

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

LCD TV

Model No.	Serial No.	Brand
LTDN42V77KMH	E1202160-01/01	Hisense

FCC ID : W9HLCDD0016

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

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Report No. : ACI-F12043  
Date of Test : Mar 09 – 15, 2012  
Date of Report : Mar 19, 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
LTDN42V77KMH	E1202160-01/01	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: LTDN42V77KMH; S/N: E1202160-01/01) which was tested in 3m anechoic chamber Mar 09 – 15, 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.

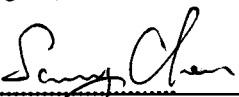
***The test results for EUT's TV functions are contained in No.F12044, a Verification report.***

Date of Test : Mar 09 – 15, 2012 Date of Report : Mar 19, 2012

Producer :   
KATHY WANG / 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 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.	:	LTDN42V77KMH
Serial No.	:	E1202160-01/01

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 : LG Display  
M/N : LC420WUE (SC) (V1)

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 component of YPbPr2 Port  
: Connected with DVD #2
- (2) One component of YPbPr2 Audio Port  
: Connected with DVD #2
- (3) One component of AV Port  
: Connected with DVD #1
- (4) One HDMI1 Port  
: Connected with PC
- (5) One HDMI2 Port  
: Connected with DVD #1
- (6) One ANT Port  
: Connected with ATSC SG / TV SG
- (7) One Headphone Port  
: Connected with Earphone
- (8) One DIGITAL AUDIO OUT Port  
: Connected with DVD #1
- (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 #2
- (2) One PC Audio Port  
: Connected with PC
- (3) One VGA Port  
: Connected with PC
- (4) One USB Port  
: Connected with U-Disk
- (5) One component of YPbPr1 Port  
: Connected with DVD #1
- (6) One component of YPbPr1 Audio Port  
: Connected with DVD #1
- (7) One RJ12 Port  
: Connected with Modem

## 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 #1

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

### 2.2.11 DVD #2

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

### 2.2.12 Speaker

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:  $U = 3.38\text{dB}$

Radiated Emission Expanded Uncertainty (30-200MHz):

$U = 4.58\text{ dB}$  (horizontal)

$U = 4.70\text{ dB}$  (vertical)

Radiated Emission Expanded Uncertainty (200M-1GHz):

$U = 4.84\text{ dB}$  (horizontal)

$U = 4.70\text{ dB}$  (vertical)

