

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

LED TV

Model No.	Serial No.	Brand
LHD32K21MH	E1203307-01/01	Hisense

FCC ID : W9HLCDC0013

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

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Report No. : ACI-F12053
Date of Test : Mar 30, 2012
Date of Report : Apr 01, 2012

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TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.
 Manufacturer : Hisense Electric Co., Ltd.
 EUT Description : LED TV

Model No.	Serial No.	Brand	Power Supply
LHD32K21MH	E1203307-01/01	Hisense	120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2010
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: LHD32K21MH; S/N: E1203307-01/01) which was tested in 3m anechoic chamber Mar 30, 2012 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.F12052, a Verification report.

Date of Test : Mar 30, 2012 Date of Report : Apr 01, 2012

Producer : 
YENNY YU / Assistant

Review : 
DIO YANG / Assistant Manager

AUDIX[®] 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 2010 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2010 AND ANSI C63.4-2003	15.109(a) Class B	Pass

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description : LED TV

Type of EUT : Production Pre-product Pro-type

Model No.	:	LHD32K21MH
Serial No.	:	E1203307-01/01

Brand : 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

LCD Panel : Manufacturer : Hisense
M/N : HE315FH-E56\PW1

Max Resolution : 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 TV which input/output ports as follows:

Bottom Port:

- (1) One DIGITAL AUDIO OUT Port
: Connected with DVD PLAYER #1
- (2) One ANT Port
: Connected with ATSC SG / TV SG
- (3) One PC AUDIO IN Port
: Connected with PC
- (4) One HDMI1 Port
: Connected with DVD PLAYER #1
- (5) One PC Port
: Connected with PC
- (6) One component of AV Port
: Connected with DVD PLAYER #1

Side Port:

- (7) One HDMI2 Port : Connected with DVD PLAYER #2
- (8) One HDMI3 Port : Connected with PC
- (9) One component of YPbPr Port : Connected with DVD PLAYER #2
- (10) One component of YPbPr Audio Port : Connected with DVD PLAYER #2
- (11) One USB Port : Connected with U-Disk
- (12) One Headphone Port : Connected with Earphone
- (13) One RJ12 Port : Connected with PC

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 Earphone

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

2.2.7 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

2.2.8 ATSC Signal Generator

Manufacturer : SENCORE
Model Number : ATSC997
Serial Number : 6790071

2.2.9 DVD PLAYER #1

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

2.2.10 DVD PLAYER #2

Manufacturer : LG
Model Number : DF9921N
Serial Number : 3850R-M846W
Certificate : FCC DoC, CE/EMC, CCC

2.2.11 U-DISK

Manufacturer : LG
Model Number : 1GB

2.3 Description of Test Facility

Site Description (No.3 3m Chamber) : Sept. 17, 1998 file on
Apr 29, 2009 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 = 3.38dB

Radiated Emission Expanded Uncertainty (30-200MHz):
U = 4.58 dB (horizontal)
U = 4.70 dB (vertical)

Radiated Emission Expanded Uncertainty (200M-1GHz):
U = 4.84 dB (horizontal)
U = 4.70 dB (vertical)

