

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

LCD TV

Model No.	Serial No.	Brand
LTDN39V77MH	E1205517-01/01	Hisense

FCC ID : W9HLCDD0015

Prepared For : Hisense Electric Co., Ltd.  
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Development Zone, Qingdao, China

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Report No. : ACI-F12032A1  
Date of Test : Jun 07, 2012  
Date of Report : Jun 14, 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
LTDN39V77MH	E1205517-01/01	Hisense	120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2011  
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: LTDN39V77MH; S/N: E1205517-01/01) which was tested in 3m anechoic chamber Jun 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.F12033A1, a Verification report.***

Date of Test : Jun 07, 2012 Date of Report : Jun 14, 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
<b>EMISSION</b>			
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2011 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2011 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. : LTDN39V77MH

Serial No. : E1205517-01/01

Brand : Hisense

Note : The different list for all the models are as follows:

Report No.	Model No.	Rev. Summary	Edition No.	Data of Rev.
ACI-E12032	LTDN39V77MH	Original Report.	0	Mar 05, 2012
ACI-E12032A1	LTDN39V77MH	To add a new panel	Rev. A1	Jun 07, 2012

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 : CHIMEI INNOLUX  
M/N : V390HJ1 -L02

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:

**Back Port:**

- (1) One HDMI1 Port : Connected with PC
- (2) One HDMI2 Port : Connected with DVD PLAYER #1
- (3) One component of YPbPr2 Port : Connected with DVD PLAYER #2
- (4) One component of YPbPr2 Audio Port : Connected with DVD PLAYER #2
- (5) One component of AV Port : Connected with DVD PLAYER #1
- (6) One DIGITAL AUDIO OUT Port : Connected with DVD PLAYER #1
- (7) One Headphone Port : Connected with Earphone
- (8) One ANT Port : Connected with ATSC SG / TV SG
- (9) One Audio Out Port : Connected with Speaker
- (10) One Service Port : Do not open to customer

**Side Port:**

- (1) One HDMI3 Port : Connected with DVD PLAYER #2
- (2) One USB Port : Connected with U-Disk
- (3) One PC Audio Port : Connected with PC
- (4) One VGA Port : Connected with PC
- (5) One component of YPbPr1 Port : Connected with DVD PLAYER #1
- (6) One component of YPbPr1 Audio Port : Connected with DVD PLAYER #1
- (7) 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 U-Disk

Manufacturer : LG  
Model Number : 1GB  
Serial Number : N/A

### 2.2.10 DVD PLAYER #1

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

### 2.2.11 DVD PLAYER #2

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

### 2.2.12 Speaker

Manufacturer : DIBA  
Model Number : FS-04  
Serial Number : 002



## 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 = 3.43 dB
Radiated Emission Expanded Uncertainty (30-200MHz):	U = 4.67 dB (Horizontal) U = 4.72 dB (Vertical)
Radiated Emission Expanded Uncertainty (200M-1GHz):	U = 4.81 dB (Horizontal) U = 4.69 dB (Vertical)