### 3 CONDUCTED EMISSION TEST

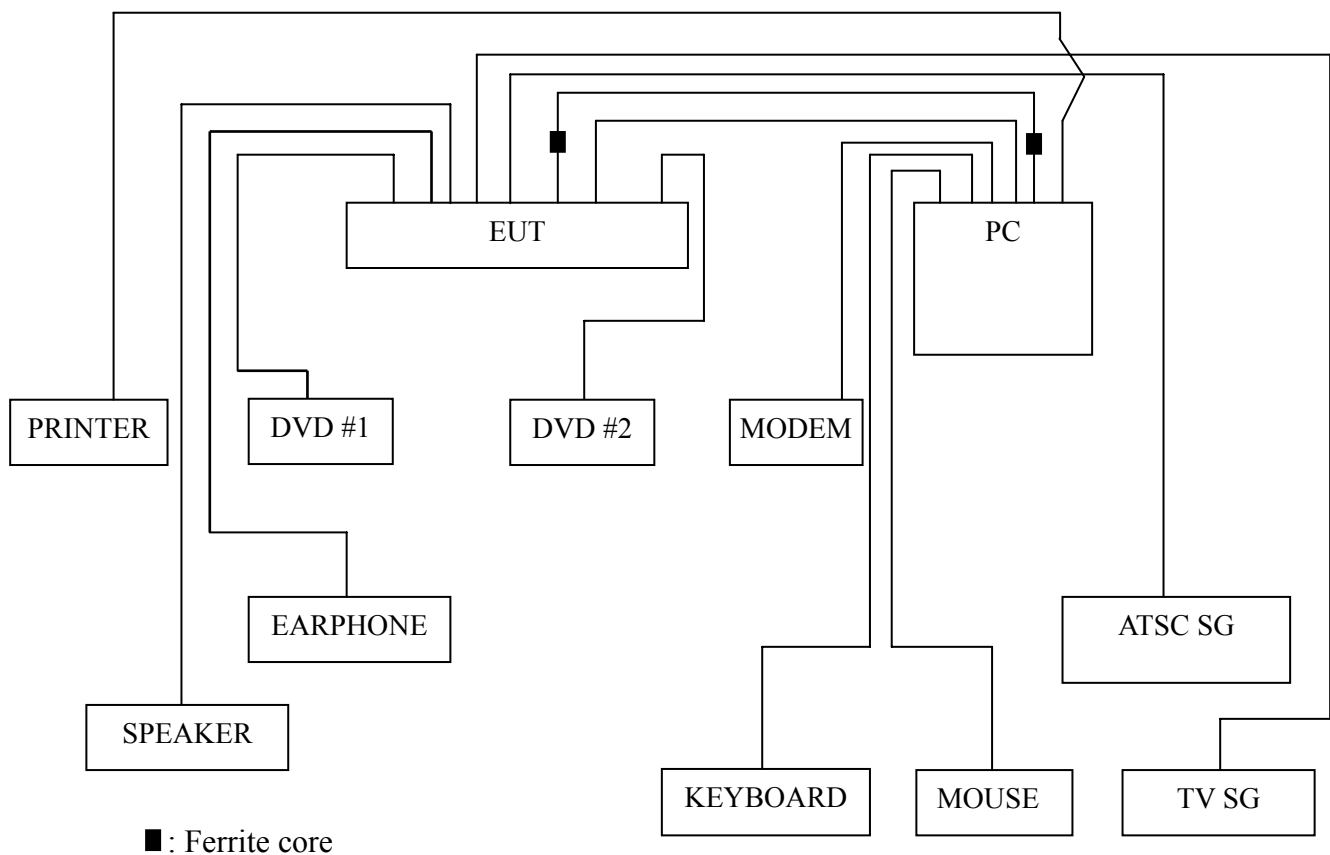
#### 3.1 Test Equipment

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

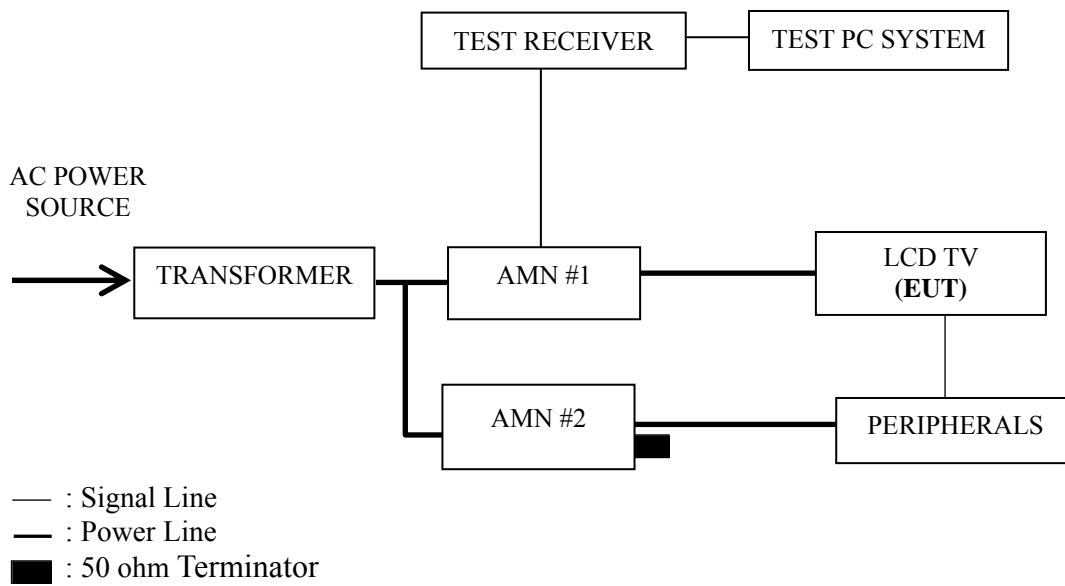
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Mar 22, 2011	Mar 22, 2012
2.	Artificial Mains Network (AMN #1)	R&S	ESH2-Z5	843890/011	Mar 22, 2011	Mar 22, 2012
3.	Artificial Mains Network (AMN #2)	R&S	ENV4200	100125	Mar 22, 2011	Mar 22, 2012
4.	50 $\Omega$ Coaxial Switch	Anritsu	MP59B	6200426389	Sep 18, 2011	Mar 18, 2012
5.	50 $\Omega$ 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