3 CONDUCTED EMISSION TEST

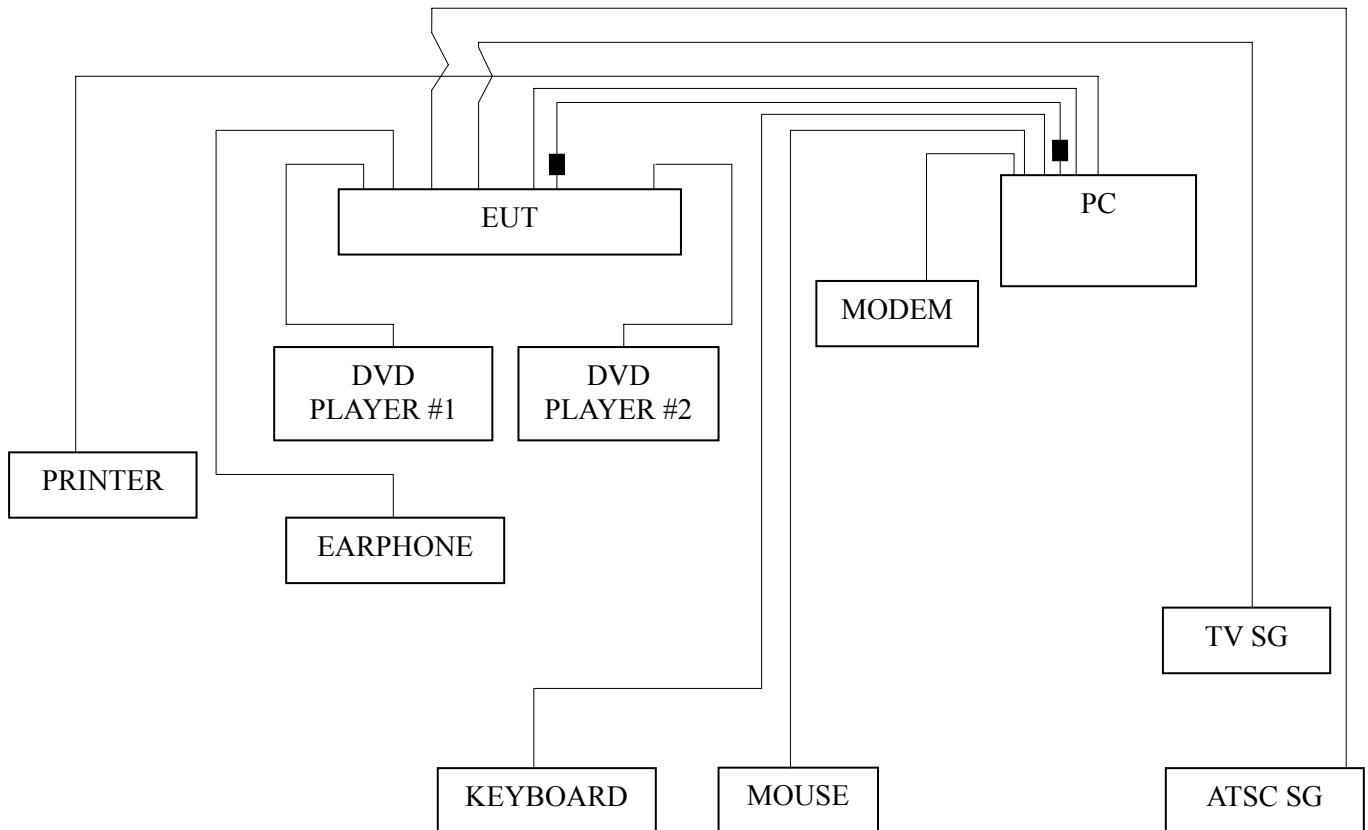
3.1 Test Equipment

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 22, 2012	Mar 22, 2013
2.	Artificial Mains Network (AMN #1)	R&S	ESH2-Z5	843890/011	Mar 22, 2012	Mar 22, 2013
3.	Artificial Mains Network (AMN #2)	R&S	ENV4200	100125	Mar 22, 2012	Mar 22, 2013
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Mar 18, 2012	Sep 18, 2012
5.	50 Ω Terminator	Anritsu	BNC	001	Mar 22, 2012	Mar 22, 2013
6.	Software	Audix	E3	SET00200 9804M592	--	--

