 11, 2013
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 18, 2013	Sep 18, 2013
3.	Preamplifier	HP	8449B	3008A00864	Mar 20, 2013	Mar 20, 2014
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 03, 2013	May 03, 2014
5.	Horn Antenna	EMCO	3115	9607-4878	May 11, 2013	May 11, 2014
6.	Spectrum	Agilent	E7405A	MY45106600	Dec 17, 2012	Dec 17, 2013
7.	50 Coaxial Switch	Anritsu	MP59B	6200426390	Mar 18, 2013	Sep 18, 2013
8.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

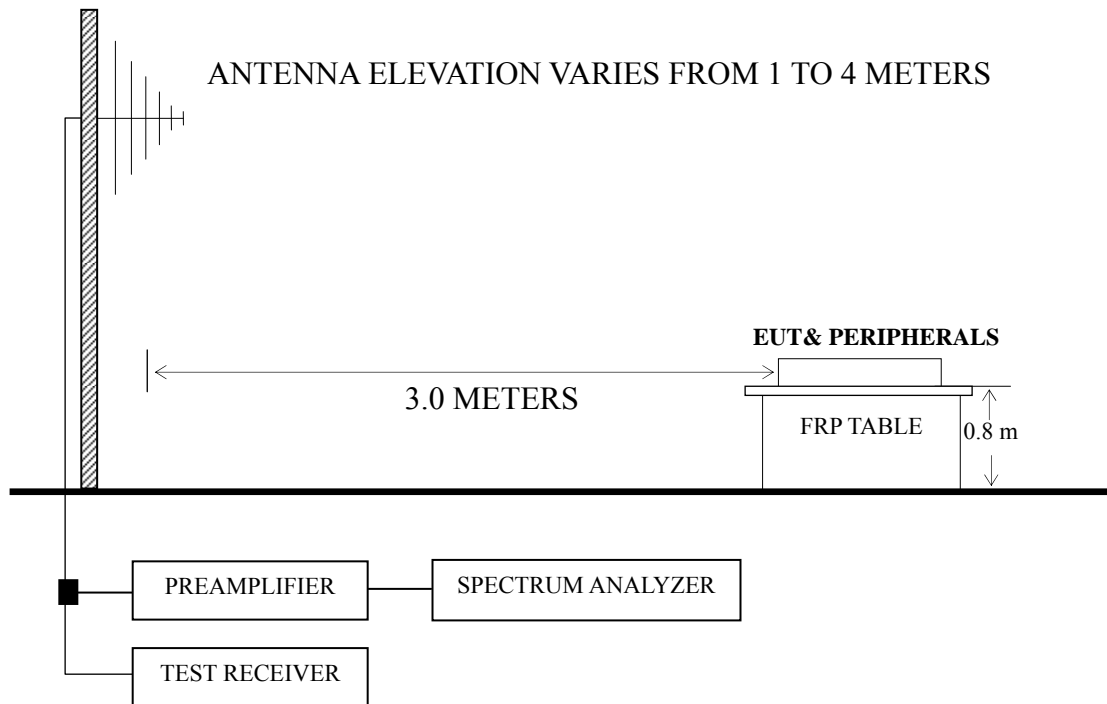
4.2.1 EUT & Peripherals



■ : 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	
		($\mu\text{V}/\text{m}$)	dB ($\mu\text{V}/\text{m}$)
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 ($\mu\text{V}/\text{m}$) = 20 log Emission Level ($\mu\text{V}/\text{m}$)

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 and The Spectrum Agilent E7405A was set at 1MHz above 1GHz.

