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

LED LCD TV

Model No.	Brand
LHD32K366MH	Hisense
32K366MH	

FCC ID : W9HLCDC0023

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,
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Report No. : ACI-F13111A1
Date of Test : Apr 02 – 03, 2014
Date of Report : Apr 16, 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
LHD32K366MH	Hisense	120V/60Hz
32K366MH		

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 Apr 02 – 03, 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.F13112A1, a Verification report.

Date of Test : Apr 02 – 03, 2014 Date of Report : Apr 16, 2014

Producer : EMILY ZHU / Assistant

Review : DIO YANG / Deputy 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 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. : LHD32K366MH, 32K366MH

Note #1 : The modified histories of report are as follows:

Report No.	Model No.	Rev. Summary	Edition No.	Data of Rev.
ACI-F13111	LHD32K366MH, 32K366MH	Original Report	0	Jul 23, 2013
ACI-F13111A1	LHD32K366MH, 32K366MH	1. To add a new tuner and some circuits around the tuner are changed	Rev. A1	Apr 16, 2014

Note #2 : The above models are all the same except for the different model name.
The 32K366MH was tested and reported in the report.

Brand 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\PW1

Max Resolution : 1920*1080@60Hz (for HDMI port)
1024*768@60Hz (for D-Sub 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/CABLE Port
: Connected with ATSC SG
(3) One HDMI1 Port
: Connected with PC
(4) One SERVICE Port
: Not open to the customer

Side Port:
(1) One DIGITAL AUDIO OUT Port
: Connected with Speaker
(2) One HDMI2 Port
: Connected with DVD PLAYER
(3) One VGA Port
: Connected with PC
(4) One PC AUDIO in Port
: Connected with PC
(5) One USB Port
: Connected with U-Disk
(6) One AV Port
: Connected with DVD PLAYER
(7) One Earphone/AUDIO OUT Port
: Connected with Earphone
(8) One RJ12 Port
: Connected with PC

2.2 Peripherals

2.2.1 PC #1

Manufacturer : HP
Model Number : dx7200MT
Serial Number : CNG622017W
Power Cord : Unshielded, Detachable, 1.8m
Certificate : FCC DoC; CE/EMC; VCCI; C-Tick; BSMI; 3C; MIC

2.2.2 PC #2

Manufacturer : HP
Model Number : Pro3340
Serial Number : 6CR2512VFD
Power Cord : Unshielded, Detachable, 1.8m
Certificate : 3C; KCC; C-Tick

2.2.3 Printer #1

Manufacturer	:	HP
Model Number	:	C3990A
Serial Number	:	JPZX020487
Data Cable	:	Shielded, detachable, 1.5m
Certificate	:	GS, CE/EMC, C-Tick, FCC DoC

2.2.4 Printer #2

Manufacturer	:	HP
Model Number	:	P1007
Serial Number	:	VNFN713831
Data Cable	:	Shielded, detachable, 1.5m
Certificate	:	GS, CE/EMC, C-Tick, FCC DoC

2.2.5 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

2.2.6 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

2.2.7 Modem

Manufacturer	:	TP-LINK
Model Number	:	TM-EC5658V
Serial Number	:	07123301053
Data Cable	:	Shielded, Detachable, 1.8m
Certificate	:	FCC DoC, CE/EMC, CCC