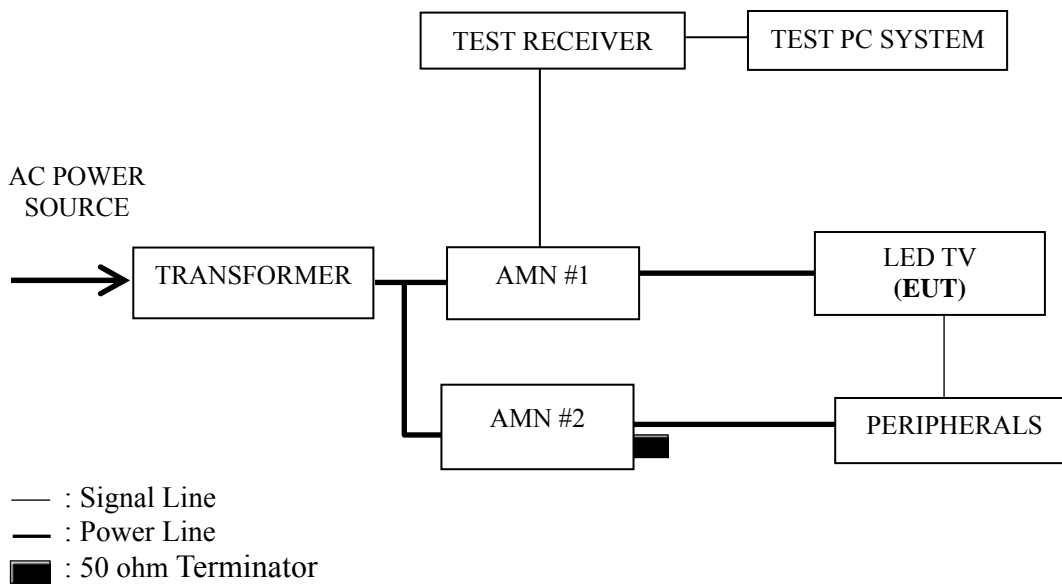
3.2 Block Diagram of Test Setup

3.2.1 EUT & Peripherals



■ : Ferrite core

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 Repeat above procedure 3.5.4 for difference test mode.

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 1024*768@60Hz
D-Sub 800*600@60Hz
D-Sub 640*480@60Hz
USB Play

Note: We tested the RJ12 control function and found the emission was too low against the other test modes, so we do not append the relevant test data of the RJ12 mode.

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 1024*768@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 800*600@60Hz test mode. The worst emission is detected at 21.830 MHz (Average Value) with corrected signal level of 27.54 dB (μ V) (limit is 50.00dB (μ V)), when the Line of the EUT is connected to AMN.

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 48%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : D-Sub 1024*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.168	37.35	0.22	37.57	65.08	27.51	QP
	0.223	33.07	0.22	33.29	62.70	29.41	
	0.665	25.07	0.38	25.45	56.00	30.55	
	3.547	26.95	0.52	27.47	56.00	28.53	
	7.687	33.67	0.69	34.36	60.00	25.64	
	21.830	35.75	1.04	36.79	60.00	23.21	
	0.168	26.20	0.22	26.42	55.08	28.66	AV
	0.223	23.91	0.22	24.13	52.70	28.57	
	0.665	16.80	0.38	17.18	46.00	28.82	
	3.547	16.79	0.52	17.31	46.00	28.69	
	7.687	23.89	0.69	24.58	50.00	25.42	
	21.830	24.10	1.04	25.14	50.00	24.86	
Neutral	0.168	37.30	0.19	37.49	65.08	27.59	QP
	0.223	34.13	0.18	34.31	62.70	28.39	
	0.665	27.10	0.28	27.38	56.00	28.62	
	3.547	26.51	0.71	27.22	56.00	28.78	
	7.852	29.13	1.00	30.13	60.00	29.87	
	21.830	35.62	1.22	36.84	60.00	23.16	
	0.168	26.30	0.19	26.49	55.08	28.59	AV
	0.223	24.10	0.18	24.28	52.70	28.42	
	0.665	18.60	0.28	18.88	46.00	27.12	
	3.547	17.79	0.71	18.50	46.00	27.50	
	7.852	20.39	1.00	21.39	50.00	28.61	
	21.830	24.60	1.22	25.82	50.00	24.18	

