

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

LED LCD TV

Model No.	Brand
LTDN40K360MUS	Hisense
40K360M	

FCC ID : W9HLCDD0026

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

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Report No. : ACI-F13004  
Date of Test : Dec 21, 2012 – Jan 05, 2013  
Date of Report : Jan 07, 2013

## TABLE OF CONTENTS

	Page
<b>1 SUMMARY OF STANDARDS AND RESULTS</b> .....	<b>4</b>
1.1 Description of Standards and Results.....	4
<b>2 GENERAL INFORMATION</b> .....	<b>5</b>
2.1 Description of Equipment Under Test.....	5
2.2 Peripherals.....	6
2.3 Description of Test Facility.....	8
2.4 Measurement Uncertainty.....	8
<b>3 CONDUCTED EMISSION TEST</b> .....	<b>9</b>
3.1 Test Equipment.....	9
3.2 Block Diagram of Test Setup.....	9
3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)].....	10
3.4 Test Configuration.....	10
3.5 Operating Condition of EUT.....	11
3.6 Test Procedures.....	11
3.7 Test Results.....	12
<b>4 RADIATED EMISSION TEST</b> .....	<b>18</b>
4.1 Test Equipment.....	18
4.2 Block Diagram of Test Setup.....	18
4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)].....	19
4.4 Test Configuration.....	19
4.5 Operating Condition of EUT.....	19
4.6 Test Procedures.....	20
4.7 Test Results.....	20
<b>5 DEBUG DESCRIPTION</b> .....	<b>26</b>
<b>6 DEVIATION TO TEST SPECIFICATIONS</b> .....	<b>27</b>

## TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.

Manufacturer : Hisense Electric Co., Ltd.

EUT Description : LED LCD TV

Model No.	Brand	Power Supply
LTDN40K360MUS	Hisense	120V/60Hz
40K360M		

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2012  
AND ANSI C63.4-2003*

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B (Class B) limits both radiated and conducted emissions.

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report shows that the EUT (M/N: Refer to Sec2.1) which was tested in 3m anechoic chamber Dec 21, 2012 – Jan 05, 2013 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.

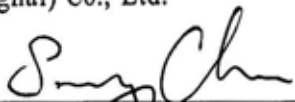
***The test results for EUT's TV functions are contained in No.F13006, a Verification report.***

Date of Test : Dec 21, 2012 – Jan 05, 2013      Date of Report : Jan 07, 2013

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 2012 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2012 AND ANSI C63.4-2003	15.109(a) Class B	Pass

## 2 GENERAL INFORMATION

### 2.1 Description of Equipment Under Test

Description	:	LED LCD TV
Type of EUT	:	<input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-product <input type="checkbox"/> Pro-type
Model No.	:	LTDN40K360MUS, 40K360M
Bread Name	:	Hisense
Note	:	The above models are all the same except for the different model name. The LTDN40K360MUS was tested and reported 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 : HE400GF-B31\S1
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

The EUT is a LED LCD TV which input/output ports as follows:

#### Side Port:

- (1) One ANT/CABLE IN Port  
: Connected with ATSC SG / TV SG
- (2) One VGA Port  
: Connected with PC
- (3) One PC/DVI Audio In Port  
: Connected with PC
- (4) One HDMI Port  
: Connected with DVD PLAYER #2
- (5) One DIGITAL AUDIO OUT Port  
: Connected with PC

## Bottom Port:

- (6) One HDMI2 Port : Connected with DVD PLAYER #1
- (7) One HDMI1 Port : Connected with PC
- (8) One component of YPbPr Port : Connected with DVD PLAYER #1
- (9) One component of YPbPr Audio Port : Connected with DVD PLAYER #1
- (10) One component of AV Port : Connected with DVD PLAYER #1
- (11) One Audio Out Port : Connected with Earphone
- (12) One USB Port : Connected with U-Disk

## 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  
Mar 16, 2012 Renewed  
Federal Communications Commission  
FCC Engineering Laboratory  
7435 Oakland Mills Road  
Columbia, MD 21046, USA

Name of Firm : Audix Technology (Shanghai) Co., Ltd.