### 3 CONDUCTED EMISSION TEST

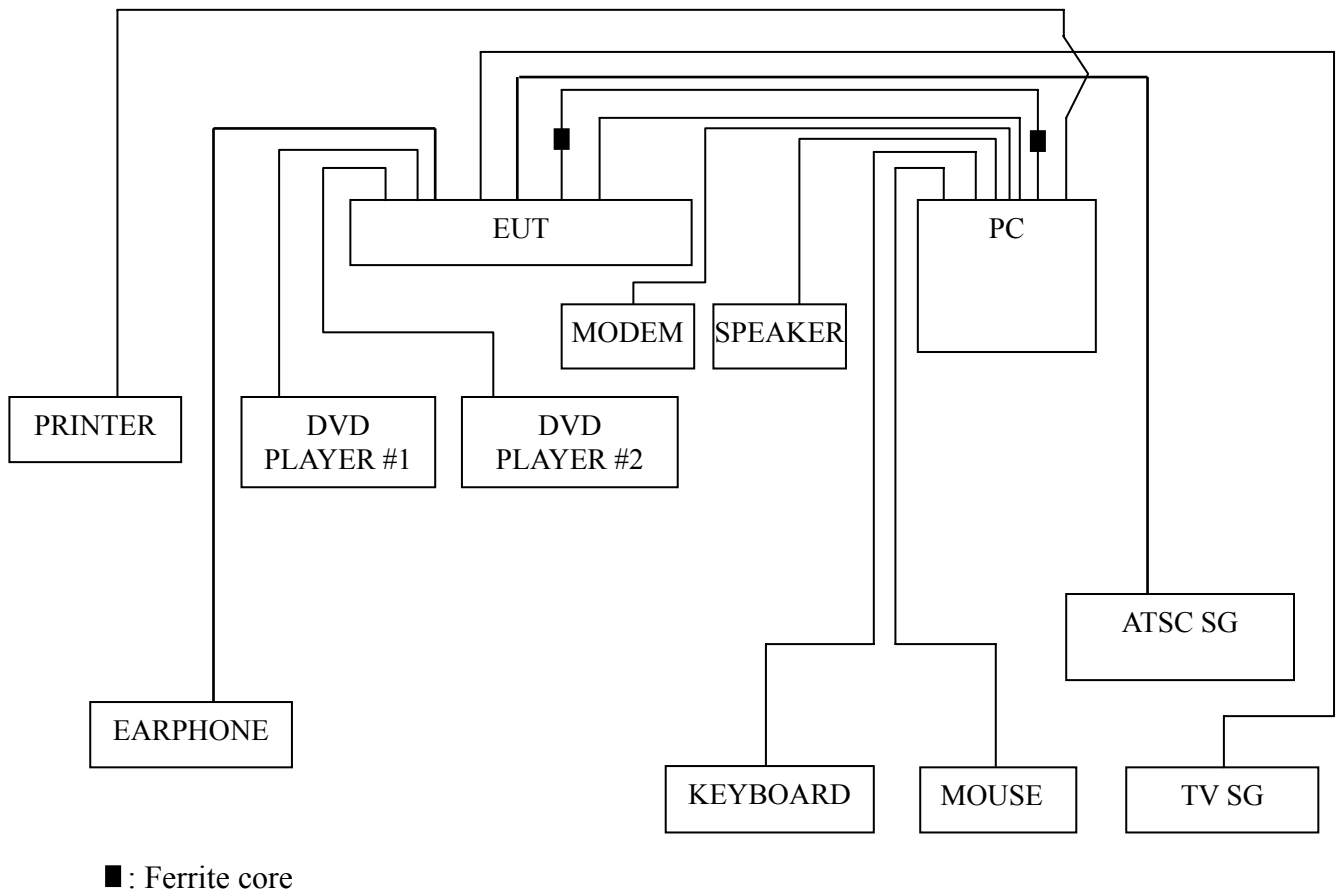
#### 3.1 Test Equipment

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

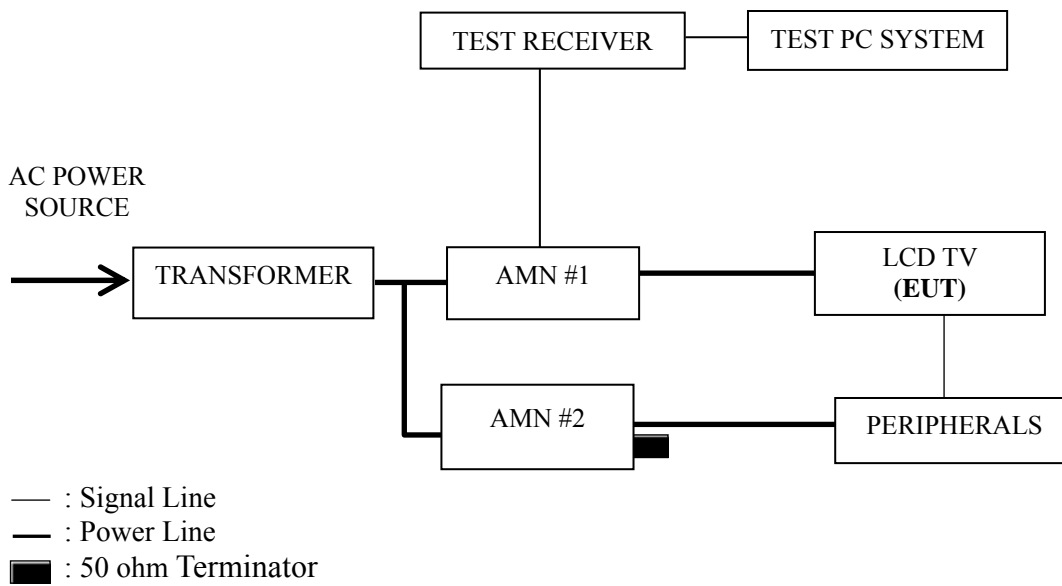
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Mar 22, 2012	Mar 22, 2013
2.	Artificial Mains Network (AMN #1)	R&S	ESH2-Z5	843890/011	Feb 13, 2012	Feb 13, 2013
3.	Artificial Mains Network (AMN #2)	R&S	ENV4200	100125	Mar 22, 2012	Mar 22, 2013
4.	50 $\Omega$ Coaxial Switch	Anritsu	MP59B	6200426389	Mar 18, 2012	Sep 18, 2012
5.	50 $\Omega$ 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