TEST ENGINEER: LUY LV

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 48%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : HDMI 1024*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.169	37.67	0.23	37.90	64.99	27.09	QP
	0.223	33.40	0.22	33.62	62.70	29.08	
	0.665	24.87	0.38	25.25	56.00	30.75	
	3.547	26.95	0.52	27.47	56.00	28.53	
	7.977	29.69	0.69	30.38	60.00	29.62	
	21.830	34.93	1.04	35.97	60.00	24.03	
	0.169	26.19	0.23	26.42	54.99	28.57	AV
	0.223	23.21	0.22	23.43	52.70	29.27	
	0.665	15.80	0.38	16.18	46.00	29.82	
	3.547	17.39	0.52	17.91	46.00	28.09	
	7.977	19.10	0.69	19.79	50.00	30.21	
	21.830	23.30	1.04	24.34	50.00	25.66	
Neutral	0.169	37.13	0.19	37.32	64.99	27.67	QP
	0.226	33.59	0.18	33.77	62.61	28.84	
	0.665	26.94	0.28	27.22	56.00	28.78	
	3.547	26.18	0.71	26.89	56.00	29.11	
	7.687	29.86	0.99	30.85	60.00	29.15	
	21.830	35.50	1.22	36.72	60.00	23.28	
	0.169	27.10	0.19	27.29	54.99	27.70	AV
	0.226	23.20	0.18	23.38	52.61	29.23	
	0.665	16.20	0.28	16.48	46.00	29.52	
	3.547	16.89	0.71	17.60	46.00	28.40	
	7.687	18.90	0.99	19.89	50.00	30.11	
	21.830	24.90	1.22	26.12	50.00	23.88	

TEST ENGINEER: L V Y L V

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 48%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : D-Sub 800*600@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.168	37.79	0.22	38.01	65.08	27.07	QP
	0.221	34.12	0.22	34.34	62.79	28.45	
	0.665	24.78	0.38	25.16	56.00	30.84	
	3.547	26.98	0.52	27.50	56.00	28.50	
	7.852	31.50	0.69	32.19	60.00	27.81	
	21.830	35.91	1.04	36.95	60.00	23.05	
	0.168	27.10	0.22	27.32	55.08	27.76	AV
	0.221	23.91	0.22	24.13	52.79	28.66	
	0.665	15.20	0.38	15.58	46.00	30.42	
	3.547	16.89	0.52	17.41	46.00	28.59	
	7.852	22.50	0.69	23.19	50.00	26.81	
	21.830	26.50	1.04	27.54	50.00	22.46	
Neutral	0.168	36.99	0.19	37.18	65.08	27.90	QP
	0.221	35.05	0.18	35.23	62.79	27.56	
	0.665	27.63	0.28	27.91	56.00	28.09	
	3.547	27.24	0.71	27.95	56.00	28.05	
	7.852	30.06	1.00	31.06	60.00	28.94	
	21.830	35.23	1.22	36.45	60.00	23.55	
	0.168	26.90	0.19	27.09	55.08	27.99	AV
	0.221	24.70	0.18	24.88	52.79	27.91	
	0.665	17.20	0.28	17.48	46.00	28.52	
	3.547	18.49	0.71	19.20	46.00	26.80	
	7.852	20.69	1.00	21.69	50.00	28.31	
	21.830	24.10	1.22	25.32	50.00	24.68	