Site Location : 3F 34Bldg 680 Guiping Rd,  
Caohejing Hi-Tech Park,  
Shanghai 200233, China

NVLAP Lab Code : 200371-0

## 2.4 Measurement Uncertainty

Conducted Emission Expanded Uncertainty: U = 3.42 dB

Radiated Emission Expanded Uncertainty (30-200MHz):  
U = 4.14 dB (Horizontal)  
U = 4.28 dB (Vertical)

Radiated Emission Expanded Uncertainty (200M-1GHz):  
U = 4.18 dB (Horizontal)  
U = 4.26 dB (Vertical)



### 3 CONDUCTED EMISSION TEST

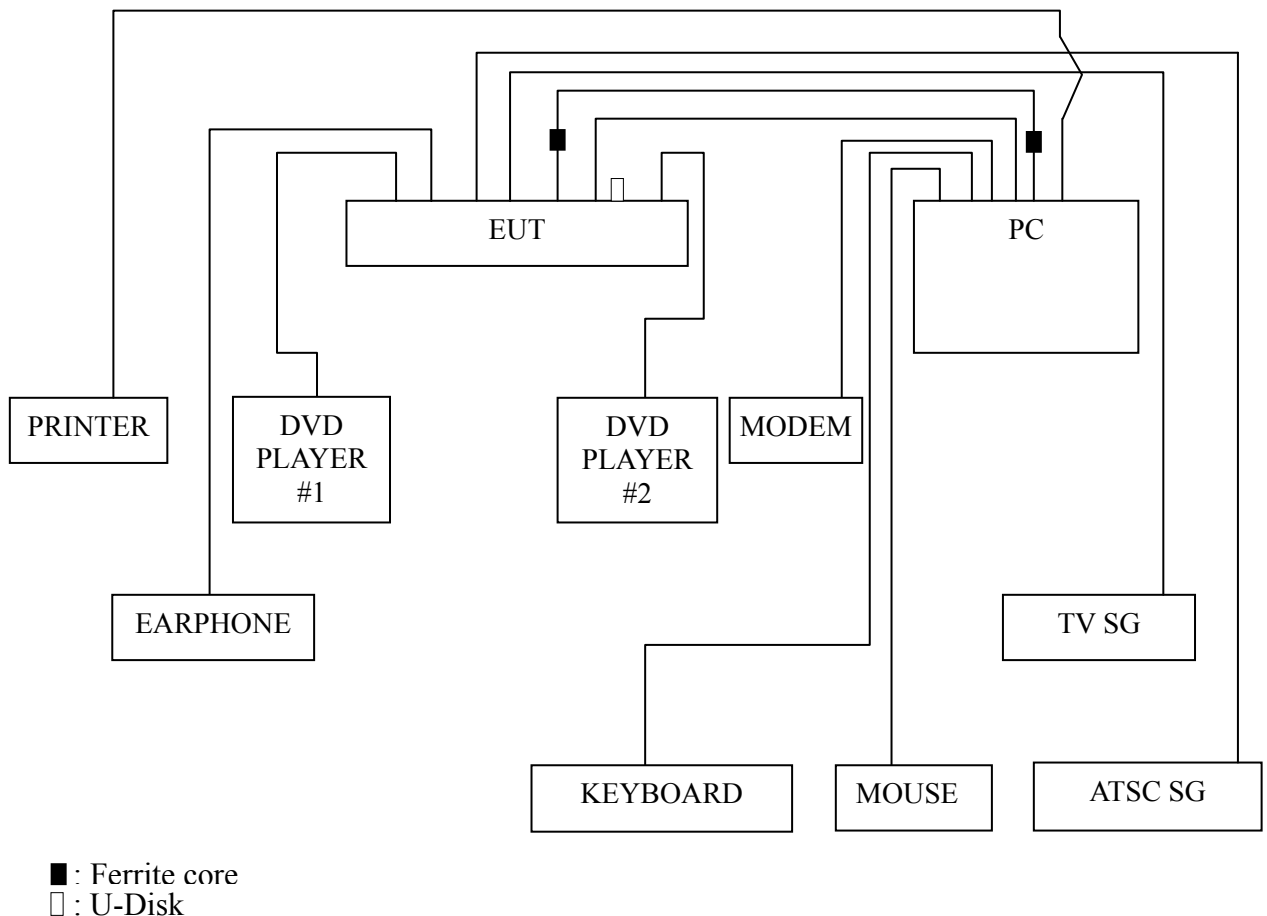
#### 3.1 Test Equipment

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

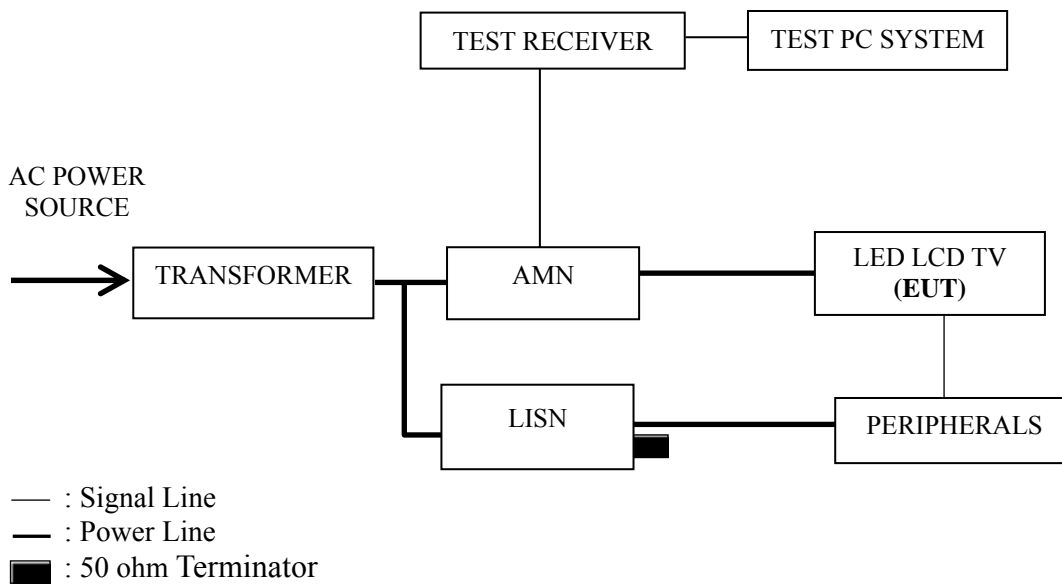
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	100841	Mar 22, 2012	Mar 22, 2013
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Feb 13, 2012	Feb 13, 2013
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 22, 2012	Mar 22, 2013
4.	50 $\Omega$ Coaxial Switch	Anritsu	MP59B	6200426389	Sep 18, 2012	Mar 18, 2013
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 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	P13
HDMI 1024*768@60Hz	P14
HDMI 800*600@60Hz	P15
HDMI 640*480@60Hz	P16
USB Play	P17

NOTE 1 – Factor = Cable Loss + AMN Factor.

NOTE 2 – Emission Level = Meter Reading + Factor.

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

NOTE 4 – The HDMI 1080p mode was tested and recorded in a FCC Verification test report (No. F13006).