2.2.8 Earphone

Manufacturer	:	audio-technica
Model Number	:	ATH-CKL200

2.2.9 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

2.2.10 ATSC Signal Generator

Manufacturer	:	SENCORE
Model Number	:	ATSC997

Serial Number : 6790071

2.2.11 DVD PLAYER

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

2.2.12 SPEAKER

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

2.2.13 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

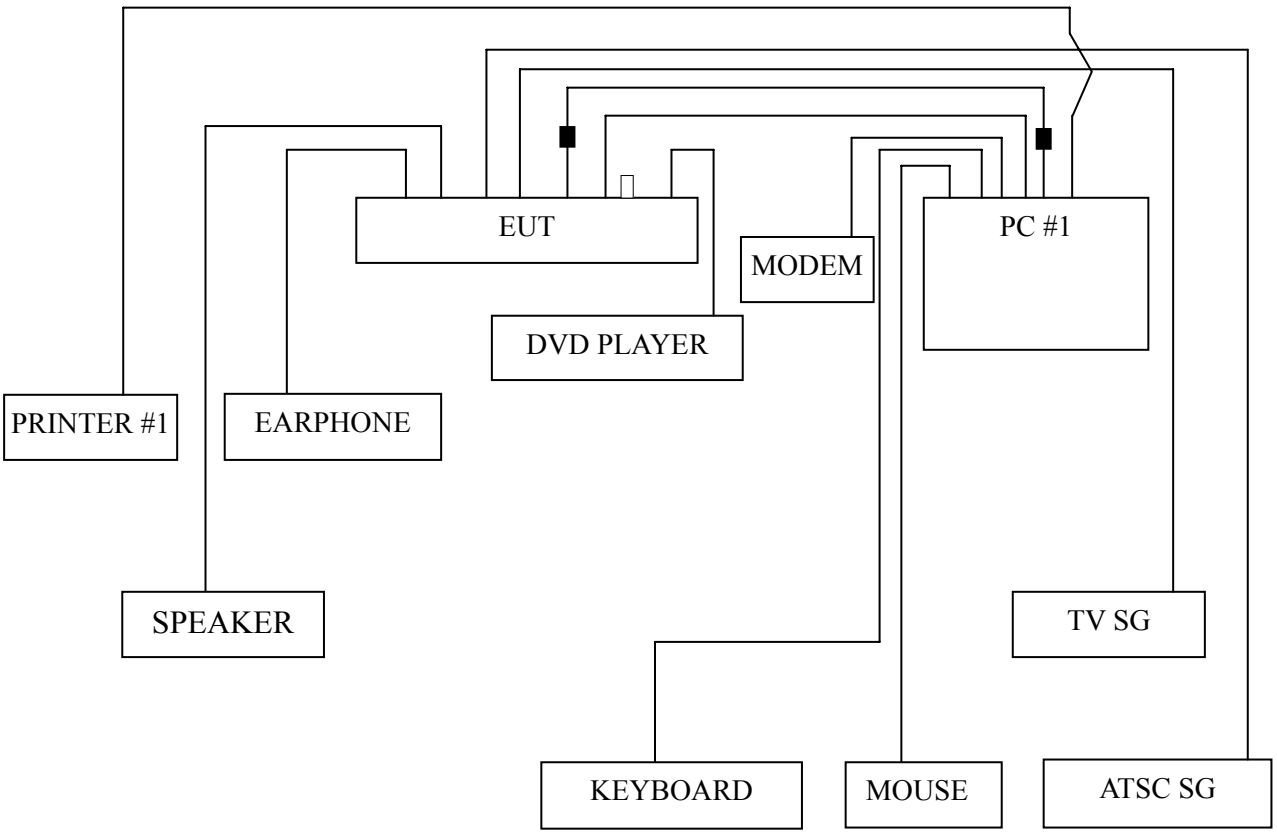
3.1 Test Equipment

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, 2014	Mar 19, 2015
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Feb 25, 2014	Feb 24, 2015
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2014	Mar 19, 2015
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Mar 17, 2014	Sep 16, 2014
5.	50Ω Terminator	Anritsu	BNC	001	Mar 20, 2014	Mar 19, 2015
6.	Software	Audix	E3	6.2009-1-15	--	--