### 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 ( $\mu$ 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 Repeat above procedure 3.5.5 for difference test mode.

3.5.7 The other peripherals devices were driven and operated during the test.

3.5.8 The test modes are as follows:

Test Mode
D-Sub 1024*768@60Hz
HDMI 1024*768@60Hz
HDMI 800*600@60Hz
HDMI 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	P14
HDMI 1024*768@60Hz	P15
HDMI 800*600@60Hz	P16
HDMI 640*480@60Hz	P17
USB Play	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 USB Play test mode. The worst emission is detected at 6.186 MHz (Quasi-Peak Value) with corrected signal level of 49.51 dB ( $\mu$ V) (limit is 60.00 dB ( $\mu$ V)), when the Line of the EUT is connected to AMN.

EUT : LCD TV Temperature : 22°C

Model No. : LTDN39V77MH Humidity : 48%RH

Serial No. : E1205517-01/01 Date of Test : Jun 07, 2012

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

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.182	39.67	0.25	39.92	64.42	24.50	QP
	0.307	36.40	0.27	36.67	60.06	23.39	
	0.476	37.05	0.35	37.40	56.41	19.01	
	0.735	35.90	0.21	36.11	56.00	19.89	
	<b>6.285</b>	<b>48.56</b>	<b>0.60</b>	<b>49.16</b>	<b>60.00</b>	<b>10.84</b>	
	23.387	40.23	1.13	41.36	60.00	18.64	
	0.182	29.60	0.25	29.85	54.42	24.57	AV
	0.307	26.40	0.27	26.67	50.06	23.39	
	0.476	27.00	0.35	27.35	46.41	19.06	
	0.735	25.60	0.21	25.81	46.00	20.19	
	6.285	38.50	0.60	39.10	50.00	10.90	
	23.387	30.10	1.13	31.23	50.00	18.77	
Neutral	0.182	41.25	0.12	41.37	64.42	23.05	QP
	0.389	37.68	0.16	37.84	58.08	20.24	
	0.484	38.22	0.17	38.39	56.27	17.88	
	2.384	38.04	0.19	38.23	56.00	17.77	
	6.186	47.49	0.52	48.01	60.00	11.99	
	23.888	37.60	1.04	38.64	60.00	21.36	
	0.182	31.00	0.12	31.12	54.42	23.30	AV
	0.389	27.40	0.16	27.56	48.08	20.52	
	0.484	28.10	0.17	28.27	46.27	18.00	
	2.384	27.80	0.19	27.99	46.00	18.01	
	6.186	37.20	0.52	37.72	50.00	12.28	
	23.888	27.39	1.04	28.43	50.00	21.57	

