

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

LCD TV

Model No.	Serial No.	Brand
H32K20E	--	Hisense
H32K26E		
H32K21E		
LHD32K26US	E1201034-01/01	
LHD32K20US	--	EMERSON

FCC ID : W9HLCDC0012

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Development Zone, Qingdao, China

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Report No. : ACI-F12021
Date of Test : Feb 06 – 07, 2012
Date of Report : Feb 13, 2012

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TEST REPORT FOR FCC CERTIFICATE

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

Model No.	Serial No.	Brand	Power Supply
H32K20E	--	Hisense	120V/60Hz
H32K26E			
H32K21E			
LHD32K26US	E1201034-01/01		
LHD32K20US	--	EMERSON	

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: Refer to Sec.2.1; S/N: Refer to Sec.2.1) which was tested in 3m anechoic chamber Feb 06 – 07, 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.F11106A1, a Verification report.

Date of Test : Feb 06 – 07, 2012 Date of Report : Feb 10, 2012

Producer : 
YENNY YU / Assistant

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 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 : LCD TV

Type of EUT : Production Pre-product Pro-type

Model No.	Serial No.	Brand
H32K20E	--	Hisense
H32K26E		
H32K21E		
LHD32K26US	E1201034-01/01	
LHD32K20US	--	EMERSON

Note : The above models are all the same except for the different model name, brand and appearance.

The model LHD32K26US was tested and recorded in the report.

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

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

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 LCD TV which input/output ports as follows:

Bottom Port:

- (1) One HDMI1 Port : Connected with DVD #1
- (2) One HDMI2 Port : Connected with DVD #2
- (3) One HDMI3 Port : Connected with PC
- (4) One DIGITAL AUDIO OUT Port : Connected with DVD #1
- (5) One VGA AUDIO IN Port : Connected with PC
- (6) One VGA Port : Connected with PC
- (7) One SERVICE port : Do not open to customer

Side Port

- (8) One ANT/CABLE IN Port : Connected with ATSC SG
- (9) One HEADPHONE Port : Connected with Earphone
- (10) One component of AV Ports : Connected with DVD #1
- (11) One component of YPbPr Ports : Connected with DVD #1
- (12) One component of YPbPr Audio Ports : Connected with DVD #1

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, undetachable, 1.8m.
Certificate : CE/EMC, FCC DoC, VCCI, MIC, C-Tick,
BSMI