3.2 Block Diagram of Test Setup

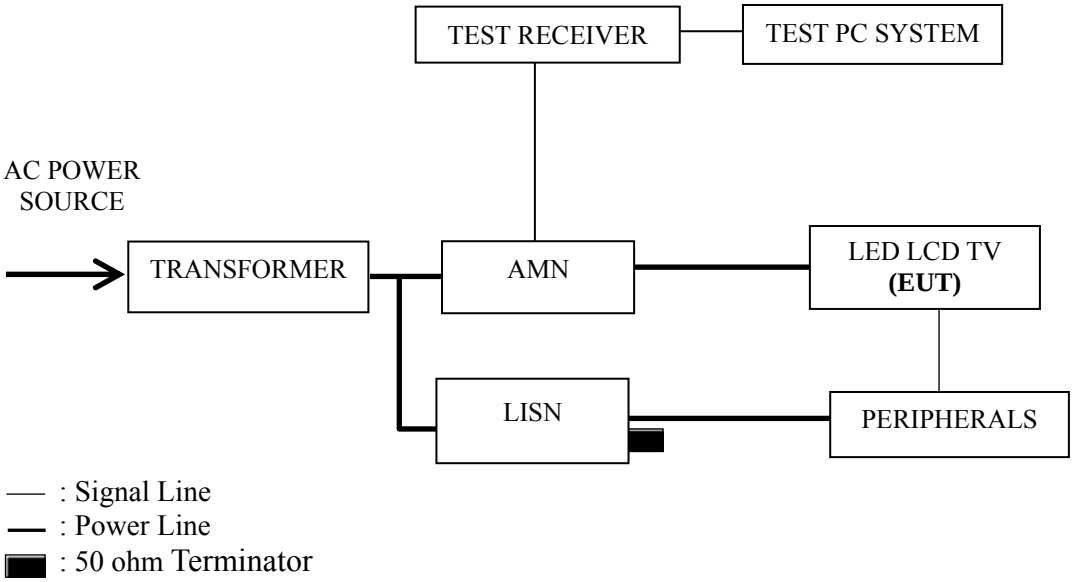
3.2.1 EUT & Peripherals



■ : 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
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 0.194 MHz (Quasi-Peak Value) with corrected signal level of 58.69 dB (μV) (limit is 63.86 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	32K366MH	Humidity	:	48%RH
Test Mode	:	D-Sub 1024*768@60Hz	Date of Test	:	Apr 02, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.195	56.90	0.12	57.02	63.83	6.81	QP
	0.269	46.29	0.08	46.37	61.16	14.79	
	0.731	36.60	0.10	36.70	56.00	19.30	
	2.144	26.50	0.08	26.58	56.00	29.42	
	6.358	35.90	0.24	36.14	60.00	23.86	
	13.510	35.90	0.04	35.94	60.00	24.06	
	0.195	42.50	0.12	42.62	53.83	11.21	AV
	0.269	30.89	0.08	30.97	51.16	20.19	
	0.731	22.50	0.10	22.60	46.00	23.40	
	2.144	15.00	0.08	15.08	46.00	30.92	
	6.358	29.30	0.24	29.54	50.00	20.46	
	13.510	30.00	0.04	30.04	50.00	19.96	
Neutral	**0.193**	**56.99**	**0.20**	**57.19**	**63.89**	**6.70**	QP
	0.258	46.99	0.22	47.21	61.50	14.29	
	0.716	39.30	0.12	39.42	56.00	16.58	
	1.271	30.80	0.17	30.97	56.00	25.03	
	6.435	35.00	0.30	35.30	60.00	24.70	
	13.500	36.30	0.50	36.80	60.00	23.20	
	0.193	40.49	0.20	40.69	53.89	13.20	AV
	0.258	31.79	0.22	32.01	51.50	19.49	
	0.716	23.80	0.12	23.92	46.00	22.08	
	1.271	17.20	0.17	17.37	46.00	28.63	
	6.435	28.70	0.30	29.00	50.00	21.00	
	13.500	30.30	0.50	30.80	50.00	19.20	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	32K366MH	Humidity	:	48%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test	:	Apr 02, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.194	58.09	0.13	58.22	63.87	5.65	QP
	0.327	41.30	0.04	41.34	59.52	18.18	
	0.731	36.80	0.10	36.90	56.00	19.10	
	2.172	26.60	0.08	26.68	56.00	29.32	
	6.386	37.20	0.24	37.44	60.00	22.56	
	12.880	34.51	0.06	34.57	60.00	25.43	
	0.194	42.59	0.13	42.72	53.87	11.15	AV
	0.327	25.80	0.04	25.84	49.52	23.68	
	0.731	22.20	0.10	22.30	46.00	23.70	
	2.172	15.10	0.08	15.18	46.00	30.82	
	6.386	29.80	0.24	30.04	50.00	19.96	
	12.880	30.31	0.06	30.37	50.00	19.63	
Neutral	**0.194**	**58.49**	**0.20**	**58.69**	**63.86**	**5.17**	QP
	0.265	48.29	0.22	48.51	61.28	12.77	
	0.727	38.90	0.12	39.02	56.00	16.98	
	2.195	30.10	0.17	30.27	56.00	25.73	
	6.467	35.90	0.30	36.20	60.00	23.80	
	13.510	36.30	0.50	36.80	60.00	23.20	
	0.194	42.59	0.20	42.79	53.86	11.07	AV
	0.265	33.49	0.22	33.71	51.28	17.57	
	0.727	23.10	0.12	23.22	46.00	22.78	
	2.195	18.60	0.17	18.77	46.00	27.23	
	6.467	29.40	0.30	29.70	50.00	20.30	
	13.510	30.50	0.50	31.00	50.00	19.00	