TEST ENGINEER: SAWEN LI

EUT : LCD TV Temperature : 22°C

Model No. : LTDN39V77MH Humidity : 48%RH

Serial No. : E1205517-01/01 Date of Test : Jun 07, 2012

Test Mode : HDMI 1024\*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.182	39.84	0.25	40.09	64.42	24.33	QP
	0.303	36.87	0.27	37.14	60.15	23.01	
	0.476	37.09	0.35	37.44	56.41	18.97	
	0.735	35.50	0.21	35.71	56.00	20.29	
	<b>6.186</b>	<b>48.72</b>	<b>0.59</b>	<b>49.31</b>	<b>60.00</b>	<b>10.69</b>	
	21.600	38.92	0.99	39.91	60.00	20.09	
	0.182	29.60	0.25	29.85	54.42	24.57	AV
	0.303	26.50	0.27	26.77	50.15	23.38	
	0.476	27.00	0.35	27.35	46.41	19.06	
	0.735	25.40	0.21	25.61	46.00	20.39	
	6.186	38.50	0.59	39.09	50.00	10.91	
	21.600	28.59	0.99	29.58	50.00	20.42	
Neutral	0.183	41.64	0.12	41.76	64.33	22.57	QP
	0.385	38.23	0.16	38.39	58.17	19.78	
	0.481	38.67	0.17	38.84	56.32	17.48	
	2.396	38.98	0.19	39.17	56.00	16.83	
	6.252	47.76	0.53	48.29	60.00	11.71	
	23.387	37.72	1.01	38.73	60.00	21.27	
	0.183	31.50	0.12	31.62	54.33	22.71	AV
	0.385	28.19	0.16	28.35	48.17	19.82	
	0.481	28.40	0.17	28.57	46.32	17.75	
	2.396	28.60	0.19	28.79	46.00	17.21	
	6.252	37.60	0.53	38.13	50.00	11.87	
	23.387	27.60	1.01	28.61	50.00	21.39	

TEST ENGINEER: SAWEN LI

EUT :           LCD TV                Temperature :           22°C          

Model No. :           LTDN39V77MH                Humidity :           48%RH          

Serial No. :           E1205517-01/01                Date of Test :           Jun 07, 2012          

Test Mode :           HDMI 800\*600@60Hz          

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.180	39.62	0.25	39.87	64.50	24.63	QP
	0.307	37.51	0.27	37.78	60.06	22.28	
	0.567	38.23	0.31	38.54	56.00	17.46	
	0.909	35.89	0.30	36.19	56.00	19.81	
	<b>6.252</b>	<b>47.99</b>	<b>0.60</b>	<b>48.59</b>	<b>60.00</b>	<b>11.41</b>	
	22.298	38.62	1.02	39.64	60.00	20.36	
	0.180	29.49	0.25	29.74	54.50	24.76	AV
	0.307	27.40	0.27	27.67	50.06	22.39	
	0.567	28.10	0.31	28.41	46.00	17.59	
	0.909	26.00	0.30	26.30	46.00	19.70	
	6.252	37.60	0.60	38.20	50.00	11.80	
	22.298	28.70	1.02	29.72	50.00	20.28	
Neutral	0.183	41.57	0.12	41.69	64.33	22.64	QP
	0.389	37.37	0.16	37.53	58.08	20.55	
	0.481	39.93	0.17	40.10	56.32	16.22	
	0.830	38.49	0.22	38.71	56.00	17.29	
	6.121	47.90	0.52	48.42	60.00	11.58	
	22.535	37.48	0.97	38.45	60.00	21.55	
	0.183	31.50	0.12	31.62	54.33	22.71	AV
	0.389	27.20	0.16	27.36	48.08	20.72	
	0.481	29.50	0.17	29.67	46.32	16.65	
	0.830	28.20	0.22	28.42	46.00	17.58	
	6.121	37.60	0.52	38.12	50.00	11.88	
	22.535	27.49	0.97	28.46	50.00	21.54	