NOTE 5– The worst case is for HDMI 640\*480@60Hz test mode. The worst emission is detected at 5.653 MHz (Quasi-Peak Value) with corrected signal level of 50.00 dB ( $\mu$ V) (limit is 60.00 dB ( $\mu$ V)), when the Neutral of the EUT is connected to AMN.

EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 48%RH

Test Mode : D-Sub 1024\*768@60Hz Date of Test : Dec 21, 2012

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.178	35.26	0.25	35.51	64.59	29.08	QP
	0.476	40.32	0.35	40.67	56.41	15.74	
	1.032	38.02	0.32	38.34	56.00	17.66	
	2.839	43.15	0.41	43.56	56.00	12.44	
	5.476	47.35	0.52	47.87	60.00	12.13	
	20.594	43.07	0.94	44.01	60.00	15.99	
	0.178	21.47	0.25	21.72	54.59	32.87	AV
	0.476	28.55	0.35	28.90	46.41	17.51	
	1.032	25.70	0.32	26.02	46.00	19.98	
	2.839	30.26	0.41	30.67	46.00	15.33	
	5.476	32.23	0.52	32.75	50.00	17.25	
	20.594	30.58	0.94	31.52	50.00	18.48	
Neutral	0.164	32.76	0.13	32.89	65.25	32.36	QP
	0.476	40.23	0.17	40.40	56.41	16.01	
	1.032	37.78	0.22	38.00	56.00	18.00	
	<b>2.839</b>	<b>43.80</b>	<b>0.22</b>	<b>44.02</b>	<b>56.00</b>	<b>11.98</b>	
	5.653	47.29	0.46	47.75	60.00	12.25	
	20.924	41.51	0.84	42.35	60.00	17.65	
	0.164	19.50	0.13	19.63	55.25	35.62	AV
	0.476	29.30	0.17	29.47	46.41	16.94	
	1.032	21.25	0.22	21.47	46.00	24.53	
	2.839	29.30	0.22	29.52	46.00	16.48	
	5.653	34.75	0.46	35.21	50.00	14.79	
	20.924	29.57	0.84	30.41	50.00	19.59	