TEST ENGINEER: WENCY YANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	32K366MH	Humidity	:	48%RH
Test Mode	:	HDMI 1280*1024@60Hz	Date of Test	:	Apr 02, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	**0.197**	**57.90**	**0.12**	**58.02**	**63.75**	**5.73**	QP
	0.261	47.80	0.08	47.88	61.39	13.51	
	0.733	36.60	0.10	36.70	56.00	19.30	
	2.211	26.30	0.08	26.38	56.00	29.62	
	6.288	35.10	0.24	35.34	60.00	24.66	
	13.340	36.60	0.05	36.65	60.00	23.35	
	0.197	43.70	0.12	43.82	53.75	9.93	AV
	0.261	33.90	0.08	33.98	51.39	17.41	
	0.733	22.50	0.10	22.60	46.00	23.40	
	2.211	14.80	0.08	14.88	46.00	31.12	
	6.288	28.30	0.24	28.54	50.00	21.46	
	13.340	30.40	0.05	30.45	50.00	19.55	
Neutral	0.197	57.60	0.20	57.80	63.72	5.92	QP
	0.266	47.29	0.22	47.51	61.24	13.73	
	0.723	39.00	0.12	39.12	56.00	16.88	
	1.268	30.30	0.17	30.47	56.00	25.53	
	6.293	34.90	0.29	35.19	60.00	24.81	
	14.420	36.41	0.52	36.93	60.00	23.07	
	0.197	42.80	0.20	43.00	53.72	10.72	AV
	0.266	32.19	0.22	32.41	51.24	18.83	
	0.723	23.50	0.12	23.62	46.00	22.38	
	1.268	16.90	0.17	17.07	46.00	28.93	
	6.293	28.30	0.29	28.59	50.00	21.41	
	14.420	30.31	0.52	30.83	50.00	19.17	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature	:	22℃
Model No.	:	32K366MH	Humidity	:	48%RH
Test Mode	:	HDMI 640*480@60Hz	Date of Test	:	Apr 02, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.193	57.19	0.13	57.32	63.92	6.60	QP
	0.273	46.00	0.07	46.07	61.02	14.95	
	0.732	36.90	0.10	37.00	56.00	19.00	
	2.154	26.60	0.08	26.68	56.00	29.32	
	6.538	36.80	0.25	37.05	60.00	22.95	
	12.990	36.80	0.06	36.86	60.00	23.14	
	0.193	42.29	0.13	42.42	53.92	11.50	AV
	0.273	30.30	0.07	30.37	51.02	20.65	
	0.732	22.60	0.10	22.70	46.00	23.30	
	2.154	15.20	0.08	15.28	46.00	30.72	
	6.538	30.50	0.25	30.75	50.00	19.25	
	12.990	30.20	0.06	30.26	50.00	19.74	
Neutral	**0.199**	**56.90**	**0.20**	**57.10**	**63.67**	**6.57**	QP
	0.263	47.59	0.22	47.81	61.35	13.54	
	0.709	39.40	0.12	39.52	56.00	16.48	
	2.188	30.40	0.17	30.57	56.00	25.43	
	6.556	35.60	0.31	35.91	60.00	24.09	
	13.630	36.31	0.50	36.81	60.00	23.19	
	0.199	42.80	0.20	43.00	53.67	10.67	AV
	0.263	33.19	0.22	33.41	51.35	17.94	
	0.709	25.10	0.12	25.22	46.00	20.78	
	2.188	19.00	0.17	19.17	46.00	26.83	
	6.556	29.60	0.31	29.91	50.00	20.09	
	13.630	29.91	0.50	30.41	50.00	19.59	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	32K366MH	Humidity	:	48%RH
Test Mode	:	USB Play	Date of Test	:	Apr 02, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.207	55.70	0.11	55.81	63.34	7.53	QP
	0.277	45.60	0.07	45.67	60.90	15.23	
	0.733	36.80	0.10	36.90	56.00	19.10	
	1.589	24.49	0.07	24.56	56.00	31.44	
	6.292	35.10	0.24	35.34	60.00	24.66	
	12.630	34.91	0.07	34.98	60.00	25.02	
	0.207	41.20	0.11	41.31	53.34	12.03	AV
	0.277	29.00	0.07	29.07	50.90	21.83	
	0.733	22.50	0.10	22.60	46.00	23.40	
	1.589	12.79	0.07	12.86	46.00	33.14	
	6.292	28.80	0.24	29.04	50.00	20.96	
	12.630	30.41	0.07	30.48	50.00	19.52	
Neutral	**0.192**	**56.80**	**0.19**	**56.99**	**63.94**	**6.95**	QP
	0.280	45.50	0.22	45.72	60.82	15.10	
	0.735	38.79	0.13	38.92	56.00	17.08	
	2.172	30.00	0.17	30.17	56.00	25.83	
	6.276	34.50	0.29	34.79	60.00	25.21	
	13.350	34.91	0.49	35.40	60.00	24.60	
	0.192	39.70	0.19	39.89	53.94	14.05	AV
	0.280	27.50	0.22	27.72	50.82	23.10	
	0.735	23.79	0.13	23.92	46.00	22.08	
	2.172	18.80	0.17	18.97	46.00	27.03	
	6.276	27.80	0.29	28.09	50.00	21.91	
	13.350	29.31	0.49	29.80	50.00	20.20	