TEST ENGINEER: SAWEN LI



EUT : LCD TV Temperature : 22°C

Model No. : LTDN39V77MH Humidity : 48%RH

Serial No. : E1205517-01/01 Date of Test : Jun 07, 2012

Test Mode : HDMI 640\*480@60Hz

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.180	39.62	0.25	39.87	64.50	24.63	QP
	0.307	36.13	0.27	36.40	60.06	23.66	
	0.476	37.55	0.35	37.90	56.41	18.51	
	2.474	35.67	0.40	36.07	56.00	19.93	
	6.252	47.63	0.60	48.23	60.00	11.77	
	20.814	39.02	0.94	39.96	60.00	20.04	
	AV	0.180	29.49	0.25	29.74	54.50	24.76
		0.307	26.10	0.27	26.37	50.06	23.69
		0.476	27.20	0.35	27.55	46.41	18.86
		2.474	25.60	0.40	26.00	46.00	20.00
6.252		37.50	0.60	38.10	50.00	11.90	
20.814		29.00	0.94	29.94	50.00	20.06	
Neutral	0.180	41.15	0.12	41.27	64.50	23.23	QP
	0.389	36.87	0.16	37.03	58.08	21.05	
	0.476	38.35	0.17	38.52	56.41	17.89	
	0.989	38.79	0.22	39.01	56.00	16.99	
	<b>6.186</b>	<b>47.92</b>	<b>0.52</b>	<b>48.44</b>	<b>60.00</b>	<b>11.56</b>	
	22.896	38.47	0.99	39.46	60.00	20.54	AV
	0.180	31.00	0.12	31.12	54.50	23.38	
	0.389	26.50	0.16	26.66	48.08	21.42	
	0.476	28.50	0.17	28.67	46.41	17.74	
	0.989	28.50	0.22	28.72	46.00	17.28	
6.186	37.58	0.52	38.10	50.00	11.90		
22.896	28.60	0.99	29.59	50.00	20.41		

TEST ENGINEER: SAWEN LI

EUT :           LCD TV           Temperature :           22°C          

Model No. :           LTDN39V77MH           Humidity :           48%RH          

Serial No. :           E1205517-01/01           Date of Test :           Jun 07, 2012          

Test Mode :           USB Play          

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.184	39.35	0.25	39.60	64.28	24.68	QP
	0.307	36.70	0.27	36.97	60.06	23.09	
	0.564	37.62	0.31	37.93	56.00	18.07	
	1.698	35.23	0.38	35.61	56.00	20.39	
	<b>6.186</b>	<b>48.92</b>	<b>0.59</b>	<b>49.51</b>	<b>60.00</b>	<b>10.49</b>	
	23.140	38.68	1.11	39.79	60.00	20.21	
	0.184	29.10	0.25	29.35	54.28	24.93	AV
	0.307	26.40	0.27	26.67	50.06	23.39	
	0.564	27.41	0.31	27.72	46.00	18.28	
	1.698	25.10	0.38	25.48	46.00	20.52	
	6.186	38.40	0.59	38.99	50.00	11.01	
	23.140	28.41	1.11	29.52	50.00	20.48	
Neutral	0.190	40.99	0.12	41.11	64.02	22.91	QP
	0.307	37.66	0.12	37.78	60.06	22.28	
	0.476	40.55	0.17	40.72	56.41	15.69	
	2.554	38.84	0.20	39.04	56.00	16.96	
	6.186	48.29	0.52	48.81	60.00	11.19	
	23.387	37.21	1.01	38.22	60.00	21.78	
	0.190	30.50	0.12	30.62	54.02	23.40	AV
	0.307	27.50	0.12	27.62	50.06	22.44	
	0.476	30.20	0.17	30.37	46.41	16.04	
	2.554	28.60	0.20	28.80	46.00	17.20	
	6.186	38.10	0.52	38.62	50.00	11.38	
	23.387	27.10	1.01	28.11	50.00	21.89	

