

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.
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Report No. : ACI-F13115A1
Date of Test : Jan 26 – Feb 06, 2014
Date of Report : Feb 13, 2014

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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 2013
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 Jan 26 – Feb 06, 2014 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.F13116A1, a Verification report.

Date of Test : Jan 26 – Feb 06, 2014 Date of Report : Feb 13, 2014

Producer : 
 KATHY WANG / Supervisor

Review : 
 DIO YANG / Deputy 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 2013 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2013 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. : LHD32K366HS, 32K366HS

Note #1 : The above models are all the same except for the different model name.
The 32K366HS was tested and reported in the report.

Bread Name : Hisense

Note #2 : The modified histories of report are as follows:

Report No.	Model No.	Rev. Summary	Edition No.	Data of Rev.
ACI-F13115	LHD32K366HS, 32K366HS	Original Report.	0	Jul 26, 2013
ACI-F13115A1	LHD32K366HS, 32K366HS	To add a new tuner	Rev. A1	Feb 13, 2014

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	:	1024*768@60Hz (for D-Sub port) 1920*1080@60Hz (for HDMI port)
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 = 3.02 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

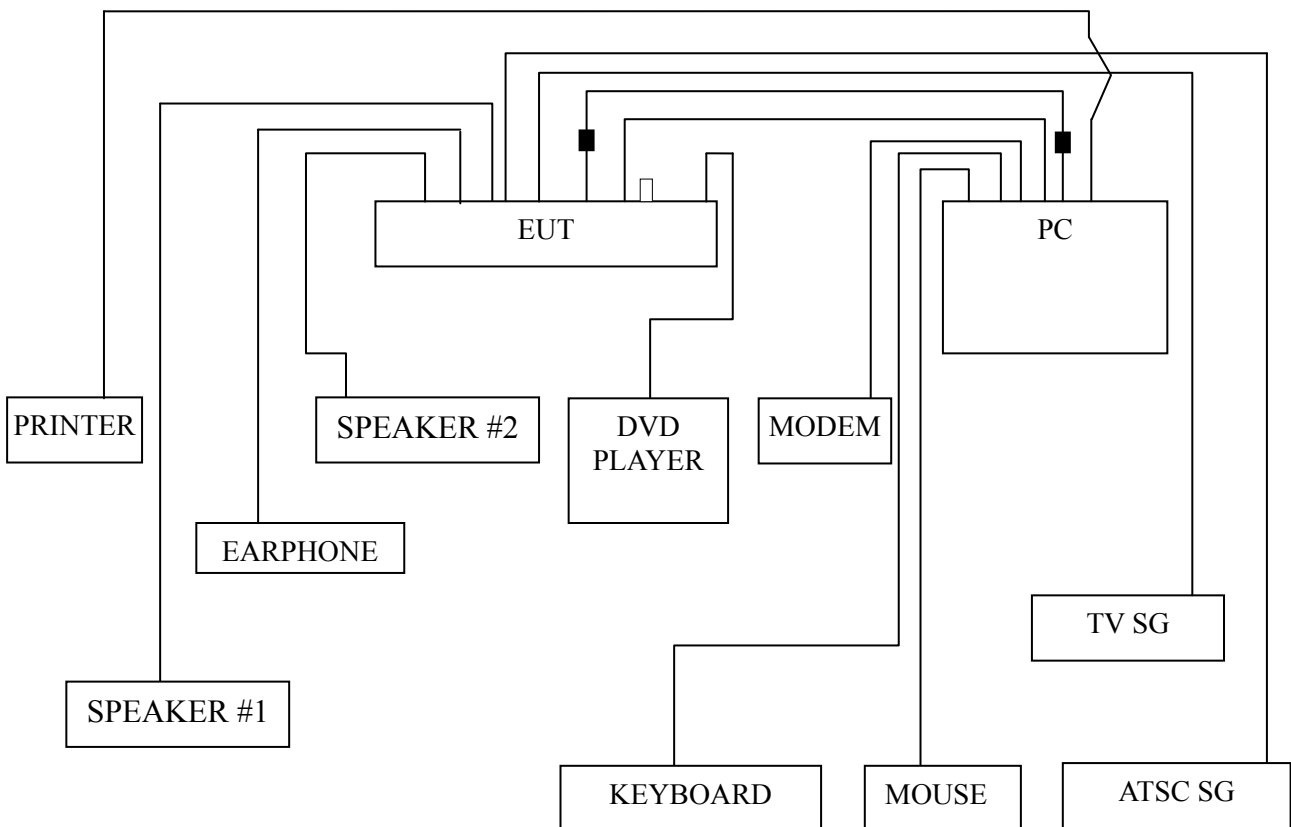
3.1 Test Equipment

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.	50 Ω 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

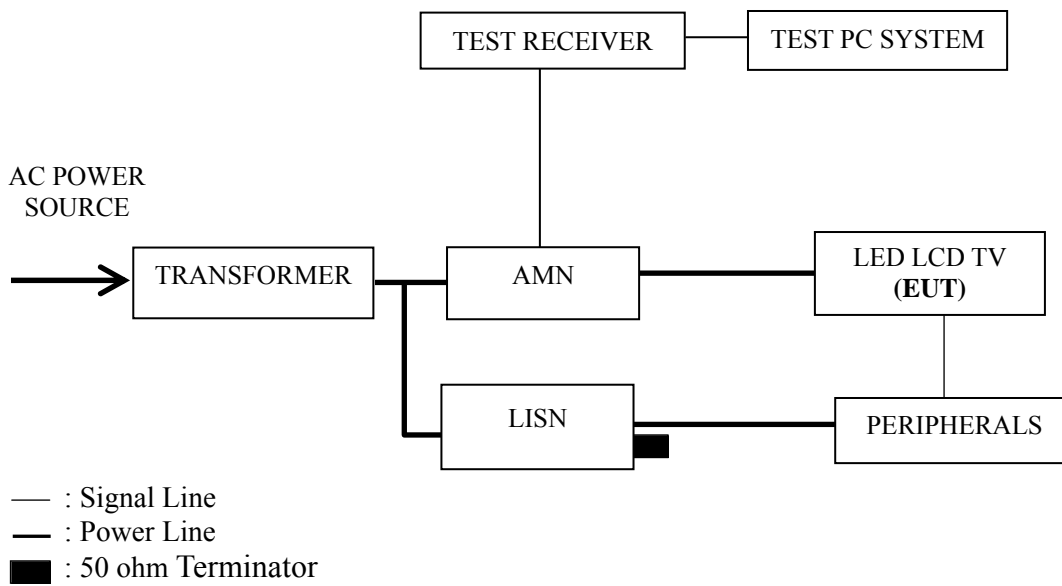
3.2.1 EUT & Peripherals



■ : 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 (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 1024*768@60Hz
HDMI 1920*1080@60Hz
HDMI 1280*1024@60Hz
HDMI 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
HDMI 1280*1024@60Hz	P15
HDMI 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 HDMI 1920*1080@60Hz test mode. The worst emission is detected at 0.196 MHz (Quasi-Peak Value) with corrected signal level of 57.40 dB (μ V) (limit is 63.79 dB (μ V)), when the Neutral of the EUT is connected to AMN.