### 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 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
HDMI 800*600@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	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 1.535 MHz (Average Value) with corrected signal level of 37.02 dB (μV) (limit is 46.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 48%RH

Serial No. : E1202160-01/01 Date of Test : Mar 09, 2012

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

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.184	42.86	0.38	43.24	64.28	21.04	QP
	0.352	37.75	0.46	38.21	58.91	20.70	
	0.546	39.88	0.52	40.40	56.00	15.60	
	1.433	40.48	0.57	41.05	56.00	14.95	
	15.146	38.36	1.26	39.62	60.00	20.38	
	22.535	44.77	1.72	46.49	60.00	13.51	
	0.184	32.10	0.38	32.48	54.28	21.80	AV
	0.352	27.40	0.46	27.86	48.91	21.05	
	0.546	29.60	0.52	30.12	46.00	15.88	
	1.433	30.10	0.57	30.67	46.00	15.33	
	15.146	28.20	1.26	29.46	50.00	20.54	
	22.535	34.29	1.72	36.01	50.00	13.99	
Neutral	0.180	43.76	0.31	44.07	64.50	20.43	QP
	0.352	40.66	0.41	41.07	58.91	17.84	
	0.546	40.08	0.49	40.57	56.00	15.43	
	1.236	42.08	0.52	42.60	56.00	13.40	
	14.986	38.81	1.46	40.27	60.00	19.73	
	23.387	43.74	1.84	45.58	60.00	14.42	
	0.180	33.20	0.31	33.51	54.50	20.99	AV
	0.352	30.11	0.41	30.52	48.91	18.39	
	0.546	29.80	0.49	30.29	46.00	15.71	
	<b>1.236</b>	<b>32.11</b>	<b>0.52</b>	<b>32.63</b>	<b>46.00</b>	<b>13.37</b>	
	14.986	28.60	1.46	30.06	50.00	19.94	
	23.387	33.30	1.84	35.14	50.00	14.86	

TEST ENGINEER: L V Y L V

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 48%RH

Serial No. : E1202160-01/01 Date of Test : Mar 09, 2012

Test Mode : HDMI 1024\*768@60Hz

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.180	42.73	0.38	43.11	64.50	21.39	QP
	0.348	37.39	0.46	37.85	59.00	21.15	
	0.546	40.37	0.52	40.89	56.00	15.11	
	1.433	40.12	0.57	40.69	56.00	15.31	
	15.388	38.22	1.28	39.50	60.00	20.50	
	<b>21.830</b>	<b>44.64</b>	<b>1.69</b>	<b>46.33</b>	<b>60.00</b>	<b>13.67</b>	
	0.180	32.00	0.38	32.38	54.50	22.12	AV
	0.348	27.20	0.46	27.66	49.00	21.34	
	0.546	30.10	0.52	30.62	46.00	15.38	
	1.433	30.00	0.57	30.57	46.00	15.43	
	15.388	28.10	1.28	29.38	50.00	20.62	
	21.830	34.20	1.69	35.89	50.00	14.11	
Neutral	0.176	44.01	0.31	44.32	64.68	20.36	QP
	0.352	39.69	0.41	40.10	58.91	18.81	
	0.546	40.62	0.49	41.11	56.00	14.89	
	1.236	41.86	0.52	42.38	56.00	13.62	
	14.828	39.21	1.45	40.66	60.00	19.34	
	22.063	43.81	1.81	45.62	60.00	14.38	
	0.176	34.00	0.31	34.31	54.68	20.37	AV
	0.352	29.51	0.41	29.92	48.91	18.99	
	0.546	30.30	0.49	30.79	46.00	15.21	
	1.236	31.71	0.52	32.23	46.00	13.77	
	14.828	29.10	1.45	30.55	50.00	19.45	
	22.063	33.50	1.81	35.31	50.00	14.69	