TEST ENGINEER: SAWEN LI

## 4 RADIATED EMISSION TEST

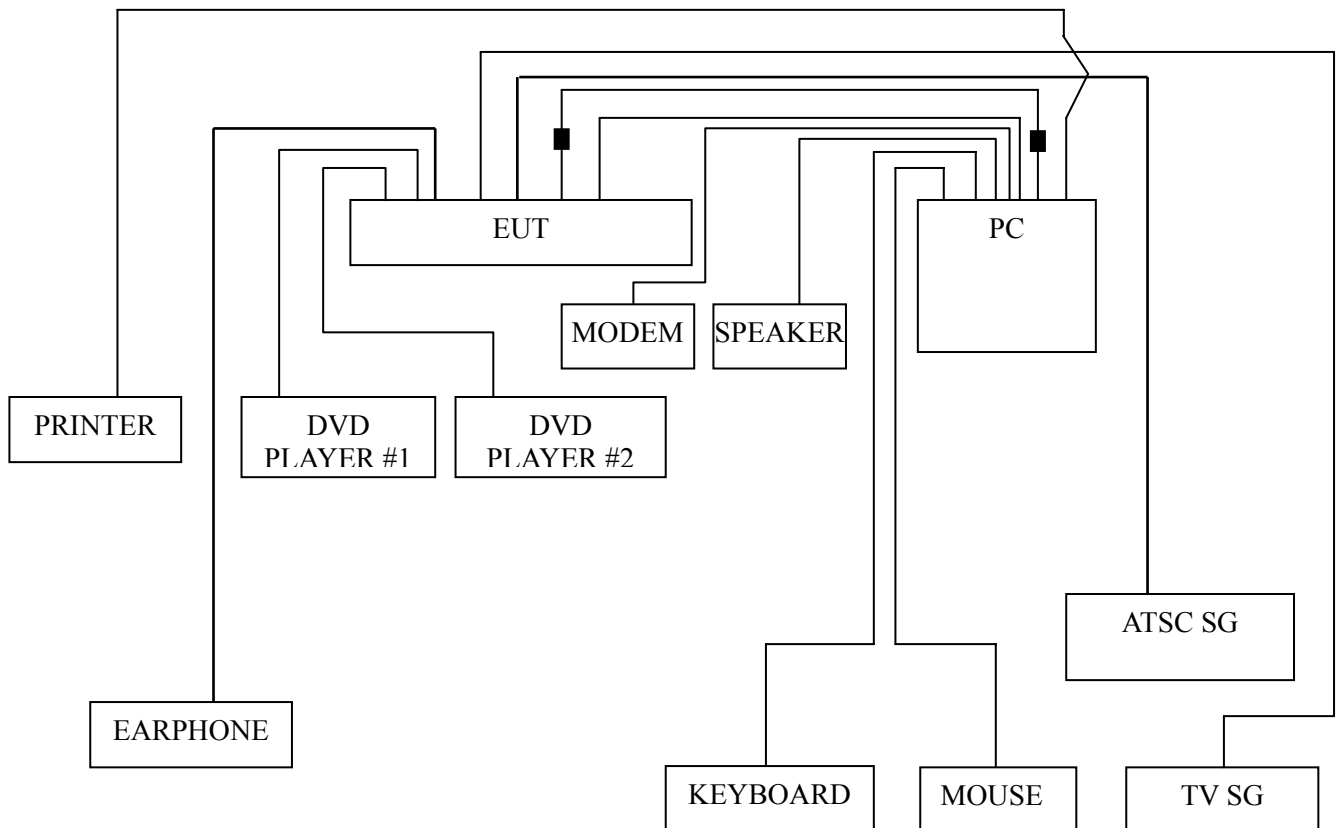
### 4.1 Test Equipment

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 Analyzer	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013
5.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Mar 18, 2012	Sep 18, 2012
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