TEST ENGINEER: ERIC TANG

4 RADIATED EMISSION TEST

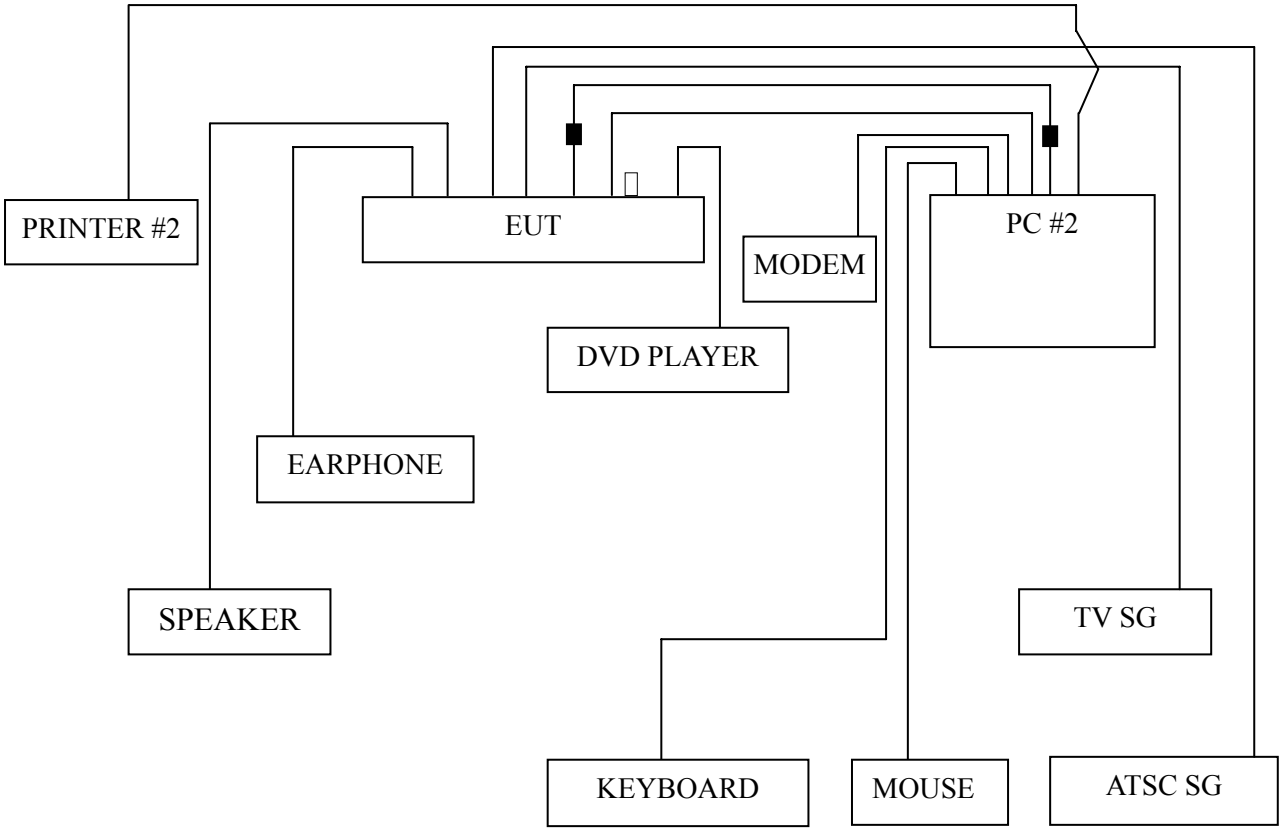
4.1 Test Equipment

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	Mar 17, 2014	Sep 16, 2014
3.	Preamplifier	HP	8449B	3008A00864	Mar 20, 2014	Mar 19, 2015