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 #1

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

2.2.10 DVD #2

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

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

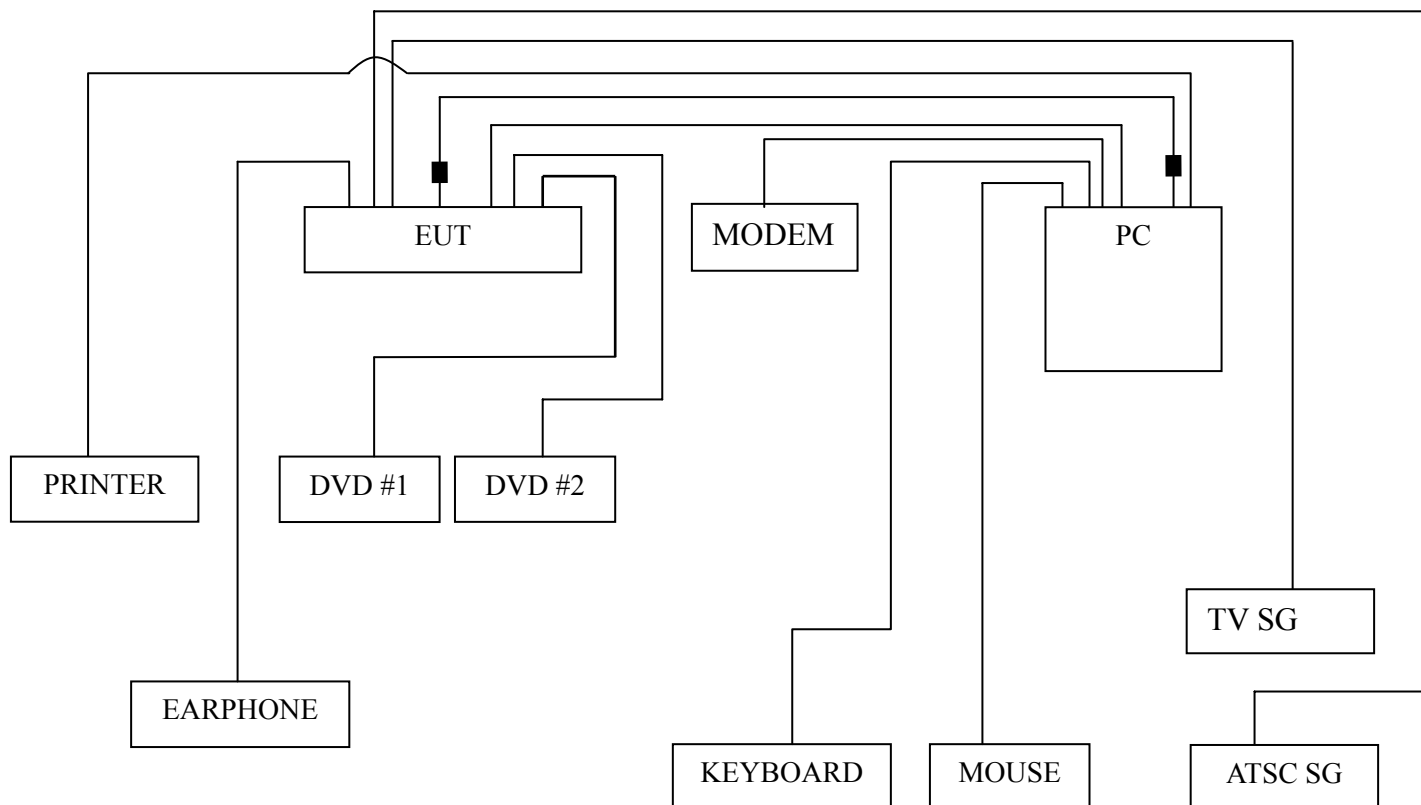
3.1 Test Equipment

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, 2011	Mar 22, 2012
2.	Artificial Mains Network (AMN)	R&S	ENV4200	100125	Mar 22, 2011	Mar 22, 2012
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 22, 2011	Mar 22, 2012
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Sep 18, 2011	Mar 18, 2012
5.	50 Ω Terminator	Anritsu	BNC	001	Mar 22, 2011	Mar 22, 2012
6.	Software	Audix	E3	SET00200 9804M592	--	--

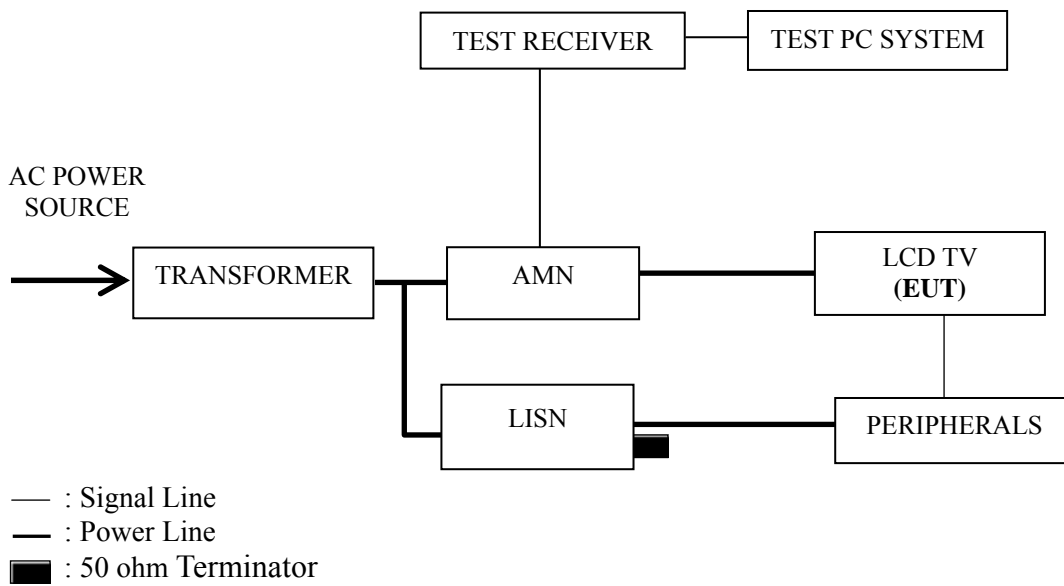
3.2 Block Diagram of Test Setup

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

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 640*480@60Hz	P13
D-Sub 800*600@60Hz	P14
D-Sub 1024*768@60Hz	P15
HDMI 640*480@60Hz	P16
HDMI 800*600@60Hz	P17
HDMI 1024*768@60Hz	P18

NOTE 1 – Factor = Cable Loss + AMN Factor.