EUT : LED LCD TV Temperature : 22°C
 Model No. : 32K366HS Humidity : 48%RH
 Test Mode : D-Sub 1024*768@60Hz Date of Test : Jan 26, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	43.30	0.16	43.46	66.00	22.54	QP
	0.196	51.60	0.12	51.72	63.77	12.05	
	0.258	42.39	0.09	42.48	61.51	19.03	
	0.738	37.60	0.10	37.70	56.00	18.30	
	5.846	40.50	0.23	40.73	60.00	19.27	
	8.552	39.09	0.27	39.36	60.00	20.64	
	0.150	27.30	0.16	27.46	56.00	28.54	AV
	0.196	38.90	0.12	39.02	53.77	14.75	
	0.258	26.59	0.09	26.68	51.51	24.83	
	0.738	21.50	0.10	21.60	46.00	24.40	
5.846	31.90	0.23	32.13	50.00	17.87		
8.552	34.49	0.27	34.76	50.00	15.24		
Neutral	0.196	52.10	0.20	52.30	63.78	11.48	QP
	0.261	42.59	0.22	42.81	61.42	18.61	
	0.738	37.19	0.13	37.32	56.00	18.68	
	5.844	40.80	0.27	41.07	60.00	18.93	
	9.229	41.00	0.42	41.42	60.00	18.58	
	13.380	36.31	0.49	36.80	60.00	23.20	
	0.196	37.90	0.20	38.10	53.78	15.68	AV
	0.261	27.19	0.22	27.41	51.42	24.01	
	0.738	22.49	0.13	22.62	46.00	23.38	
	5.844	32.30	0.27	32.57	50.00	17.43	
	9.229	34.50	0.42	34.92	50.00	15.08	
13.380	31.01	0.49	31.50	50.00	18.50		

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C
 Model No. : 32K366HS Humidity : 48%RH
 Test Mode : HDMI 1920*1080@60Hz Date of Test : Jan 26, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.150	46.90	0.16	47.06	65.99	18.93	QP
	0.195	55.60	0.12	55.72	63.82	8.10	
	0.260	45.50	0.08	45.58	61.45	15.87	
	0.789	37.60	0.09	37.69	56.00	18.31	
	6.197	40.80	0.24	41.04	60.00	18.96	
	23.990	41.50	-0.40	41.10	60.00	18.90	
	AV	0.150	29.90	0.16	30.06	55.99	25.93
		0.195	40.80	0.12	40.92	53.82	12.90
		0.260	29.20	0.08	29.28	51.45	22.17
		0.789	22.50	0.09	22.59	46.00	23.41
6.197		32.60	0.24	32.84	50.00	17.16	
23.990		38.00	-0.40	37.60	50.00	12.40	
Neutral	0.150	49.20	0.15	49.35	65.99	16.64	QP
	0.196	57.20	0.20	57.40	63.79	6.39	
	0.259	46.89	0.22	47.11	61.46	14.35	
	0.751	37.60	0.13	37.73	56.00	18.27	
	9.663	39.99	0.42	40.41	60.00	19.59	
	23.990	42.50	0.88	43.38	60.00	16.62	
	AV	0.150	31.70	0.15	31.85	55.99	24.14
		0.196	41.70	0.20	41.90	53.79	11.89
		0.259	29.09	0.22	29.31	51.46	22.15
		0.751	20.60	0.13	20.73	46.00	25.27
9.663		33.79	0.42	34.21	50.00	15.79	
	23.990	38.70	0.88	39.58	50.00	10.42	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C
 Model No. : 32K366HS Humidity : 48%RH
 Test Mode : HDMI 1280*1024@60Hz Date of Test : Jan 26, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.150	46.00	0.16	46.16	65.99	19.83	QP
	0.195	54.40	0.12	54.52	63.84	9.32	
	0.259	44.80	0.08	44.88	61.46	16.58	
	0.789	37.80	0.09	37.89	56.00	18.11	
	5.818	39.10	0.23	39.33	60.00	20.67	
	9.870	38.60	0.20	38.80	60.00	21.20	
	AV	0.150	29.40	0.16	29.56	55.99	26.43
		0.195	39.00	0.12	39.12	53.84	14.72
		0.259	28.40	0.08	28.48	51.46	22.98
		0.789	22.40	0.09	22.49	46.00	23.51
5.818		32.20	0.23	32.43	50.00	17.57	
9.870		34.70	0.20	34.90	50.00	15.10	
Neutral	0.151	44.00	0.15	44.15	65.97	21.82	QP
	0.195	54.39	0.20	54.59	63.81	9.22	
	0.260	44.59	0.22	44.81	61.44	16.63	
	0.744	38.60	0.13	38.73	56.00	17.27	
	6.260	40.10	0.29	40.39	60.00	19.61	
	AV	9.103	40.80	0.43	41.23	60.00	18.77
		0.151	25.30	0.15	25.45	55.97	30.52
		0.195	39.19	0.20	39.39	53.81	14.42
		0.260	27.99	0.22	28.21	51.44	23.23
		0.744	21.90	0.13	22.03	46.00	23.97
6.260	32.40	0.29	32.69	50.00	17.31	AV	
9.103	33.80	0.43	34.23	50.00	15.77		