TEST ENGINEER: L V Y L V

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 48%RH

Serial No. : E1202160-01/01 Date of Test : Mar 09, 2012

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

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.183	43.00	0.38	43.38	64.33	20.95	QP
	0.356	38.02	0.46	38.48	58.83	20.35	
	0.546	40.79	0.52	41.31	56.00	14.69	
	1.433	40.77	0.57	41.34	56.00	14.66	
	15.388	39.07	1.28	40.35	60.00	19.65	
	<b>22.063</b>	<b>45.12</b>	<b>1.70</b>	<b>46.82</b>	<b>60.00</b>	<b>13.18</b>	
	0.183	32.50	0.38	32.88	54.33	21.45	AV
	0.356	27.81	0.46	28.27	48.83	20.56	
	0.546	30.20	0.52	30.72	46.00	15.28	
	1.433	30.30	0.57	30.87	46.00	15.13	
	15.388	28.20	1.28	29.48	50.00	20.52	
	22.063	34.80	1.70	36.50	50.00	13.50	
Neutral	0.182	43.86	0.31	44.17	64.42	20.25	QP
	0.363	39.70	0.43	40.13	58.65	18.52	
	0.541	40.90	0.49	41.39	56.00	14.61	
	1.433	41.21	0.54	41.75	56.00	14.25	
	15.388	38.35	1.48	39.83	60.00	20.17	
	22.655	44.40	1.83	46.23	60.00	13.77	
	0.182	32.80	0.31	33.11	54.42	21.31	AV
	0.363	29.59	0.43	30.02	48.65	18.63	
	0.541	30.60	0.49	31.09	46.00	14.91	
	1.433	31.20	0.54	31.74	46.00	14.26	
	15.388	28.11	1.48	29.59	50.00	20.41	
	22.655	34.29	1.83	36.12	50.00	13.88	

TEST ENGINEER: Lvy LV



EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 48%RH

Serial No. : E1202160-01/01 Date of Test : Mar 09, 2012

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

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.182	42.83	0.38	43.21	64.42	21.21	QP
	0.393	38.22	0.48	38.70	57.99	19.29	
	0.546	40.40	0.52	40.92	56.00	15.08	
	1.433	40.61	0.57	41.18	56.00	14.82	
	15.388	38.37	1.28	39.65	60.00	20.35	
	<b>22.535</b>	<b>45.84</b>	<b>1.72</b>	<b>47.56</b>	<b>60.00</b>	<b>12.44</b>	
	0.182	32.50	0.38	32.88	54.42	21.54	AV
	0.393	28.10	0.48	28.58	47.99	19.41	
	0.546	30.20	0.52	30.72	46.00	15.28	
	1.433	30.20	0.57	30.77	46.00	15.23	
	15.388	28.10	1.28	29.38	50.00	20.62	
	22.535	35.49	1.72	37.21	50.00	12.79	
Neutral	0.180	43.55	0.31	43.86	64.50	20.64	QP
	0.356	40.07	0.42	40.49	58.83	18.34	
	0.541	40.91	0.49	41.40	56.00	14.60	
	1.433	42.17	0.54	42.71	56.00	13.29	
	15.388	38.64	1.48	40.12	60.00	19.88	
	22.298	44.71	1.81	46.52	60.00	13.48	
	0.180	33.20	0.31	33.51	54.50	20.99	AV
	0.356	30.00	0.42	30.42	48.83	18.41	
	0.541	30.60	0.49	31.09	46.00	14.91	
	1.433	31.80	0.54	32.34	46.00	13.66	
	15.388	28.51	1.48	29.99	50.00	20.01	
	22.298	34.31	1.81	36.12	50.00	13.88	