NOTE 2 – Emission Level = Meter Reading + Factor.

NOTE 3 – “QP” means “Quasi-Peak” values, “AV” means “Average” values.

NOTE 4 – The worst case is for D-Sub 1024*768@60Hz test mode. The worst emission is detected at 11.807 MHz (Quasi-Peak value) with corrected signal level of 41.01 dB (μ V) (limit is 60.00 dB (μ V)), when the Neutral of the EUT is connected to AMN.

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 48%RH

Serial No. : E1201034-01/01 Date of Test : Feb 06, 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	0.186	27.56	9.80	37.36	64.20	26.84	QP
	0.573	22.33	9.83	32.16	56.00	23.84	
	1.184	21.68	10.19	31.87	56.00	24.13	
	2.581	24.85	10.13	34.98	56.00	21.02	
	5.929	29.36	10.12	39.48	60.00	20.52	
	9.011	22.88	10.19	33.07	60.00	26.93	
	0.186	18.40	9.80	28.20	54.20	26.00	AV
	0.573	13.60	9.83	23.43	46.00	22.57	
	1.184	13.61	10.19	23.80	46.00	22.20	
	2.581	15.60	10.13	25.73	46.00	20.27	
	5.929	20.48	10.12	30.60	50.00	19.40	
	9.011	13.02	10.19	23.21	50.00	26.79	
Neutral	0.180	28.18	9.80	37.98	64.50	26.52	QP
	0.573	22.13	9.77	31.90	56.00	24.10	
	1.184	20.37	9.93	30.30	56.00	25.70	
	2.581	22.33	10.03	32.36	56.00	23.64	
	5.929	29.31	10.28	39.59	60.00	20.41	
	11.807	28.58	10.32	38.90	60.00	21.10	
	0.180	18.90	9.80	28.70	54.50	25.80	AV
	0.573	13.20	9.77	22.97	46.00	23.03	
	1.184	12.50	9.93	22.43	46.00	23.57	
	2.581	13.48	10.03	23.51	46.00	22.49	
	5.929	20.55	10.28	30.83	50.00	19.17	
	11.807	19.70	10.32	30.02	50.00	19.98	

TEST ENGINEER: WENCY YANG

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 48%RH

Serial No. : E1201034-01/01 Date of Test : Feb 06, 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	0.183	28.53	9.81	38.34	64.33	25.99	QP
	0.546	22.61	9.79	32.40	56.00	23.60	
	1.184	21.55	10.19	31.74	56.00	24.26	
	2.581	24.04	10.13	34.17	56.00	21.83	
	5.929	28.01	10.12	38.13	60.00	21.87	
	10.905	23.66	10.19	33.85	60.00	26.15	
	0.183	19.54	9.81	29.35	54.33	24.98	AV
	0.546	13.60	9.79	23.39	46.00	22.61	
	1.184	13.61	10.19	23.80	46.00	22.20	
	2.581	15.60	10.13	25.73	46.00	20.27	
	5.929	19.48	10.12	29.60	50.00	20.40	
	10.905	14.50	10.19	24.69	50.00	25.31	
Neutral	0.180	28.43	9.80	38.23	64.50	26.27	QP
	0.567	22.31	9.77	32.08	56.00	23.92	
	1.184	20.11	9.93	30.04	56.00	25.96	
	2.581	23.43	10.03	33.46	56.00	22.54	
	5.653	27.18	10.24	37.42	60.00	22.58	
	9.011	22.41	10.35	32.76	60.00	27.24	
	0.180	19.30	9.80	29.10	54.50	25.40	AV
	0.567	13.50	9.77	23.27	46.00	22.73	
	1.184	11.40	9.93	21.33	46.00	24.67	
	2.581	13.80	10.03	23.83	46.00	22.17	
	5.653	20.02	10.24	30.26	50.00	19.74	
	9.011	13.50	10.35	23.85	50.00	26.15	