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	Mar 17, 2014	Sep 16, 2014
8.	Software	Audix	E3	6.2007-9-10	--	--

4.2 Block Diagram of Test Setup

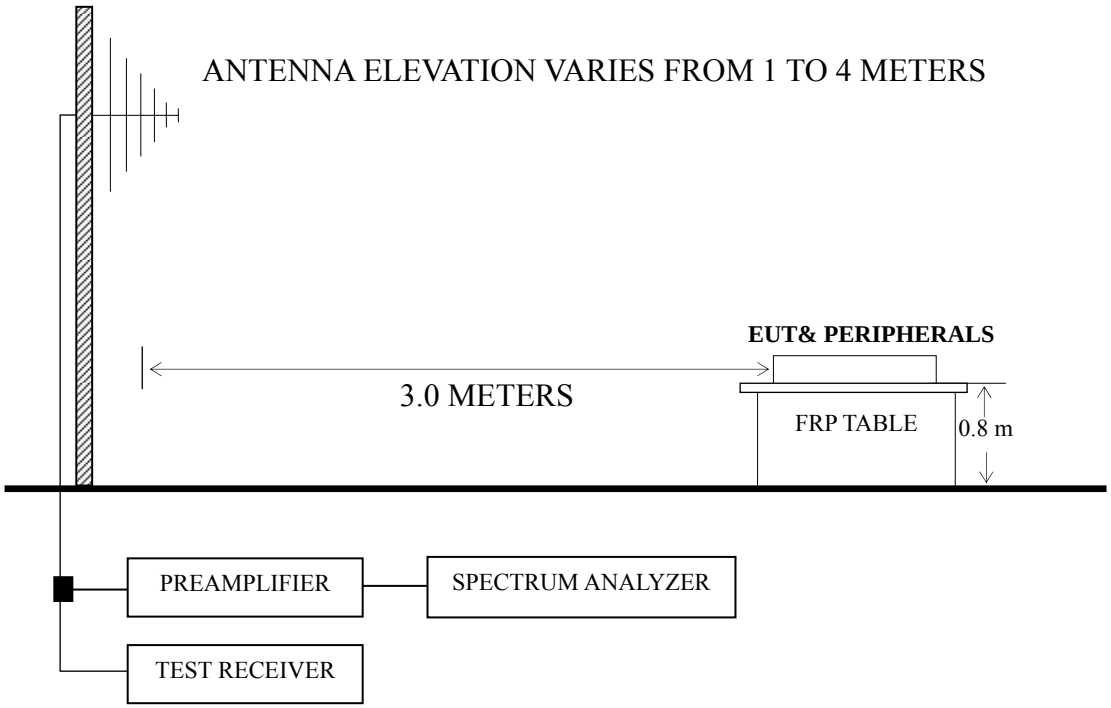
4.2.1 EUT and Peripherals



■ : 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 2000MHz was checked for all test modes.