TEST ENGINEER: L V Y L V

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 48%RH

Serial No. : E1202160-01/01 Date of Test : Mar 09, 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	0.150	47.89	0.22	48.11	66.00	17.89	QP
	0.249	42.28	0.23	42.51	61.78	19.27	
	0.417	40.88	0.31	41.19	57.51	16.32	
	0.641	41.09	0.38	41.47	56.00	14.53	
	1.338	42.50	0.39	42.89	56.00	13.11	
	21.600	45.49	1.03	46.52	60.00	13.48	
	0.150	37.20	0.22	37.42	56.00	18.58	AV
	0.249	32.70	0.23	32.93	51.78	18.85	
	0.417	30.29	0.31	30.60	47.51	16.91	
	0.641	34.30	0.38	34.68	46.00	11.32	
	1.338	33.70	0.39	34.09	46.00	11.91	
	21.600	35.6	1.03	36.63	50	13.37	
Neutral	0.151	48.16	0.18	48.34	65.96	17.62	QP
	0.249	39.67	0.18	39.85	61.78	21.93	
	0.546	41.88	0.24	42.12	56.00	13.88	
	1.535	41.70	0.52	42.22	56.00	13.78	
	3.025	38.67	0.61	39.28	56.00	16.72	
	21.830	44.91	1.22	46.13	60.00	13.87	
	0.151	37.10	0.18	37.28	55.96	18.68	AV
	0.249	30.21	0.18	30.39	51.78	21.39	
	0.546	35.91	0.24	36.15	46.00	9.85	
	<b>1.535</b>	<b>36.50</b>	<b>0.52</b>	<b>37.02</b>	<b>46.00</b>	<b>8.98</b>	
	3.025	28.70	0.61	29.31	46.00	16.69	
	21.830	34.60	1.22	35.82	50.00	14.18	