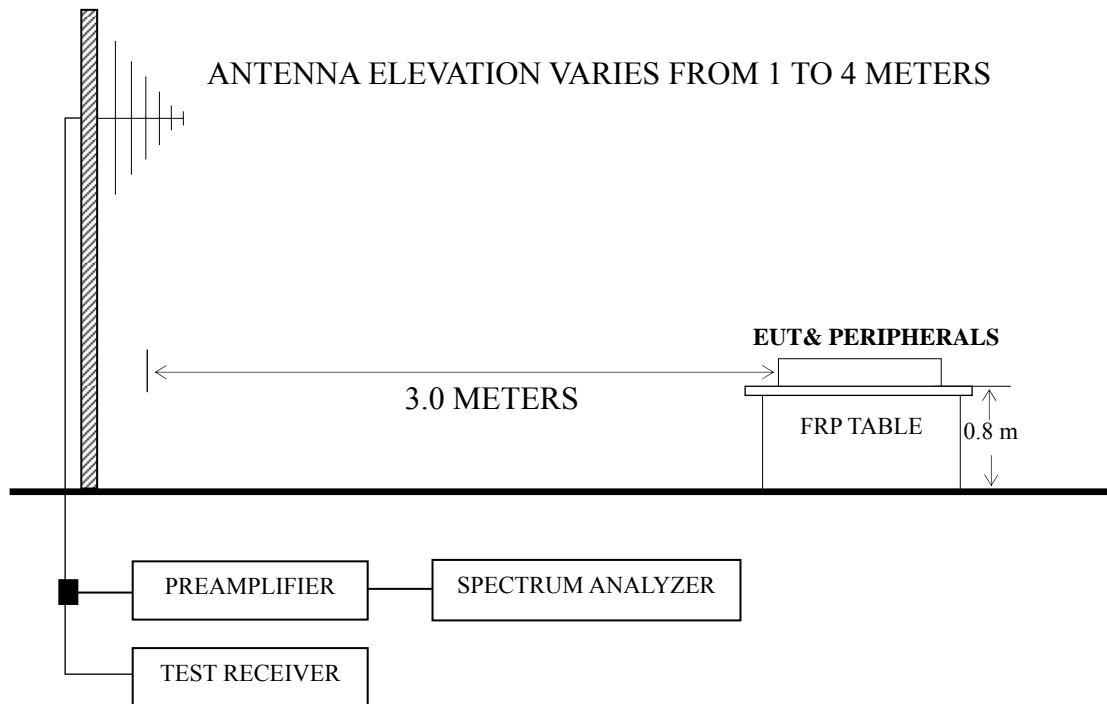
### 4.2 Block Diagram of Test Setup

#### 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	
		( $\mu\text{V/m}$ )	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 1024*768@60Hz	P22
HDMI 1024*768@60Hz	P23
D-Sub 800*600@60Hz	P24
D-Sub 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 D-Sub 1024\*768@60Hz test mode. The worst emission at horizontal polarization was detected at 282.200MHz with corrected signal level of 39.44 dB ( $\mu\text{V}/\text{m}$ ) (limit is 46.00 dB ( $\mu\text{V}/\text{m}$ )), when the antenna was 1.70 m height and the turntable was at 120°. The worst emission at vertical polarization was detected at 872.000 MHz with corrected signal level of 42.28 dB ( $\mu\text{V}/\text{m}$ ) (limit is 46.00 dB ( $\mu\text{V}/\text{m}$ )), when the antenna was 1.70 m height and the turntable was at 250°.

EUT : LCD TV Temperature : 22°C

Model No. : LTDN39V77MH Humidity : 60%RH

Serial No. : E1205517-01/01 Date of Test : Jun 07, 2012

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

Polarization	Frequency (MHz)	Meter Reading dB ( $\mu$ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB ( $\mu$ V/m)	Limits dB ( $\mu$ V/m)	Margin (dB)
Horizontal	58.130	14.22	10.16	1.14	24.38	40.00	15.62
	74.620	13.04	11.72	1.51	24.76	40.00	15.24
	121.180	16.78	13.02	2.03	29.80	43.50	13.70
	172.590	20.58	12.41	2.33	32.99	43.50	10.51
	217.210	24.60	12.98	2.50	37.58	46.00	8.42
	<b>282.200</b>	<b>23.52</b>	<b>15.92</b>	<b>2.71</b>	<b>39.44</b>	<b>46.00</b>	<b>6.56</b>
Vertical	57.160	21.35	10.08	1.12	31.43	40.00	8.57
	87.230	18.49	12.58	1.70	31.07	40.00	8.93
	122.150	20.00	13.01	2.04	33.01	43.50	10.49
	165.800	23.32	12.47	2.30	35.79	43.50	7.71
	217.210	27.23	12.98	2.50	40.21	46.00	5.79
	<b>872.000</b>	<b>17.30</b>	<b>24.98</b>	<b>4.60</b>	<b>42.28</b>	<b>46.00</b>	<b>3.72</b>

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN39V77MH Humidity : 60%RH

Serial No. : E1205517-01/01 Date of Test : Jun 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	58.130	11.22	10.16	1.14	21.38	40.00	18.62
	121.180	13.78	13.02	2.03	26.80	43.50	16.70
	172.590	17.58	12.41	2.33	29.99	43.50	13.51
	217.210	21.60	12.98	2.50	34.58	46.00	11.42
	<b>282.200</b>	<b>20.52</b>	<b>15.92</b>	<b>2.71</b>	<b>36.44</b>	<b>46.00</b>	<b>9.56</b>
	491.720	11.83	20.76	3.25	32.59	46.00	13.41
Vertical	57.160	17.35	10.08	1.12	27.43	40.00	12.57
	122.150	16.00	13.01	2.04	29.01	43.50	14.49
	<b>217.210</b>	<b>23.23</b>	<b>12.98</b>	<b>2.50</b>	<b>36.21</b>	<b>46.00</b>	<b>9.79</b>
	282.200	16.30	15.92	2.71	32.22	46.00	13.78
	373.380	14.47	18.65	2.93	33.12	46.00	12.88
	526.640	13.41	21.09	3.33	34.50	46.00	11.50