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C

Model No. : 32K366HS Humidity : 48%RH

Test Mode : HDMI 640*480@60Hz Date of Test : Jan 26, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.155	40.90	0.15	41.05	65.72	24.67	QP
	0.196	51.90	0.12	52.02	63.78	11.76	
	0.262	42.10	0.08	42.18	61.36	19.18	
	0.755	36.79	0.10	36.89	56.00	19.11	
	5.797	39.20	0.23	39.43	60.00	20.57	
	8.370	38.90	0.26	39.16	60.00	20.84	
	AV	0.155	17.20	0.15	17.35	55.72	38.37
		0.196	38.60	0.12	38.72	53.78	15.06
		0.262	28.30	0.08	28.38	51.36	22.98
		0.755	20.79	0.10	20.89	46.00	25.11
5.797		32.30	0.23	32.53	50.00	17.47	
8.370		34.30	0.26	34.56	50.00	15.44	
Neutral	0.194	52.49	0.20	52.69	63.85	11.16	QP
	0.260	42.99	0.22	43.21	61.44	18.23	
	0.732	39.29	0.13	39.42	56.00	16.58	
	6.252	39.30	0.29	39.59	60.00	20.41	
	8.589	40.70	0.41	41.11	60.00	18.89	
	12.850	38.30	0.48	38.78	60.00	21.22	
	AV	0.194	37.09	0.20	37.29	53.85	16.56
		0.260	27.49	0.22	27.71	51.44	23.73
		0.732	22.49	0.13	22.62	46.00	23.38
		6.252	32.00	0.29	32.29	50.00	17.71
		8.589	33.80	0.41	34.21	50.00	15.79
		12.850	32.10	0.48	32.58	50.00	17.42

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C
 Model No. : 32K366HS Humidity : 48%RH
 Test Mode : USB Play Date of Test : Jan 26, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	44.60	0.16	44.76	65.98	21.22	QP
	0.195	53.80	0.12	53.92	63.83	9.91	
	0.261	44.10	0.08	44.18	61.39	17.21	
	0.752	36.09	0.10	36.19	56.00	19.81	
	6.274	37.90	0.24	38.14	60.00	21.86	
	9.331	40.10	0.24	40.34	60.00	19.66	
	0.150	25.70	0.16	25.86	55.98	30.12	AV
	0.195	39.20	0.12	39.32	53.83	14.51	
	0.261	29.10	0.08	29.18	51.39	22.21	
	0.752	19.99	0.10	20.09	46.00	25.91	
6.274	31.00	0.24	31.24	50.00	18.76		
9.331	34.60	0.24	34.84	50.00	15.16		
Neutral	0.150	46.30	0.15	46.45	65.99	19.54	QP
	0.195	54.79	0.20	54.99	63.83	8.84	
	0.262	44.79	0.22	45.01	61.38	16.37	
	0.749	38.10	0.13	38.23	56.00	17.77	
	5.861	39.40	0.27	39.67	60.00	20.33	
	8.646	38.40	0.41	38.81	60.00	21.19	AV
	0.150	29.20	0.15	29.35	55.99	26.64	
	0.195	38.39	0.20	38.59	53.83	15.24	
	0.262	28.99	0.22	29.21	51.38	22.17	
	0.749	21.30	0.13	21.43	46.00	24.57	
5.861	31.50	0.27	31.77	50.00	18.23	AV	
8.646	33.60	0.41	34.01	50.00	15.99		