TEST ENGINEER: L V Y L V

## 4 RADIATED EMISSION TEST

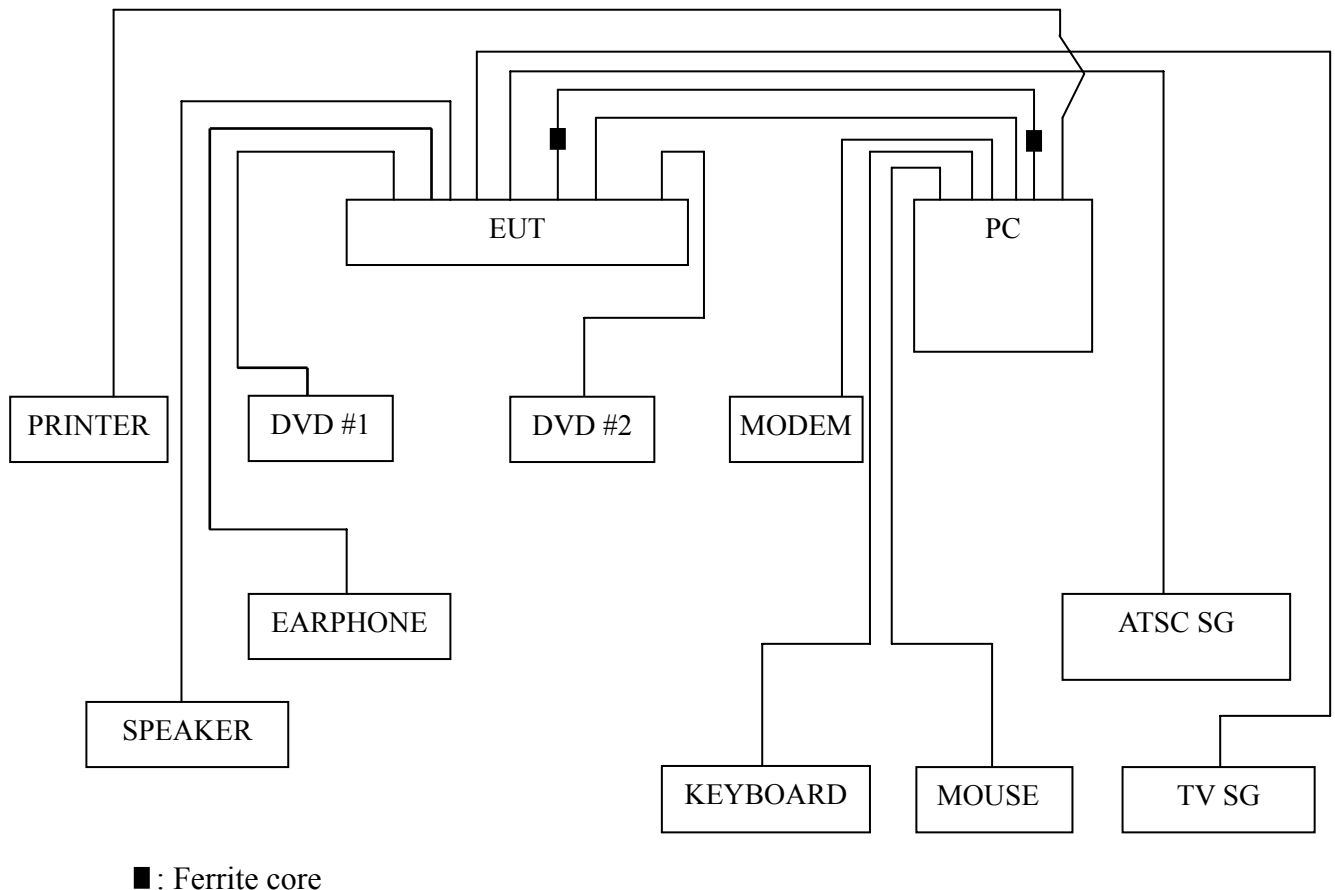
### 4.1 Test Equipment

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

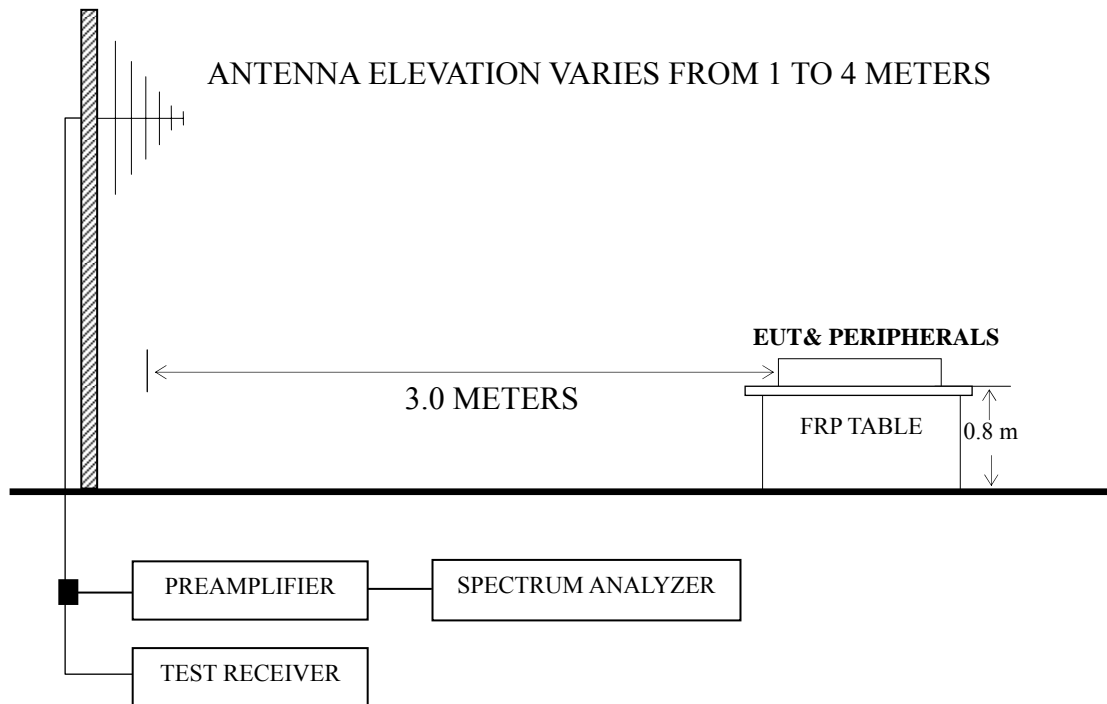
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESVS10	844594/001	Mar 22, 2011	Mar 22, 2012
2.	Preamplifier	Agilent	8447D	2944A10548	Sep 18, 2011	Mar 18, 2012
3.	Bi-log Antenna	TESEQ	CBL6112D	23192	Dec 01, 2011	Dec 01, 2012
4.	Spectrum Analyzer	Agilent	E7405A	MY45106600	Mar 22, 2011	Mar 22, 2012
5.	50 $\Omega$ 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