TEST ENGINEER: LUY LV

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 48%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : D-Sub 640*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.168	37.44	0.22	37.66	65.08	27.42	QP
	0.221	34.28	0.22	34.50	62.79	28.29	
	0.484	23.98	0.31	24.29	56.27	31.98	
	3.547	27.04	0.52	27.56	56.00	28.44	
	7.852	30.17	0.69	30.86	60.00	29.14	
	21.830	35.72	1.04	36.76	60.00	23.24	
	0.168	26.40	0.22	26.62	55.08	28.46	AV
	0.221	23.81	0.22	24.03	52.79	28.76	
	0.484	14.80	0.31	15.11	46.27	31.16	
	3.547	18.59	0.52	19.11	46.00	26.89	
	7.852	20.30	0.69	20.99	50.00	29.01	
	21.830	24.10	1.04	25.14	50.00	24.86	
Neutral	0.166	36.95	0.19	37.14	65.16	28.02	QP
	0.226	33.74	0.18	33.92	62.61	28.69	
	0.516	26.48	0.24	26.72	56.00	29.28	
	3.547	26.67	0.71	27.38	56.00	28.62	
	7.687	29.71	0.99	30.70	60.00	29.30	
	21.830	35.96	1.22	37.18	60.00	22.82	
	0.166	25.70	0.19	25.89	55.16	29.27	AV
	0.226	23.20	0.18	23.38	52.61	29.23	
	0.516	17.50	0.24	17.74	46.00	28.26	
	3.547	16.89	0.71	17.60	46.00	28.40	
	7.687	20.40	0.99	21.39	50.00	28.61	
	21.830	24.70	1.22	25.92	50.00	24.08	

TEST ENGINEER: L V Y L V

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 48%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : USB Play

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.168	37.37	0.22	37.59	65.08	27.49	QP
	0.228	32.99	0.22	33.21	62.52	29.31	
	0.665	25.08	0.38	25.46	56.00	30.54	
	3.547	27.23	0.52	27.75	56.00	28.25	
	7.852	30.83	0.69	31.52	60.00	28.48	
	21.830	34.99	1.04	36.03	60.00	23.97	
	0.168	26.90	0.22	27.12	55.08	27.96	AV
	0.228	21.11	0.22	21.33	52.52	31.19	
	0.665	16.50	0.38	16.88	46.00	29.12	
	3.547	18.29	0.52	18.81	46.00	27.19	
	7.852	20.30	0.69	20.99	50.00	29.01	
	21.830	24.70	1.04	25.74	50.00	24.26	
Neutral	0.168	37.17	0.19	37.36	65.08	27.72	QP
	0.223	33.48	0.18	33.66	62.70	29.04	
	0.665	26.97	0.28	27.25	56.00	28.75	
	3.547	26.54	0.71	27.25	56.00	28.75	
	7.852	29.21	1.00	30.21	60.00	29.79	
	21.830	35.73	1.22	36.95	60.00	23.05	
	0.168	27.30	0.19	27.49	55.08	27.59	AV
	0.223	22.70	0.18	22.88	52.70	29.82	
	0.665	17.90	0.28	18.18	46.00	27.82	
	3.547	17.59	0.71	18.30	46.00	27.70	
	7.852	20.29	1.00	21.29	50.00	28.71	
	21.830	24.60	1.22	25.82	50.00	24.18	