The test modes were done on radiated disturbance test and all the test results are listed in Sec.4.7.

4.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

Test Mode	Data Page
D-Sub 1024*768@60Hz	P21
HDMI 1920*1080@60Hz	P22-P23
HDMI 1280*1024@60Hz	P24
HDMI 640*480@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 893.300MHz with corrected signal level of 41.93 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.10 m height and the turntable was at 239°. The worst emission at vertical polarization was detected at 447.100MHz with corrected signal level of 41.96 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 68°.

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	32K366MH	Humidity :	60%RH
Test Mode	:	D-Sub 1024*768@60Hz	Date of Test :	Apr 03, 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	67.830	25.39	5.31	0.91	31.61	40.00	8.39
	114.390	22.63	11.62	1.43	35.68	43.50	7.82
	162.890	24.58	8.85	1.73	35.16	43.50	8.34
	276.380	22.17	12.58	2.38	37.13	46.00	8.87
	379.200	20.80	15.13	2.66	38.59	46.00	7.41
	649.830	**17.21**	**18.40**	**3.38**	**38.99**	**46.00**	**7.01**
Vertical	**35.820**	**16.03**	**15.63**	**0.73**	**32.39**	**40.00**	**7.61**
	69.770	**25.73**	**5.74**	**0.92**	**32.39**	**40.00**	**7.61**
	135.730	22.76	10.91	1.57	35.24	43.50	8.26
	179.380	25.20	8.22	1.83	35.25	43.50	8.25
	379.200	18.90	15.13	2.66	36.69	46.00	9.31
	773.020	14.15	18.17	3.60	35.92	46.00	10.08

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	32K366MH	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test :	Apr 03, 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	136.700	23.48	10.74	1.58	--	35.80	43.50	7.70	QP
	301.600	21.89	12.70	2.55	--	37.14	46.00	8.86	
	447.100	20.26	17.07	2.82	--	40.15	46.00	5.85	
	592.600	19.87	18.60	3.20	--	41.67	46.00	4.33	
	740.040	18.85	18.90	3.57	--	41.32	46.00	4.68	
	893.300	**17.87**	**19.63**	**4.43**	**--**	**41.93**	**46.00**	**4.07**	
	1130.000	47.10	24.21	5.03	37.90	38.44	74.00	35.56	PK
	1278.000	46.23	24.90	5.35	37.54	38.94	74.00	35.06	
	1458.000	45.87	25.49	5.62	37.01	39.97	74.00	34.03	
	1579.000	48.09	26.45	5.66	36.73	43.47	74.00	30.53	
	1671.000	48.29	27.55	5.89	36.55	45.18	74.00	28.82	
	1881.000	45.13	30.00	6.17	36.24	45.06	74.00	28.94	
	1130.000	34.51	24.21	5.03	37.90	25.85	54.00	28.15	AV
	1278.000	33.88	24.90	5.35	37.54	26.59	54.00	27.41	
	1458.000	32.12	25.49	5.62	37.01	26.22	54.00	27.78	
	1579.000	35.29	26.45	5.66	36.73	30.67	54.00	23.33	
	1671.000	35.78	27.55	5.89	36.55	32.67	54.00	21.33	
	1881.000	32.87	30.00	6.17	36.24	32.80	54.00	21.20	