TEST ENGINEER: WENCY YANG

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 48%RH

Serial No. : E1201034-01/01 Date of Test : Feb 06, 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	0.184	27.94	9.81	37.75	64.28	26.53	QP
	0.564	23.01	9.81	32.82	56.00	23.18	
	1.184	21.70	10.19	31.89	56.00	24.11	
	2.581	23.18	10.13	33.31	56.00	22.69	
	5.929	30.56	10.12	40.68	60.00	19.32	
	11.198	27.47	10.19	37.66	60.00	22.34	
	0.184	16.45	9.81	26.26	54.28	28.02	AV
	0.564	13.26	9.81	23.07	46.00	22.93	
	1.184	12.61	10.19	22.80	46.00	23.20	
	2.581	14.80	10.13	24.93	46.00	21.07	
	5.929	20.80	10.12	30.92	50.00	19.08	
	11.198	18.90	10.19	29.09	50.00	20.91	
Neutral	0.180	28.36	9.80	38.16	64.50	26.34	QP
	0.552	22.72	9.76	32.48	56.00	23.52	
	1.184	20.57	9.93	30.50	56.00	25.50	
	2.581	24.79	10.03	34.82	56.00	21.18	
	5.774	28.34	10.26	38.60	60.00	21.40	
	11.807	30.69	10.32	41.01	60.00	18.99	
	0.180	19.70	9.80	29.50	54.50	25.00	AV
	0.552	13.60	9.76	23.36	46.00	22.64	
	1.184	12.05	9.93	21.98	46.00	24.02	
	2.581	15.60	10.03	25.63	46.00	20.37	
	5.774	19.40	10.26	29.66	50.00	20.34	
	11.807	20.50	10.32	30.82	50.00	19.18	

TEST ENGINEER: WENCY YANG

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 48%RH

Serial No. : E1201034-01/01 Date of Test : Feb 06, 2012

Test Mode : HDMI 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	0.183	28.10	9.81	37.91	64.33	26.42	QP
	0.564	23.58	9.81	33.39	56.00	22.61	
	1.184	22.22	10.19	32.41	56.00	23.59	
	2.581	23.85	10.13	33.98	56.00	22.02	
	5.929	27.93	10.12	38.05	60.00	21.95	
	11.198	27.08	10.19	37.27	60.00	22.73	
	0.183	19.56	9.81	29.37	54.33	24.96	AV
	0.564	14.59	9.81	24.40	46.00	21.60	
	1.184	14.60	10.19	24.79	46.00	21.21	
	2.581	14.59	10.13	24.72	46.00	21.28	
	5.929	18.49	10.12	28.61	50.00	21.39	
	11.198	16.59	10.19	26.78	50.00	23.22	
Neutral	0.180	28.24	9.80	38.04	64.50	26.46	QP
	0.546	23.07	9.76	32.83	56.00	23.17	
	1.184	21.29	9.93	31.22	56.00	24.78	
	2.581	23.96	10.03	33.99	56.00	22.01	
	5.929	29.14	10.28	39.42	60.00	20.58	
	11.080	29.98	10.34	40.32	60.00	19.68	
	0.180	18.79	9.80	28.59	54.50	25.91	AV
	0.546	14.50	9.76	24.26	46.00	21.74	
	1.184	12.45	9.93	22.38	46.00	23.62	
	2.581	14.56	10.03	24.59	46.00	21.41	
	5.929	20.15	10.28	30.43	50.00	19.57	
	11.080	20.48	10.34	30.82	50.00	19.18	