TEST ENGINEER: LUY LV

4 RADIATED EMISSION TEST

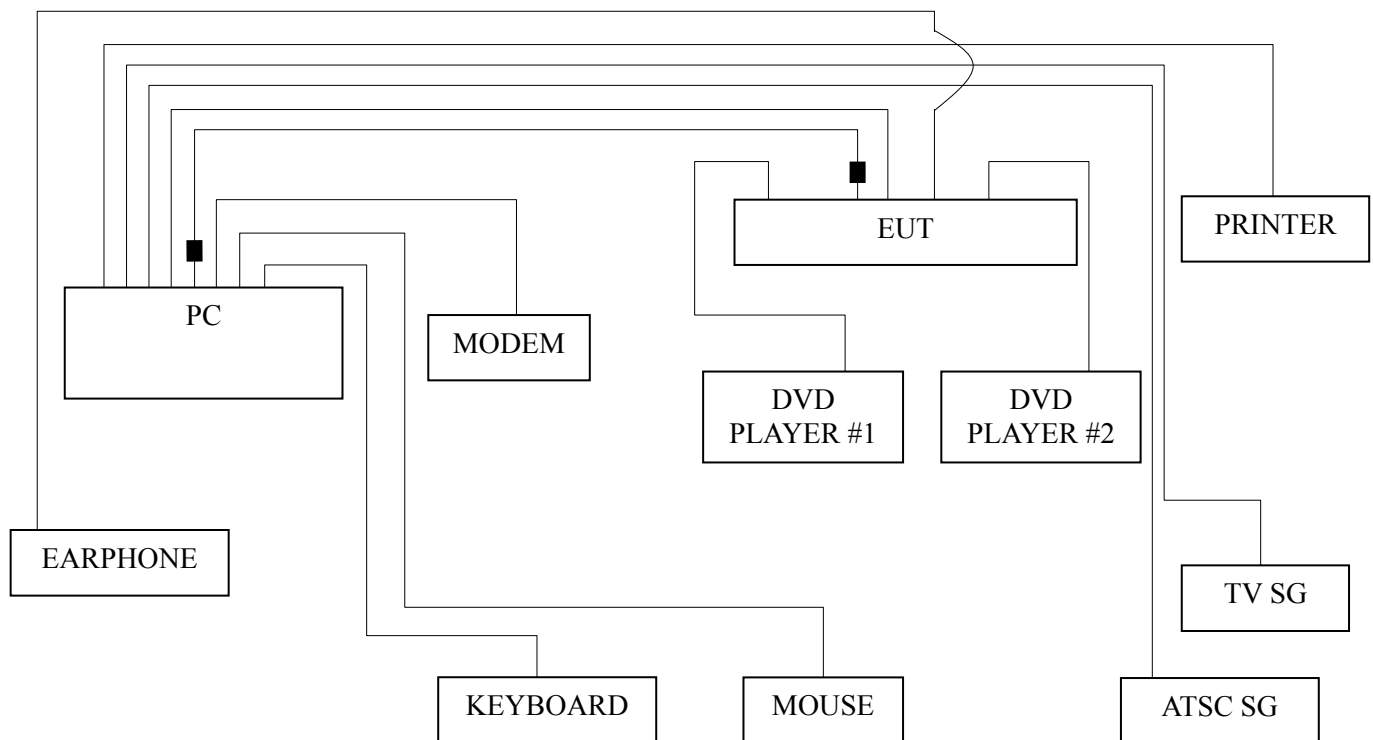
4.1 Test Equipment

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	ESVS10	844594/001	Mar 22, 2012	Mar 22, 2013
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 18, 2012	Sep 18, 2012
3.	Bi-log Antenna	TESEQ	CBL6112D	23192	Dec 01, 2011	Dec 01, 2012
4.	Spectrum	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013
5.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426390	Mar 18, 2012	Sep 18, 2012
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