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	32K366MH	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test :	Apr 03, 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	30.970	14.79	17.65	0.67	--	33.11	40.00	6.89	QP
	99.840	23.44	10.32	1.34	--	35.10	43.50	8.40	
	196.840	26.68	8.20	1.94	--	36.82	43.50	6.68	
	447.100	**22.07**	**17.07**	**2.82**	**--**	**41.96**	**46.00**	**4.04**	
	592.600	19.87	18.60	3.20	--	41.67	46.00	4.33	
	885.540	17.92	19.65	4.32	--	41.89	46.00	4.11	
	1026.000	46.94	23.80	4.92	38.14	37.52	74.00	36.48	PK
	1122.000	46.52	24.18	5.03	37.93	37.80	74.00	36.20	
	1510.000	45.03	25.73	5.64	36.89	39.51	74.00	34.49	
	1613.000	46.03	26.81	5.74	36.65	41.93	74.00	32.07	
	1852.000	44.78	29.68	6.16	36.28	44.34	74.00	29.66	
	1951.000	44.87	30.59	6.19	36.16	45.49	74.00	28.51	
	1026.000	33.21	23.80	4.92	38.14	23.79	54.00	30.21	AV
	1122.000	33.20	24.18	5.03	37.93	24.48	54.00	29.52	
	1510.000	32.67	25.73	5.64	36.89	27.15	54.00	26.85	
	1613.000	33.10	26.81	5.74	36.65	29.00	54.00	25.00	
	1852.000	31.78	29.68	6.16	36.28	31.34	54.00	22.66	
	1951.000	31.62	30.59	6.19	36.16	32.24	54.00	21.76	

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	32K366MH	Humidity :	60%RH
Test Mode	:	HDMI 1280*1024@60Hz	Date of Test :	Apr 03, 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	109.540	21.16	11.84	1.40	34.40	43.50	9.10
	146.400	22.90	10.25	1.62	34.77	43.50	8.73
	325.850	19.98	14.15	2.58	36.71	46.00	9.29
	418.970	**20.60**	**17.20**	**2.74**	**40.54**	**46.00**	**5.46**
	645.950	18.34	18.43	3.38	40.15	46.00	5.85
	752.650	16.13	18.73	3.58	38.44	46.00	7.56
Vertical	30.970	14.89	17.65	0.67	33.21	40.00	6.79
	97.900	22.16	10.01	1.32	33.49	43.50	10.01
	146.400	23.16	10.25	1.62	35.03	43.50	8.47
	202.660	25.69	8.00	1.97	35.66	43.50	7.84
	418.000	**20.38**	**16.98**	**2.74**	**40.10**	**46.00**	**5.90**
	752.650	16.45	18.73	3.58	38.76	46.00	7.24

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	32K366MH	Humidity :	60%RH
Test Mode	:	HDMI 640*480@60Hz	Date of Test :	Apr 03, 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	76.560	24.42	6.59	1.03	32.04	40.00	7.96
	144.460	23.14	10.30	1.61	35.05	43.50	8.45
	253.100	22.83	12.15	2.22	37.20	46.00	8.80
	418.000	**20.69**	**16.98**	**2.74**	**40.41**	**46.00**	**5.59**
	597.450	16.89	18.40	3.20	38.49	46.00	7.51
	914.640	14.04	19.57	4.59	38.20	46.00	7.80
Vertical	31.940	15.24	16.50	0.68	32.42	40.00	7.58
	97.900	23.06	10.01	1.32	34.39	43.50	9.11
	202.660	25.41	8.00	1.97	35.38	43.50	8.12
	342.340	19.68	14.80	2.61	37.09	46.00	8.91
	418.000	**20.67**	**16.98**	**2.74**	**40.39**	**46.00**	**5.61**
	500.450	16.92	18.10	2.98	38.00	46.00	8.00

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	32K366MH	Humidity :	60%RH
Test Mode	:	USB Play	Date of Test :	Apr 03, 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	51.340	23.21	7.20	0.86	31.27	40.00	8.73
	86.260	**25.17**	**7.57**	**1.17**	**33.91**	**40.00**	**6.09**
	102.750	23.81	10.93	1.36	36.10	43.50	7.40
	183.260	26.65	8.27	1.86	36.78	43.50	6.72
	348.160	21.75	14.80	2.62	39.17	46.00	6.83
	425.760	19.54	17.47	2.76	39.77	46.00	6.23
Vertical	34.850	15.22	15.85	0.71	31.78	40.00	8.22
	51.340	24.09	7.20	0.86	32.15	40.00	7.85
	102.750	**23.95**	**10.93**	**1.36**	**36.24**	**43.50**	**7.26**
	348.160	20.49	14.80	2.62	37.91	46.00	8.09
	432.550	17.74	17.55	2.78	38.07	46.00	7.93
	575.140	16.77	19.10	3.16	39.03	46.00	6.97

TEST ENGINEER: NEAL WANG

5 DEVIATION TO TEST SPECIFICATIONS

None.