TEST ENGINEER: WENCY YANG

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 48%RH

Serial No. : E1201034-01/01 Date of Test : Feb 06, 2012

Test Mode : HDMI 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	0.180	29.14	9.82	38.96	64.50	25.54	QP
	0.552	22.86	9.80	32.66	56.00	23.34	
	1.184	20.74	10.19	30.93	56.00	25.07	
	2.581	23.84	10.13	33.97	56.00	22.03	
	5.929	28.61	10.12	38.73	60.00	21.27	
	12.124	28.93	10.22	39.15	60.00	20.85	
	AV	0.180	19.56	9.82	29.38	54.50	25.12
		0.552	14.26	9.80	24.06	46.00	21.94
		1.184	10.24	10.19	20.43	46.00	25.57
		2.581	14.56	10.13	24.69	46.00	21.31
		5.929	19.78	10.12	29.90	50.00	20.10
		12.124	20.13	10.22	30.35	50.00	19.65
Neutral	0.186	26.30	9.78	36.08	64.20	28.12	QP
	0.552	23.44	9.76	33.20	56.00	22.80	
	1.184	22.28	9.93	32.21	56.00	23.79	
	2.581	23.67	10.03	33.70	56.00	22.30	
	5.929	27.65	10.28	37.93	60.00	22.07	
	11.807	22.51	10.32	32.83	60.00	27.17	
	AV	0.186	17.48	9.78	27.26	54.20	26.94
		0.552	14.59	9.76	24.35	46.00	21.65
		1.184	13.60	9.93	23.53	46.00	22.47
		2.581	14.59	10.03	24.62	46.00	21.38
		5.929	16.47	10.28	26.75	50.00	23.25
		11.807	14.59	10.32	24.91	50.00	25.09

TEST ENGINEER: WENCY YANG

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 48%RH

Serial No. : E1201034-01/01 Date of Test : Feb 06, 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	0.178	26.72	9.82	36.54	64.59	28.05	QP
	0.552	22.77	9.80	32.57	56.00	23.43	
	1.184	21.80	10.19	31.99	56.00	24.01	
	2.581	23.15	10.13	33.28	56.00	22.72	
	5.929	27.48	10.12	37.60	60.00	22.40	
	11.438	26.78	10.19	36.97	60.00	23.03	
	0.178	16.50	9.82	26.32	54.59	28.27	AV
	0.552	13.56	9.80	23.36	46.00	22.64	
	1.184	12.46	10.19	22.65	46.00	23.35	
	2.581	14.59	10.13	24.72	46.00	21.28	
	5.929	16.84	10.12	26.96	50.00	23.04	
	11.438	17.49	10.19	27.68	50.00	22.32	
Neutral	0.184	27.83	9.79	37.62	64.28	26.66	QP
	0.552	23.11	9.76	32.87	56.00	23.13	
	1.184	22.12	9.93	32.05	56.00	23.95	
	2.581	23.14	10.03	33.17	56.00	22.83	
	5.929	28.13	10.28	38.41	60.00	21.59	
	11.807	23.78	10.32	34.10	60.00	25.90	
	0.184	18.90	9.79	28.69	54.28	25.59	AV
	0.552	14.56	9.76	24.32	46.00	21.68	
	1.184	13.60	9.93	23.53	46.00	22.47	
	2.581	14.60	10.03	24.63	46.00	21.37	
	5.929	19.44	10.28	29.72	50.00	20.28	
	11.807	14.58	10.32	24.90	50.00	25.10	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