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

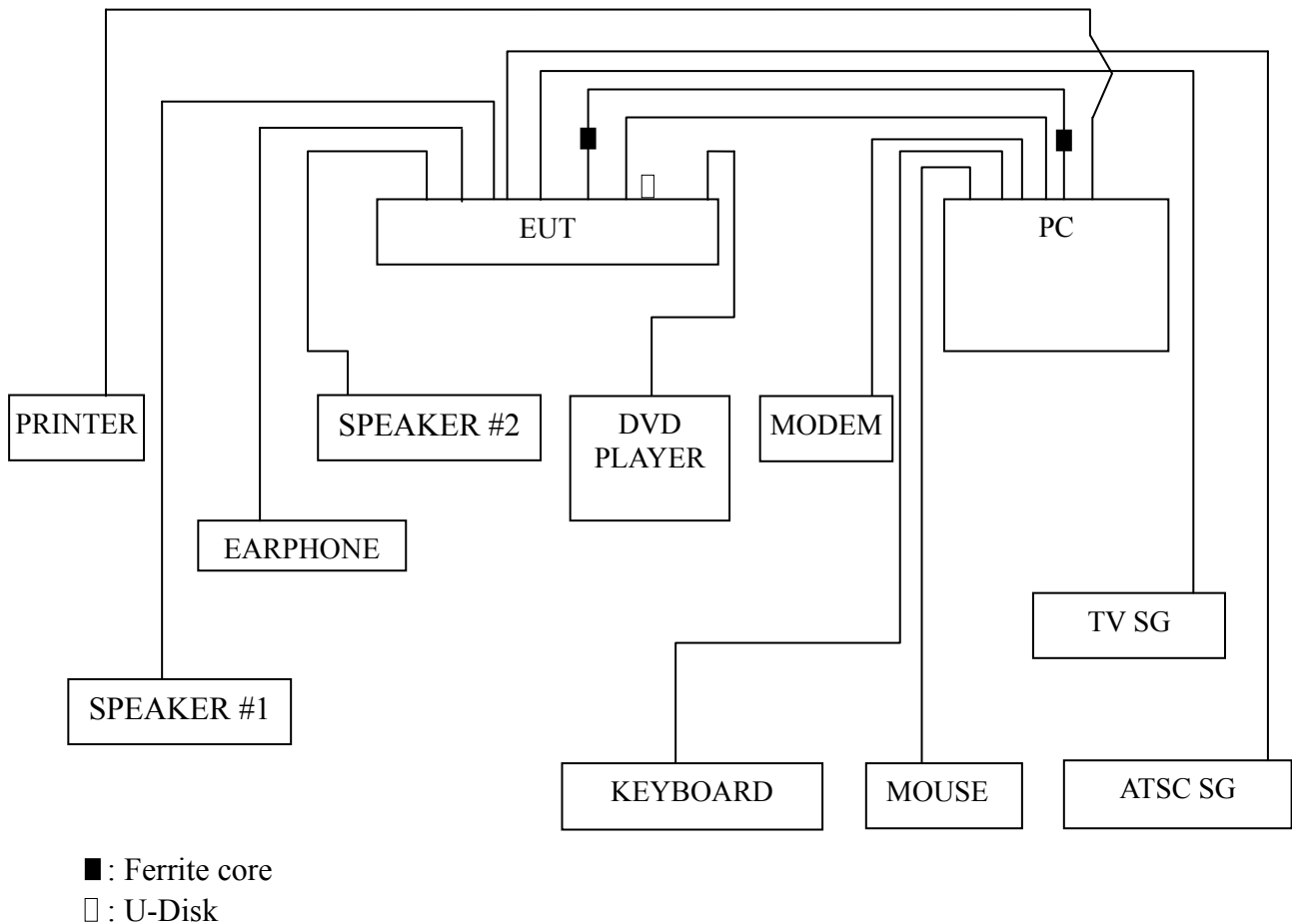
4.1 Test Equipment

The following test equipments are used during the radiated emission test in a semi-anechoic chamber:

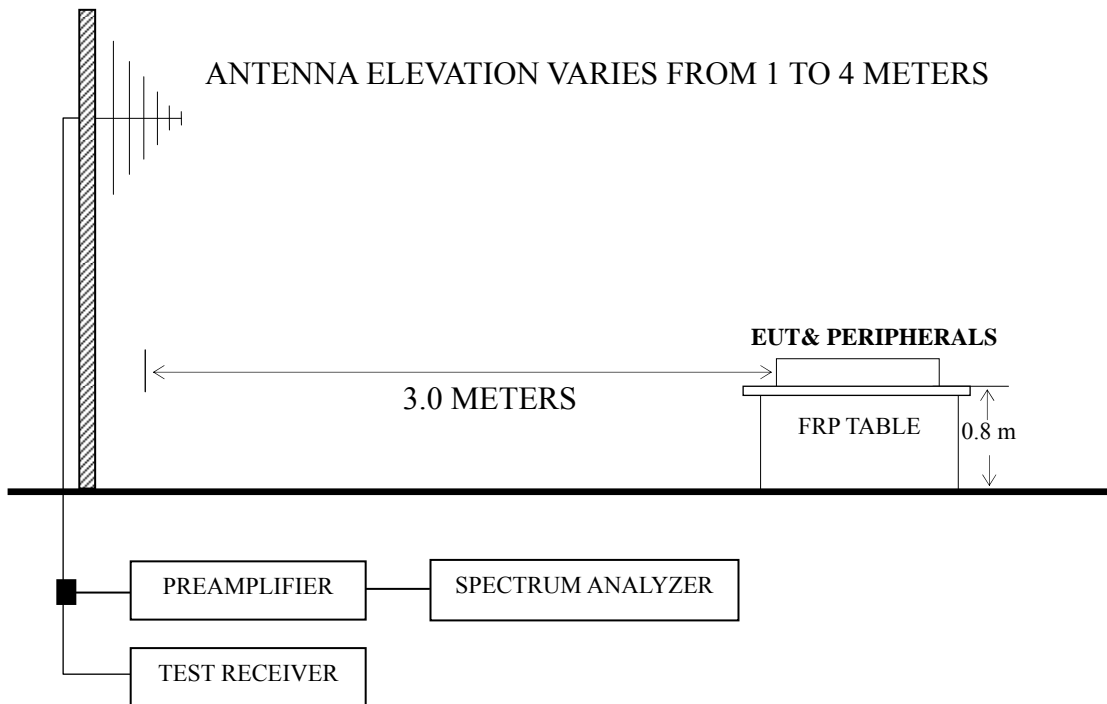
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	101302	Sep 03, 2013	Sep 02, 2014
2.	Preamplifier	Agilent	8447D	2944A10548	Sep 18, 2013	Mar 17, 2014
3.	Preamplifier	HP	8449B	3008A00864	Mar 20, 2013	Mar 20, 2014
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 03, 2013	May 02, 2014
5.	Horn Antenna	EMCO	3115	9607-4878	May 11, 2013	May 10, 2014
6.	Spectrum	Agilent	E7405A	MY45106600	Nov 11, 2013	Nov 10, 2014
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



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 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 1024*768@60Hz	P21
HDMI 1920*1080@60Hz	P22 – P23
HDMI 1280*1024@60Hz	P24
HDMI 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 HDMI 1920*1080@60Hz test mode. The worst emission at horizontal polarization was detected at 844.800 MHz with corrected signal level of 42.68 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.10 m height and the turntable was at 210°. The worst emission at vertical polarization was detected at 31.940 MHz with corrected signal level of 36.39 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 360°.