TEST ENGINEER: LVY LV

EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 48%RH

Test Mode : HDMI 1024\*768@60Hz Date of Test : Dec 21, 2012

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.174	35.64	0.24	35.88	64.77	28.89	QP
	0.476	40.26	0.35	40.61	56.41	15.80	
	1.032	38.08	0.32	38.40	56.00	17.60	
	2.839	43.04	0.41	43.45	56.00	12.55	
	5.221	47.43	0.50	47.93	60.00	12.07	
	20.594	42.96	0.94	43.90	60.00	16.10	
	0.174	21.75	0.24	21.99	54.77	32.78	AV
	0.476	29.30	0.35	29.65	46.41	16.76	
	1.032	26.35	0.32	26.67	46.00	19.33	
	2.839	30.23	0.41	30.64	46.00	15.36	
	5.221	34.26	0.50	34.76	50.00	15.24	
	20.594	29.40	0.94	30.34	50.00	19.66	
Neutral	0.159	32.95	0.13	33.08	65.52	32.44	QP
	0.476	40.45	0.17	40.62	56.41	15.79	
	1.032	37.61	0.22	37.83	56.00	18.17	
	3.107	42.42	0.25	42.67	56.00	13.33	
	<b>5.713</b>	<b>48.61</b>	<b>0.47</b>	<b>49.08</b>	<b>60.00</b>	<b>10.92</b>	
	20.814	42.20	0.84	43.04	60.00	16.96	
	0.159	20.23	0.13	20.36	55.52	35.16	AV
	0.476	29.41	0.17	29.58	46.41	16.83	
	1.032	24.78	0.22	25.00	46.00	21.00	
	3.107	29.22	0.25	29.47	46.00	16.53	
	5.713	34.56	0.47	35.03	50.00	14.97	
	20.814	29.56	0.84	30.40	50.00	19.60	

TEST ENGINEER: LVY LV

EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 48%RH

Test Mode : HDMI 800\*600@60Hz Date of Test : Dec 21, 2012

Test Line	Frequency (MHz)	Meter Reading dB( $\mu$ V)	Factor (dB)	Emission Level dB( $\mu$ V)	Limits dB( $\mu$ V)	Margin (dB)	Remark
Line	0.174	35.24	0.24	35.48	64.77	29.29	QP
	0.476	40.30	0.35	40.65	56.41	15.76	
	1.032	37.78	0.32	38.10	56.00	17.90	
	2.839	42.33	0.41	42.74	56.00	13.26	
	5.419	48.24	0.52	48.76	60.00	11.24	
	20.814	41.61	0.94	42.55	60.00	17.45	
	0.174	21.40	0.24	21.64	54.77	33.13	AV
	0.476	28.60	0.35	28.95	46.41	17.46	
	1.032	24.25	0.32	24.57	46.00	21.43	
	2.839	29.80	0.41	30.21	46.00	15.79	
	5.419	36.56	0.52	37.08	50.00	12.92	
	20.814	27.40	0.94	28.34	50.00	21.66	
Neutral	0.157	33.33	0.13	33.46	65.60	32.14	QP
	0.476	40.47	0.17	40.64	56.41	15.77	
	1.734	36.63	0.18	36.81	56.00	19.19	
	3.107	41.96	0.25	42.21	56.00	13.79	
	<b>5.419</b>	<b>48.58</b>	<b>0.44</b>	<b>49.02</b>	<b>60.00</b>	<b>10.98</b>	
	20.924	43.03	0.84	43.87	60.00	16.13	
	0.157	20.35	0.13	20.48	55.60	35.12	AV
	0.476	27.80	0.17	27.97	46.41	18.44	
	1.734	24.57	0.18	24.75	46.00	21.25	
	3.107	28.71	0.25	28.96	46.00	17.04	
	5.419	35.86	0.44	36.30	50.00	13.70	
	20.924	29.46	0.84	30.30	50.00	19.70	