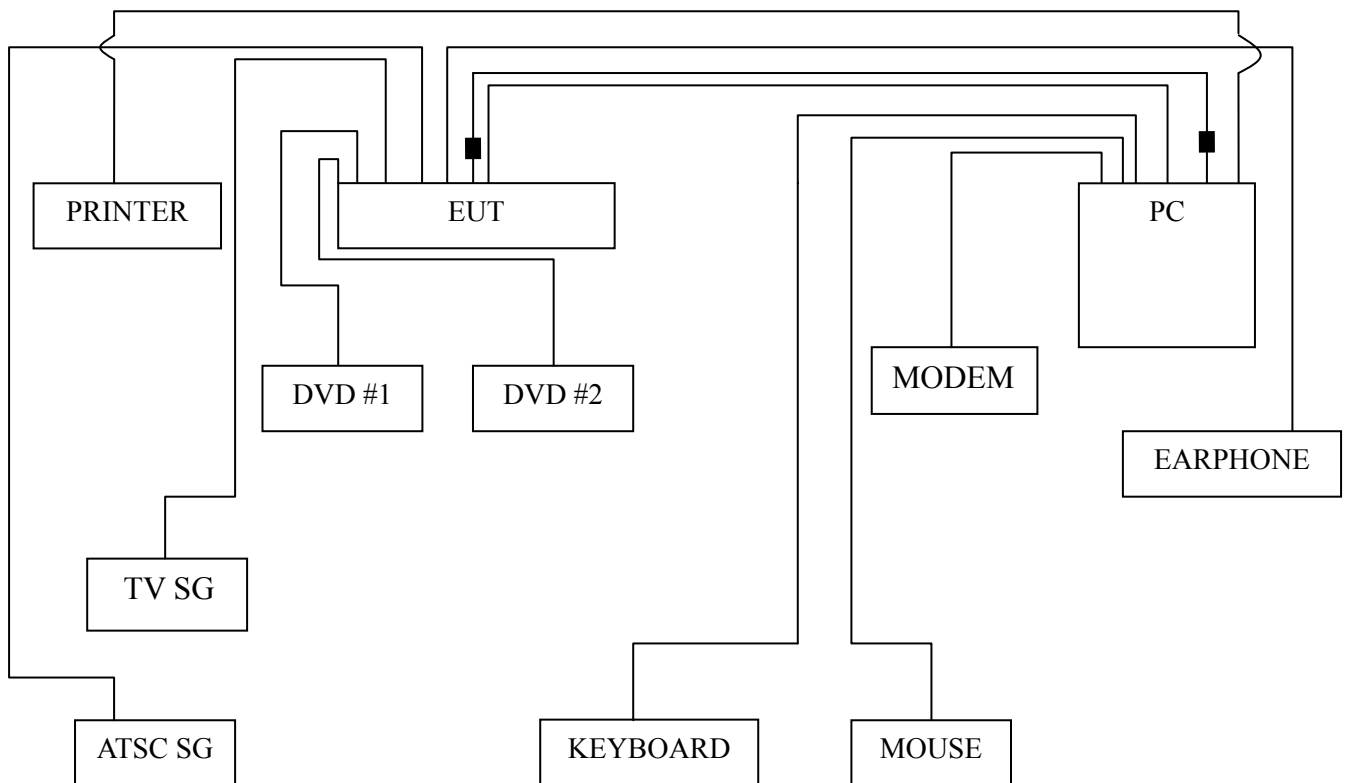
4.1 Test Equipment

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

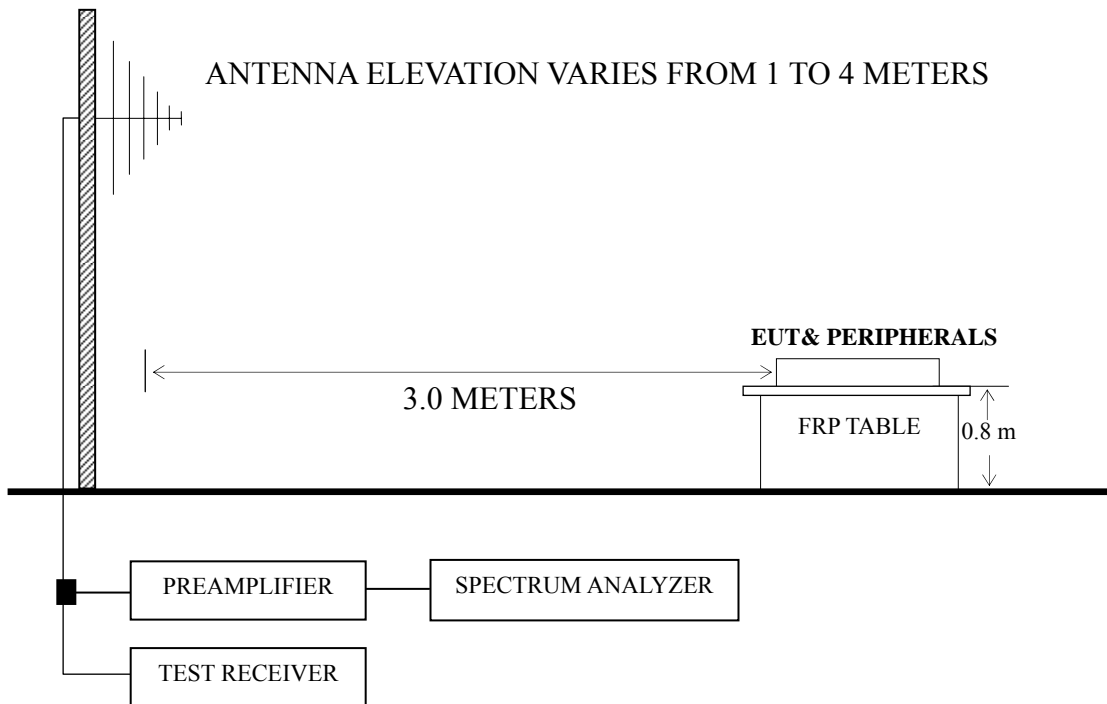
4.2 Block Diagram of Test Setup

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	
		($\mu\text{V/m}$)	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.

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 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 640*480@60Hz	P23
D-Sub 800*600@60Hz	P24
D-Sub 1024*768@60Hz	P25
HDMI 640*480@60Hz	P26
HDMI 800*600@60Hz	P27
HDMI 1024*768@60Hz	P28

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 33.880MHz with corrected signal level of 36.51 dB ($\mu\text{V}/\text{m}$) (limit is 40.00 dB ($\mu\text{V}/\text{m}$)), when the antenna was 1.10 m height and the turntable was at 260°. The worst emission at vertical polarization was detected at 84.630 MHz with corrected signal level of 37.81 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 70°.

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 60%RH

Serial No. : E1201034-01/01 Date of Test : Feb 07, 2012

Test Mode : D-Sub 640*480@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	33.880	19.35	17.44	0.67	37.46	40.00	2.54
	109.540	16.77	12.25	1.08	30.10	43.50	13.40
	174.530	17.68	10.07	1.35	29.10	43.50	14.40
	232.730	19.14	12.24	1.55	32.93	46.00	13.07
	364.650	16.81	15.73	1.96	34.50	46.00	11.50
	803.090	10.09	20.73	2.90	33.72	46.00	12.28
Vertical	86.560	26.00	8.84	0.98	35.82	40.00	4.18
	153.190	20.57	11.04	1.25	32.86	43.50	10.64
	218.180	22.16	11.52	1.51	35.19	46.00	10.81