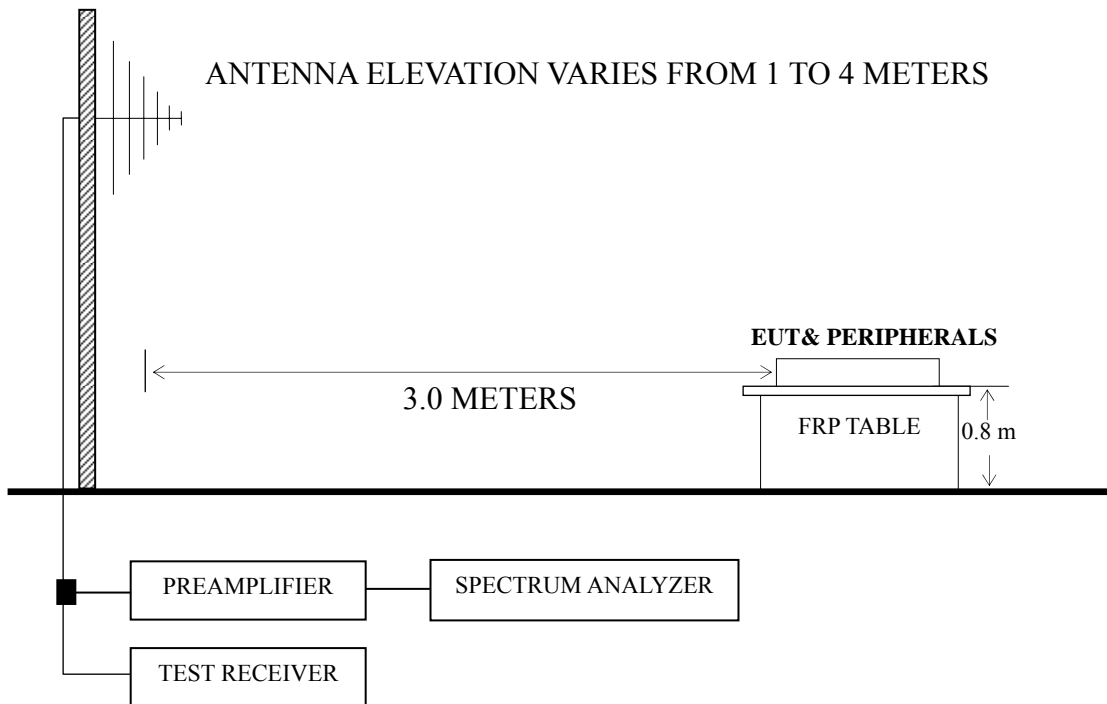
4.2 Block Diagram of Test Setup

4.2.1 EUT and Peripherals



■: Ferrite core

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) or Horn 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 ESVS10 was set at 120 kHz.

The frequency range from 30 MHz to 1000MHz 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 1024*768@60Hz	P22
D-Sub 800*600@60Hz	P23
D-Sub 640*480@60Hz	P24
USB Play	P25

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 1024*768@60Hz test mode. The worst emission at horizontal polarization was detected at 41.640 MHz with corrected signal level of 37.54 dB ($\mu\text{V}/\text{m}$) (limit is 40.00 dB ($\mu\text{V}/\text{m}$)), when the antenna was 1.00 m height and the turntable was at 75°. The worst emission at vertical polarization was detected at 322.000 MHz with corrected signal level of 44.12 dB ($\mu\text{V}/\text{m}$) (limit is 46.00 dB ($\mu\text{V}/\text{m}$)), when the antenna was 1.20 m height and the turntable was at 175°.

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 60%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : D-Sub 1024*768@60Hz

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	41.640	24.88	11.78	0.88	37.54	40.00	2.46
	48.430	23.50	9.02	0.90	33.42	40.00	6.58
	99.840	22.53	11.34	1.85	35.72	43.50	7.78
	198.780	24.31	9.81	2.42	36.54	43.50	6.96
	344.280	20.27	14.96	2.86	38.09	46.00	7.91
	647.890	9.97	18.85	3.58	32.40	46.00	13.60
Vertical	30.970	7.68	17.78	0.81	26.27	40.00	13.73
	90.140	17.90	11.00	1.73	30.63	43.50	12.87
	106.630	22.14	11.24	1.92	35.30	43.50	8.20
	148.500	26.00	10.44	2.22	38.66	43.50	4.84
	322.000	27.00	14.30	2.82	44.12	46.00	1.88
	429.640	16.50	16.69	3.08	36.27	46.00	9.73

TEST ENGINEER: RAVEN JIN

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 60%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : HDMI 1024*768@60Hz