#### 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 800\*600@60Hz test mode. The worst emission at horizontal polarization was detected at 59.060 MHz with corrected signal level of 37.84 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.80 m height and the turntable was at 250°. The worst emission at vertical polarization was detected at 58.130 MHz with corrected signal level of 38.47 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.80 m height and the turntable was at 70°.

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 60%RH

Serial No. : E1202160-01/01 Date of Test : Mar 15, 2012

Test Mode : D-Sub 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	<b>61.040</b>	<b>28.01</b>	<b>9.21</b>	<b>1.21</b>	<b>38.43</b>	<b>40.00</b>	<b>1.57</b>
	135.730	27.51	10.71	2.14	40.36	43.50	3.14
	227.880	29.30	10.97	2.53	42.80	46.00	3.20
	366.590	25.61	15.57	2.92	44.10	46.00	1.90
	586.780	22.60	18.13	3.44	44.17	46.00	1.83
	832.190	18.18	20.51	4.22	42.91	46.00	3.09
Vertical	<b>59.830</b>	<b>26.60</b>	<b>9.12</b>	<b>1.19</b>	<b>36.91</b>	<b>40.00</b>	<b>3.09</b>
	130.880	25.69	10.80	2.11	38.60	43.50	4.90
	284.140	21.11	13.24	2.71	37.06	46.00	8.94
	366.590	20.77	15.57	2.92	39.26	46.00	6.74
	478.140	18.24	17.34	3.21	38.79	46.00	7.21
	579.990	17.05	18.09	3.42	38.56	46.00	7.44

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 60%RH

Serial No. : E1202160-01/01 Date of Test : Mar 15, 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	<b>61.040</b>	<b>26.29</b>	<b>9.21</b>	<b>1.21</b>	<b>36.71</b>	<b>40.00</b>	<b>3.29</b>
	77.530	20.77	10.39	1.56	32.72	40.00	7.28
	135.730	21.51	10.71	2.14	34.36	43.50	9.14
	227.880	28.29	10.97	2.53	41.79	46.00	4.21
	366.590	19.61	15.57	2.92	38.10	46.00	7.90
	586.780	20.06	18.13	3.44	41.63	46.00	4.37
Vertical	<b>58.130</b>	<b>25.79</b>	<b>9.02</b>	<b>1.14</b>	<b>35.95</b>	<b>40.00</b>	<b>4.05</b>
	130.880	18.69	10.80	2.11	31.60	43.50	11.90
	218.180	23.45	10.52	2.50	36.47	46.00	9.53
	366.590	13.77	15.57	2.92	32.26	46.00	13.74
	478.140	11.24	17.34	3.21	31.79	46.00	14.21
	872.930	8.62	20.37	4.60	33.59	46.00	12.41