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

The frequency range from 1 GHz to 2 GHz was checked for 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 1920*1080@60Hz	P21 – P22
HDMI 1920*1080@60Hz	P23
D-Sub 1280*1024@60Hz	P24
D-Sub 800*600@60Hz	P25
USB Play	P26

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 1920*1080@60Hz test mode. The worst emission at horizontal polarization was detected at 129.910 MHz with corrected signal level of 36.02 dB ($\mu\text{V}/\text{m}$) (limit is 43.50 dB ($\mu\text{V}/\text{m}$)), when the antenna was 1.00 m height and the turntable was at 218°. The worst emission at vertical polarization was detected at 568.350 MHz with corrected signal level of 42.97 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 115°.

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 60%RH

Test Mode : D-Sub 1920*1080@60Hz Date of Test : Jul 12, 2013

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)	Remark
Horizontal	51.340	18.46	7.20	0.86	--	26.52	40.00	13.48	QP
	102.750	22.92	10.93	1.36	--	35.21	43.50	8.29	
	129.910	22.59	11.90	1.53	--	36.02	43.50	7.48	
	222.060	24.81	8.40	2.06	--	35.27	46.00	10.73	
	286.080	22.29	12.37	2.46	--	37.12	46.00	8.88	
	852.560	9.58	20.90	4.08	--	34.56	46.00	11.44	
	1019.000	47.48	23.78	4.91	38.16	38.01	74.00	35.99	PK
	1116.000	48.13	24.15	5.01	37.94	39.35	74.00	34.65	
	1163.000	47.80	24.35	5.07	37.83	39.39	74.00	34.61	
	1340.000	46.37	25.13	5.47	37.37	39.60	74.00	34.40	
	1493.000	46.29	25.59	5.63	36.92	40.59	74.00	33.41	
	1724.000	48.84	28.17	6.01	36.46	46.56	74.00	27.44	AV
	1019.000	34.02	23.78	4.91	38.16	24.55	54.00	29.45	
	1116.000	35.11	24.15	5.01	37.94	26.33	54.00	27.67	
	1163.000	34.20	24.35	5.07	37.83	25.79	54.00	28.21	
	1340.000	33.72	25.13	5.47	37.37	26.95	54.00	27.05	
	1493.000	33.84	25.59	5.63	36.92	28.14	54.00	25.86	
1724.000	35.64	28.17	6.01	36.46	33.36	54.00	20.64		

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 60%RH

Test Mode : D-Sub 1920*1080@60Hz Date of Test : Jul 12, 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	52.310	28.90	6.83	0.86	--	36.59	40.00	3.41	QP
	68.800	25.00	5.56	0.92	--	31.48	40.00	8.52	
	120.210	22.38	11.41	1.48	--	35.27	43.50	8.23	
	191.990	29.99	8.00	1.91	--	39.90	43.50	3.60	
	336.520	16.83	14.70	2.61	--	34.14	46.00	11.86	
	568.350	20.53	19.30	3.14	--	42.97	46.00	3.03	
	1023.000	46.37	23.79	4.91	38.15	36.92	74.00	37.08	PK
	1124.000	47.25	24.18	5.03	37.92	38.54	74.00	35.46	
	1233.000	45.68	24.69	5.20	37.66	37.91	74.00	36.09	
	1486.000	45.53	25.57	5.63	36.94	39.79	74.00	34.21	
	1745.000	46.38	28.50	6.06	36.43	44.51	74.00	29.49	
	1880.000	44.25	29.94	6.17	36.24	44.12	74.00	29.88	
	AV	1023.000	33.72	23.79	4.91	38.15	24.27	54.00	29.73
		1124.000	35.03	24.18	5.03	37.92	26.32	54.00	27.68
		1233.000	32.91	24.69	5.20	37.66	25.14	54.00	28.86
		1486.000	32.11	25.57	5.63	36.94	26.37	54.00	27.63
1745.000		33.62	28.50	6.06	36.43	31.75	54.00	22.25	
1881.000		32.71	30.00	6.17	36.24	32.64	54.00	21.36	

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 60%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Jul 12, 2013