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	41.640	18.88	11.78	0.88	31.54	40.00	8.46
	61.040	13.82	9.21	1.21	24.24	40.00	15.76
	147.370	20.53	10.46	2.22	33.21	43.50	10.29
	261.830	16.12	12.49	2.64	31.25	46.00	14.75
	344.280	17.27	14.96	2.86	35.09	46.00	10.91
	647.890	9.97	18.85	3.58	32.40	46.00	13.60
Vertical	32.910	13.21	16.79	0.82	30.82	40.00	9.18
	71.710	22.72	9.99	1.45	34.16	40.00	5.84
	106.630	15.14	11.24	1.92	28.30	43.50	15.20
	201.690	22.94	9.87	2.43	35.24	43.50	8.26
	429.640	15.50	16.69	3.08	35.27	46.00	10.73
	644.980	8.03	18.81	3.58	30.42	46.00	15.58

TEST ENGINEER: RAVEN JIN

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 60%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : D-Sub 800*600@60Hz

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	70.740	17.01	9.93	1.43	28.37	40.00	11.63
	109.540	21.32	11.19	1.93	34.44	43.50	9.06
	150.000	26.30	10.42	2.23	38.95	43.50	4.55
	322.940	23.90	14.34	2.82	41.06	46.00	4.94
	417.030	16.20	16.52	3.04	35.76	46.00	10.24
	628.490	8.95	18.56	3.53	31.04	46.00	14.96
Vertical	41.640	22.58	11.78	0.88	35.24	40.00	4.76
	48.430	21.58	9.02	0.90	31.50	40.00	8.50
	99.840	22.69	11.34	1.85	35.88	43.50	7.62
	198.780	20.60	9.81	2.42	32.83	43.50	10.67
	284.140	18.95	13.24	2.71	34.90	46.00	11.10
	478.140	13.80	17.34	3.21	34.35	46.00	11.65

TEST ENGINEER: RAVEN JIN

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 60%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : D-Sub 640*480@60Hz

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	41.640	22.00	11.78	0.88	34.66	40.00	5.34
	90.140	17.65	11.00	1.73	30.38	43.50	13.12
	150.280	19.38	10.41	2.23	32.02	43.50	11.48
	293.840	17.47	13.53	2.74	33.74	46.00	12.26
	429.640	14.82	16.69	3.08	34.59	46.00	11.41
	480.080	11.60	17.37	3.21	32.18	46.00	13.82
Vertical	75.590	12.63	10.27	1.53	24.43	40.00	15.57
	109.540	19.24	11.19	1.93	32.36	43.50	11.14
	153.000	25.00	10.36	2.24	37.60	43.50	5.90
	323.000	24.00	14.34	2.82	41.16	46.00	4.84
	417.030	15.96	16.52	3.04	35.52	46.00	10.48
	644.980	6.96	18.81	3.58	29.35	46.00	16.65

TEST ENGINEER: RAVEN JIN

EUT : LED TV Temperature : 22°C

Model No. : LHD32K21MH Humidity : 60%RH

Serial No. : E1203307-01/01 Date of Test : Mar 30, 2012

Test Mode : USB Play

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	72.680	20.01	10.08	1.47	31.56	40.00	8.44
	145.430	16.35	10.50	2.20	29.05	43.50	14.45
	201.690	21.09	9.87	2.43	33.39	43.50	10.11
	293.840	12.47	13.53	2.74	28.74	46.00	17.26
	429.640	18.82	16.69	3.08	38.59	46.00	7.41
	591.630	11.42	18.16	3.45	33.03	46.00	12.97
Vertical	109.540	22.24	11.19	1.93	35.36	43.50	8.14
	148.340	21.57	10.44	2.22	34.23	43.50	9.27
	211.390	18.58	10.26	2.47	31.31	43.50	12.19
	322.940	16.37	14.34	2.82	33.53	46.00	12.47
	499.480	7.37	17.60	3.27	28.24	46.00	17.76
	644.980	5.96	18.81	3.58	28.35	46.00	17.65

TEST ENGINEER: RAVEN JIN

5 DEVIATION TO TEST SPECIFICATIONS

None.