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 60%RH

Serial No. : E1202160-01/01 Date of Test : Mar 15, 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	<b>59.060</b>	<b>27.61</b>	<b>9.07</b>	<b>1.16</b>	<b>37.84</b>	<b>40.00</b>	<b>2.16</b>
	135.730	26.38	10.71	2.14	39.23	43.50	4.27
	227.880	28.60	10.97	2.53	42.10	46.00	3.90
	366.590	25.07	15.57	2.92	43.56	46.00	2.44
	601.330	20.90	18.23	3.47	42.60	46.00	3.40
	832.190	17.45	20.51	4.22	42.18	46.00	3.82
Vertical	<b>58.130</b>	<b>28.31</b>	<b>9.02</b>	<b>1.14</b>	<b>38.47</b>	<b>40.00</b>	<b>1.53</b>
	130.880	25.03	10.80	2.11	37.94	43.50	5.56
	213.330	27.79	10.33	2.47	40.59	43.50	2.91
	453.890	16.72	17.03	3.13	36.88	46.00	9.12
	581.930	17.88	18.11	3.42	39.41	46.00	6.59
	875.840	15.48	20.37	4.75	40.60	46.00	5.40

TEST ENGINEER: RAVEN JIN



EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 60%RH

Serial No. : E1202160-01/01 Date of Test : Mar 15, 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	<b>80.440</b>	<b>25.73</b>	<b>10.56</b>	<b>1.59</b>	<b>37.88</b>	<b>40.00</b>	<b>2.12</b>
	135.730	27.58	10.71	2.14	40.43	43.50	3.07
	303.540	23.56	13.80	2.77	40.13	46.00	5.87
	366.590	24.89	15.57	2.92	43.38	46.00	2.62
	659.530	21.20	19.00	3.60	43.80	46.00	2.20
	832.190	18.80	20.51	4.22	43.53	46.00	2.47
Vertical	<b>58.130</b>	<b>25.51</b>	<b>9.02</b>	<b>1.14</b>	<b>35.67</b>	<b>40.00</b>	<b>4.33</b>
	128.940	25.22	10.84	2.10	38.16	43.50	5.34
	227.880	26.87	10.97	2.53	40.37	46.00	5.63
	366.590	14.12	15.57	2.92	32.61	46.00	13.39
	463.590	14.00	17.17	3.17	34.34	46.00	11.66
	581.930	18.55	18.11	3.42	40.08	46.00	5.92

TEST ENGINEER: RAVEN JIN

EUT : LCD TV Temperature : 22°C

Model No. : LTDN42V77KMH Humidity : 60%RH

Serial No. : E1202160-01/01 Date of Test : Mar 15, 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	61.040	23.21	9.21	1.21	33.63	40.00	6.37
	90.140	18.39	11.00	1.73	31.12	43.50	12.38
	135.730	19.58	10.71	2.14	32.43	43.50	11.07
	<b>227.880</b>	<b>26.30</b>	<b>10.97</b>	<b>2.53</b>	<b>39.80</b>	<b>46.00</b>	<b>6.20</b>
	366.590	13.89	15.57	2.92	32.38	46.00	13.62
	596.480	15.26	18.19	3.45	36.90	46.00	9.10
Vertical	38.730	16.86	13.40	0.86	31.12	40.00	8.88
	58.130	21.97	9.02	1.14	32.13	40.00	7.87
	128.940	19.22	10.84	2.10	32.16	43.50	11.34
	<b>211.390</b>	<b>24.81</b>	<b>10.26</b>	<b>2.47</b>	<b>37.54</b>	<b>43.50</b>	<b>5.96</b>
	303.540	15.69	13.80	2.77	32.26	46.00	13.74
	446.130	14.71	16.92	3.11	34.74	46.00	11.26

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	ZCAT2132-1130\ROH	REALFINE	See Internal Photos Figure 19
		Haian County Magnetic Material No. 2 Factory	
		LETTALL	
		FEELUX	

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)