EUT : LED LCD TV Temperature : 22°C

Model No. : 32K366HS Humidity : 60%RH

Test Mode : D-Sub 1024*768@60Hz Date of Test : Feb 06, 2014

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	76.560	26.51	6.59	1.03	34.13	40.00	5.87
	204.600	25.88	7.87	1.97	35.72	43.50	7.78
	260.860	17.14	12.90	2.27	32.31	46.00	13.69
	292.870	17.77	12.67	2.49	32.93	46.00	13.07
	379.200	13.92	15.13	2.66	31.71	46.00	14.29
	846.740	8.28	20.70	3.98	32.96	46.00	13.04
Vertical	50.370	27.03	7.78	0.85	35.66	40.00	4.34
	77.530	23.96	6.65	1.05	31.66	40.00	8.34
	153.190	24.05	9.79	1.65	35.49	43.50	8.01
	178.410	25.28	8.23	1.83	35.34	43.50	8.16
	385.990	14.34	15.30	2.67	32.31	46.00	13.69
	838.010	7.70	20.10	3.98	31.78	46.00	14.22

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22°C
 Model No. : 32K366HS Humidity : 60%RH
 Test Mode : HDMI 1920*1080@60Hz Date of Test : Feb 06, 2014

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	31.940	14.43	16.50	0.68	--	31.61	40.00	8.39	QP
	73.650	28.20	6.33	0.98	--	35.51	40.00	4.49	
	167.740	24.77	8.40	1.76	--	34.93	43.50	8.57	
	206.540	26.39	7.75	1.98	--	36.12	43.50	7.38	
	342.340	21.21	14.80	2.61	--	38.62	46.00	7.38	
	844.800	18.00	20.70	3.98	--	42.68	46.00	3.32	
	1106.000	47.58	24.11	5.01	37.96	38.74	74.00	35.26	PK
	1174.000	46.28	24.42	5.08	37.81	37.97	74.00	36.03	
	1348.000	46.02	25.16	5.47	37.34	39.31	74.00	34.69	
	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	
	1891.000	44.93	30.05	6.18	36.22	44.94	74.00	29.06	
	1106.000	33.95	24.11	5.01	37.96	25.11	54.00	28.89	AV
	1174.000	33.20	24.42	5.08	37.81	24.89	54.00	29.11	
	1348.000	33.20	25.16	5.47	37.34	26.49	54.00	27.51	
	1452.000	32.11	25.48	5.61	37.04	26.16	54.00	27.84	
	1626.000	35.29	26.98	5.74	36.63	31.38	54.00	22.62	
	1891.000	31.48	30.05	6.18	36.22	31.49	54.00	22.51	

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22°C

Model No. : 32K366HS Humidity : 60%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Feb 06, 2014

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	19.21	16.50	0.68	--	36.39	40.00	3.61	QP
	47.460	26.58	8.30	0.84	--	35.72	40.00	4.28	
	148.340	25.12	10.15	1.63	--	36.90	43.50	6.60	
	185.200	28.09	8.30	1.87	--	38.26	43.50	5.24	
	342.340	19.05	14.80	2.61	--	36.46	46.00	9.54	
	844.800	16.90	20.70	3.98	--	41.58	46.00	4.42	
	1080.000	46.28	24.01	4.98	38.02	37.25	74.00	36.75	PK
	1164.000	46.04	24.37	5.07	37.82	37.66	74.00	36.34	
	1358.000	44.70	25.20	5.51	37.31	38.10	74.00	35.90	
	1521.000	45.73	25.83	5.64	36.85	40.35	74.00	33.65	
	1711.000	52.50	28.04	6.01	36.48	50.07	74.00	23.93	
	1861.000	46.01	29.79	6.17	36.26	45.71	74.00	28.29	
	1080.000	33.58	24.01	4.98	38.02	24.55	54.00	29.45	AV
	1164.000	32.48	24.37	5.07	37.82	24.10	54.00	29.90	
	1358.000	31.45	25.20	5.51	37.31	24.85	54.00	29.15	
	1521.000	32.49	25.83	5.64	36.85	27.11	54.00	26.89	
	1711.000	39.21	28.04	6.01	36.48	36.78	54.00	17.22	
	1861.000	33.50	29.79	6.17	36.26	33.20	54.00	20.80	