	324.880	25.69	14.58	1.84	42.11	46.00	3.89
	368.530	23.18	15.81	1.98	40.97	46.00	5.03
	904.940	15.10	21.73	3.04	39.87	46.00	6.13

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 60%RH

Serial No. : E1201034-01/01 Date of Test : Feb 07, 2012

Test Mode : D-Sub 800*600@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	84.700	26.70	8.54	0.97	36.21	40.00	3.79
	145.430	26.27	11.66	1.23	39.16	43.50	4.34
	182.290	25.11	9.99	1.38	36.48	43.50	7.02
	368.530	20.27	15.81	1.98	38.06	46.00	7.94
	589.690	10.18	19.09	2.43	31.70	46.00	14.30
	807.940	12.63	20.77	2.90	36.30	46.00	9.70
Vertical	33.880	19.20	17.44	0.67	37.31	40.00	2.69
	72.680	21.78	6.85	0.91	29.54	40.00	10.46
	85.290	21.71	8.66	0.97	31.34	40.00	8.66
	232.730	21.90	12.24	1.55	35.69	46.00	10.31
	363.680	20.25	15.69	1.96	37.90	46.00	8.10
	683.780	20.64	19.62	2.65	42.91	46.00	3.09

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 60%RH

Serial No. : E1201034-01/01 Date of Test : Feb 07, 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	33.880	18.40	17.44	0.67	36.51	40.00	3.49
	87.230	19.11	8.96	0.98	29.05	40.00	10.95
	117.300	13.75	12.84	1.12	27.71	43.50	15.79
	232.730	22.24	12.24	1.55	36.03	46.00	9.97
	366.590	19.11	15.77	1.98	36.86	46.00	9.14
	681.840	13.51	19.62	2.63	35.76	46.00	10.24
Vertical	84.630	28.30	8.54	0.97	37.81	40.00	2.19
	135.730	17.14	12.28	1.19	30.61	43.50	12.89
	225.940	19.71	11.94	1.53	33.18	46.00	12.82
	366.590	21.05	15.77	1.98	38.80	46.00	7.20
	589.690	11.37	19.09	2.43	32.89	46.00	13.11
	999.030	9.48	22.40	4.49	36.37	54.00	17.63