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN39V77MH Humidity : 60%RH

Serial No. : E1205517-01/01 Date of Test : Jun 07, 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	76.560	10.36	11.88	1.54	22.24	40.00	17.76
	116.330	14.09	13.07	2.00	27.16	43.50	16.34
	172.590	17.61	12.41	2.33	30.02	43.50	13.48
	<b>217.210</b>	<b>21.03</b>	<b>12.98</b>	<b>2.50</b>	<b>34.01</b>	<b>46.00</b>	<b>11.99</b>
	377.260	12.01	18.78	2.95	30.79	46.00	15.21
	476.200	11.66	20.53	3.21	32.19	46.00	13.81
Vertical	57.160	20.61	10.08	1.12	30.69	40.00	9.31
	120.210	20.04	13.03	2.03	33.07	43.50	10.43
	165.800	22.57	12.47	2.30	35.04	43.50	8.46
	<b>217.210</b>	<b>27.39</b>	<b>12.98</b>	<b>2.50</b>	<b>40.37</b>	<b>46.00</b>	<b>5.63</b>
	365.620	19.57	18.44	2.91	38.01	46.00	7.99
	526.640	17.66	21.09	3.33	38.75	46.00	7.25

TEST ENGINEER: RAVEN JIN



EUT : LCD TV Temperature : 22°C

Model No. : LTDN39V77MH Humidity : 60%RH

Serial No. : E1205517-01/01 Date of Test : Jun 07, 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	57.160	21.84	10.08	1.12	31.92	40.00	8.08
	121.180	19.38	13.02	2.03	32.40	43.50	11.10
	164.830	22.99	12.48	2.30	35.47	43.50	8.03
	<b>217.210</b>	<b>26.93</b>	<b>12.98</b>	<b>2.50</b>	<b>39.91</b>	<b>46.00</b>	<b>6.09</b>
	282.200	20.02	15.92	2.71	35.94	46.00	10.06
	377.260	17.95	18.78	2.95	36.73	46.00	9.27
Vertical	72.680	9.76	11.55	1.47	21.31	40.00	18.69
	122.150	12.22	13.01	2.04	25.23	43.50	18.27
	217.210	17.82	12.98	2.50	30.80	46.00	15.20
	282.200	15.13	15.92	2.71	31.05	46.00	14.95
	<b>377.260</b>	<b>14.22</b>	<b>18.78</b>	<b>2.95</b>	<b>33.00</b>	<b>46.00</b>	<b>13.00</b>
	476.200	10.56	20.53	3.21	31.09	46.00	14.91

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN39V77MH Humidity : 60%RH

Serial No. : E1205517-01/01 Date of Test : Jun 07, 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	58.130	19.22	10.16	1.14	29.38	40.00	10.62
	74.620	17.04	11.72	1.51	28.76	40.00	11.24
	121.180	13.78	13.02	2.03	26.80	43.50	16.70
	172.590	16.58	12.41	2.33	28.99	43.50	14.51
	<b>282.200</b>	<b>19.52</b>	<b>15.92</b>	<b>2.71</b>	<b>35.44</b>	<b>46.00</b>	<b>10.56</b>
	778.840	8.33	24.23	3.86	32.56	46.00	13.44
Vertical	57.160	16.35	10.08	1.12	26.43	40.00	13.57
	87.230	13.49	12.58	1.70	26.07	40.00	13.93
	165.800	18.32	12.47	2.30	30.79	43.50	12.71
	217.210	22.23	12.98	2.50	35.21	46.00	10.79
	282.200	15.30	15.92	2.71	31.22	46.00	14.78
	<b>872.930</b>	<b>13.31</b>	<b>24.97</b>	<b>4.60</b>	<b>38.28</b>	<b>46.00</b>	<b>7.72</b>

TEST ENGINEER: RAVEN JIN

## **5 DEVIATION TO TEST SPECIFICATIONS**

None.