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22°C

Model No. : 32K366HS Humidity : 60%RH

Test Mode : HDMI 1280*1024@60Hz Date of Test : Feb 06, 2014

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	31.940	12.01	16.50	0.68	29.19	40.00	10.81
	74.620	27.66	6.46	1.00	35.12	40.00	4.88
	167.740	25.66	8.40	1.76	35.82	43.50	7.68
	325.850	24.54	14.15	2.58	41.27	46.00	4.73
	648.860	17.47	18.40	3.38	39.25	46.00	6.75
	896.210	17.97	19.47	4.43	41.87	46.00	4.13
Vertical	32.910	18.05	16.30	0.69	35.04	40.00	4.96
	48.430	26.27	7.98	0.84	35.09	40.00	4.91
	146.400	24.63	10.25	1.62	36.50	43.50	7.00
	168.710	26.82	8.40	1.76	36.98	43.50	6.52
	433.520	17.91	17.50	2.78	38.19	46.00	7.81
	826.370	15.14	20.57	3.89	39.60	46.00	6.40

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22°C

Model No. : 32K366HS Humidity : 60%RH

Test Mode : HDMI 640*480@60Hz Date of Test : Feb 06, 2014

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	32.910	11.79	16.30	0.69	28.78	40.00	11.22
	72.680	26.71	6.20	0.97	33.88	40.00	6.12
	171.620	25.09	8.37	1.78	35.24	43.50	8.26
	206.540	24.71	7.75	1.98	34.44	43.50	9.06
	298.690	19.09	12.52	2.52	34.13	46.00	11.87
840.920	9.78	20.40	3.98	34.16	46.00	11.84	
Vertical	33.880	17.69	16.12	0.70	34.51	40.00	5.49
	49.400	26.55	7.93	0.85	35.33	40.00	4.67
	81.410	23.99	6.97	1.10	32.06	40.00	7.94
	166.770	25.77	8.40	1.75	35.92	43.50	7.58
	266.680	16.17	12.83	2.32	31.32	46.00	14.68
	829.280	8.31	20.57	3.89	32.77	46.00	13.23

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22°C

Model No. : 32K366HS Humidity : 60%RH

Test Mode : USB Play Date of Test : Feb 06, 2014

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	79.470	25.76	6.76	1.06	33.58	40.00	6.42
	148.340	22.21	10.15	1.63	33.99	43.50	9.51
	182.290	23.80	8.25	1.84	33.89	43.50	9.61
	297.720	19.93	12.55	2.52	35.00	46.00	11.00
	386.960	15.05	15.33	2.67	33.05	46.00	12.95
	826.370	10.67	20.57	3.89	35.13	46.00	10.87
Vertical	49.400	26.50	7.93	0.85	35.28	40.00	4.72
	76.560	26.69	6.59	1.03	34.31	40.00	5.69
	149.310	24.79	10.12	1.64	36.55	43.50	6.95
	183.260	27.33	8.27	1.86	37.46	43.50	6.04
	297.720	18.72	12.55	2.52	33.79	46.00	12.21
	826.370	11.26	20.57	3.89	35.72	46.00	10.28

TEST ENGINEER: NEAL WANG

5 DEVIATION TO TEST SPECIFICATIONS

None.