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 60%RH

Serial No. : E1201034-01/01 Date of Test : Feb 07, 2012

Test Mode : HDMI 640*480@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	32.910	7.77	17.95	0.66	26.38	40.00	13.62
	60.070	17.57	6.60	0.84	25.01	40.00	14.99
	87.230	20.11	8.96	0.98	30.05	40.00	9.95
	217.210	21.54	11.48	1.51	34.53	46.00	11.47
	362.710	18.19	15.65	1.96	35.80	46.00	10.20
	913.670	14.64	21.78	3.22	39.64	46.00	6.36
Vertical	84.630	27.30	8.54	0.97	36.81	40.00	3.19
	135.730	17.14	12.28	1.19	30.61	43.50	12.89
	225.940	19.71	11.94	1.53	33.18	46.00	12.82
	366.590	21.05	15.77	1.98	38.80	46.00	7.20
	589.690	11.37	19.09	2.43	32.89	46.00	13.11
	999.030	9.48	22.40	4.49	36.37	54.00	17.63

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 60%RH

Serial No. : E1201034-01/01 Date of Test : Feb 07, 2012

Test Mode : HDMI 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	32.910	18.67	17.95	0.66	37.28	40.00	2.72
	60.070	25.34	6.60	0.84	32.78	40.00	7.22
	87.230	21.02	8.96	0.98	30.96	40.00	9.04
	286.080	13.91	13.66	1.73	29.30	46.00	16.70
	365.620	14.32	15.73	1.96	32.01	46.00	13.99
	681.840	15.10	19.62	2.63	37.35	46.00	8.65
Vertical	36.790	15.97	15.80	0.69	32.46	40.00	7.54
	56.190	17.73	7.46	0.82	26.01	40.00	13.99
	71.710	17.61	6.69	0.90	25.20	40.00	14.80
	239.520	17.00	12.52	1.57	31.09	46.00	14.91
	365.620	14.27	15.73	1.96	31.96	46.00	14.04
	702.210	12.86	19.73	2.67	35.26	46.00	10.74

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LHD32K26US Humidity : 60%RH

Serial No. : E1201034-01/01 Date of Test : Feb 07, 2012

Test Mode : HDMI 1024*768@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	32.000	17.30	18.49	0.65	36.44	40.00	3.56
	56.190	22.55	7.46	0.82	30.83	40.00	9.17
	239.520	22.06	12.52	1.57	36.15	46.00	9.85
	363.680	19.40	15.69	1.96	37.05	46.00	8.95
	681.840	17.14	19.62	2.63	39.39	46.00	6.61
	705.120	16.91	19.76	2.70	39.37	46.00	6.63
Vertical	32.910	3.94	17.95	0.66	22.55	40.00	17.45
	194.900	20.16	10.51	1.43	32.10	43.50	11.40
	239.520	16.30	12.52	1.57	30.39	46.00	15.61
	363.680	18.01	15.69	1.96	35.66	46.00	10.34
	487.840	8.93	17.75	2.24	28.92	46.00	17.08
	910.760	11.90	21.78	3.04	36.72	46.00	9.28

TEST ENGINEER: RAVEN JIN

5 DEVIATION TO TEST SPECIFICATIONS

None.

6 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Manufacturer	Location
Ferrite core	BNF-12\ZCAT1519-08 30\ROH	FEELUX	See Internal Photos Figure 15
		Rui Feng Electronic Co., Ltd.	
		Hai An Magnetic Material No.2 Factory	
Ferrite core	ZCAT2132-1130\ROH	JIANGSU LETTALL ELECTRONICS CO., LTD.	See Internal Photos Figure 16
		FEELUX	
		Rui Feng Electronic Co., Ltd.	
Tape	35X0.7X41mm\VGA\R OH	Hai An Magnetic Material No.2 Factory	See Internal Photos Figure 17
		Qingdao Joinset S&T Co., Ltd.	

Note: We had required the applicant and manufacturer that all electrical and mechanical devices employed for spurious radiation suppression, including any modifications made during certification testing, must be incorporated in each unit marked

TEST ENGINEER:



(RAVEN JIN)