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	34.850	14.82	15.85	0.71	31.38	40.00	8.62
	120.210	22.62	11.41	1.48	35.51	43.50	7.99
	150.280	25.14	10.04	1.64	36.82	43.50	6.68
	192.960	21.27	8.05	1.91	31.23	43.50	12.27
	300.630	19.94	12.60	2.55	35.09	46.00	10.91
	634.310	13.86	18.45	3.32	35.63	46.00	10.37
Vertical	44.550	22.29	9.91	0.81	33.01	40.00	6.99
	60.070	23.85	4.70	0.89	29.44	40.00	10.56
	120.210	23.27	11.41	1.48	36.16	43.50	7.34
	191.990	29.23	8.00	1.91	39.14	43.50	4.36
	348.160	16.39	14.80	2.62	33.81	46.00	12.19
	566.410	19.00	19.30	3.14	41.44	46.00	4.56

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 60%RH

Test Mode : D-Sub 1280*1024@60Hz Date of Test : Jul 12, 2013

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	98.870	18.39	10.17	1.32	29.88	43.50	13.62
	159.010	24.49	9.60	1.70	35.79	43.50	7.71
	245.340	23.01	11.20	2.18	36.39	46.00	9.61
	281.230	22.85	12.43	2.40	37.68	46.00	8.32
	527.610	13.86	18.38	3.05	35.29	46.00	10.71
	823.460	12.01	20.63	3.80	36.44	46.00	9.56
Vertical	32.910	13.24	16.30	0.69	30.23	40.00	9.77
	50.370	24.76	7.78	0.85	33.39	40.00	6.61
	97.900	21.36	10.01	1.32	32.69	43.50	10.81
	159.010	28.14	9.60	1.70	39.44	43.50	4.06
	247.280	20.58	11.70	2.18	34.46	46.00	11.54
	566.410	19.07	19.30	3.14	41.51	46.00	4.49

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 60%RH

Test Mode : D-Sub 800*600@60Hz Date of Test : Jul 12, 2013

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	33.880	13.27	16.12	0.70	30.09	40.00	9.91
	123.120	19.89	11.46	1.49	32.84	43.50	10.66
	147.370	23.97	10.20	1.63	35.80	43.50	7.70
	192.960	21.50	8.05	1.91	31.46	43.50	12.04
	568.350	19.51	19.30	3.14	41.95	46.00	4.05
	634.310	14.19	18.45	3.32	35.96	46.00	10.04
Vertical	32.910	19.39	16.30	0.69	36.38	40.00	3.62
	122.150	19.43	11.44	1.49	32.36	43.50	11.14
	146.400	18.82	10.25	1.62	30.69	43.50	12.81
	295.780	18.81	12.58	2.52	33.91	46.00	12.09
	695.420	7.62	20.30	3.54	31.46	46.00	14.54
	852.560	8.43	20.90	4.08	33.41	46.00	12.59

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : LHD32K366HS Humidity : 60%RH

Test Mode : USB Play Date of Test : Jul 12, 2013

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	39.700	16.11	12.54	0.77	29.42	40.00	10.58
	120.210	21.03	11.41	1.48	33.92	43.50	9.58
	159.010	23.54	9.60	1.70	34.84	43.50	8.66
	286.080	24.76	12.37	2.46	39.59	46.00	6.41
	634.310	11.00	18.45	3.32	32.77	46.00	13.23
	826.370	11.42	20.57	3.89	35.88	46.00	10.12
Vertical	40.670	23.25	12.15	0.78	36.18	40.00	3.82
	159.980	28.04	9.60	1.70	39.34	43.50	4.16
	248.250	18.39	11.87	2.20	32.46	46.00	13.54
	286.080	19.30	12.37	2.46	34.13	46.00	11.87
	636.250	9.59	18.45	3.35	31.39	46.00	14.61
	826.370	11.82	20.57	3.89	36.28	46.00	9.72

TEST ENGINEER: NEAL WANG

5 DEVIATION TO TEST SPECIFICATIONS

None.