TEST ENGINEER: LVY LV

EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 48%RH

Test Mode : HDMI 640\*480@60Hz Date of Test : Dec 21, 2012

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	36.47	0.25	36.72	64.50	27.78	QP
	0.481	39.66	0.35	40.01	56.32	16.31	
	1.762	36.04	0.39	36.43	56.00	19.57	
	3.107	41.82	0.42	42.24	56.00	13.76	
	5.653	47.07	0.54	47.61	60.00	12.39	
	20.924	42.01	0.95	42.96	60.00	17.04	
	0.180	23.22	0.25	23.47	54.50	31.03	AV
	0.481	24.55	0.35	24.90	46.32	21.42	
	1.762	21.22	0.39	21.61	46.00	24.39	
	3.107	28.50	0.42	28.92	46.00	17.08	
	5.653	34.20	0.54	34.74	50.00	15.26	
	20.924	28.56	0.95	29.51	50.00	20.49	
Neutral	0.159	33.17	0.13	33.30	65.52	32.22	QP
	0.476	40.46	0.17	40.63	56.41	15.78	
	1.535	36.62	0.17	36.79	56.00	19.21	
	2.839	43.35	0.22	43.57	56.00	12.43	
	<b>5.653</b>	<b>49.54</b>	<b>0.46</b>	<b>50.00</b>	<b>60.00</b>	<b>10.00</b>	
	20.162	40.71	0.82	41.53	60.00	18.47	
	0.159	20.23	0.13	20.36	55.52	35.16	AV
	0.476	27.56	0.17	27.73	46.41	18.68	
	1.535	24.51	0.17	24.68	46.00	21.32	
	2.839	28.47	0.22	28.69	46.00	17.31	
	5.653	34.86	0.46	35.32	50.00	14.68	
	20.162	27.80	0.82	28.62	50.00	21.38	

TEST ENGINEER: LVY LV



EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 48%RH

Test Mode : USB Play Date of Test : Dec 21, 2012

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	35.21	0.25	35.46	64.50	29.04	QP
	0.505	40.10	0.35	40.45	56.00	15.55	
	1.043	37.70	0.32	38.02	56.00	17.98	
	2.839	43.84	0.41	44.25	56.00	11.75	
	5.476	47.18	0.52	47.70	60.00	12.30	
	20.924	41.84	0.95	42.79	60.00	17.21	
	0.180	21.41	0.25	21.66	54.50	32.84	AV
	0.505	29.23	0.35	29.58	46.00	16.42	
	1.043	24.53	0.32	24.85	46.00	21.15	
	2.839	30.23	0.41	30.64	46.00	15.36	
	5.476	34.57	0.52	35.09	50.00	14.91	
	20.924	28.33	0.95	29.28	50.00	20.72	
Neutral	0.166	33.12	0.13	33.25	65.16	31.91	QP
	0.499	40.24	0.17	40.41	56.01	15.60	
	1.043	37.75	0.22	37.97	56.00	18.03	
	3.107	43.00	0.25	43.25	56.00	12.75	
	<b>5.594</b>	<b>48.74</b>	<b>0.46</b>	<b>49.20</b>	<b>60.00</b>	<b>10.80</b>	
	20.162	40.53	0.82	41.35	60.00	18.65	
	0.166	20.42	0.13	20.55	55.16	34.61	AV
	0.499	28.30	0.17	28.47	46.01	17.54	
	1.043	24.71	0.22	24.93	46.00	21.07	
	3.107	29.22	0.25	29.47	46.00	16.53	
	5.594	34.33	0.46	34.79	50.00	15.21	
	20.162	27.23	0.82	28.05	50.00	21.95	

TEST ENGINEER: LVY LV

## 4 RADIATED EMISSION TEST

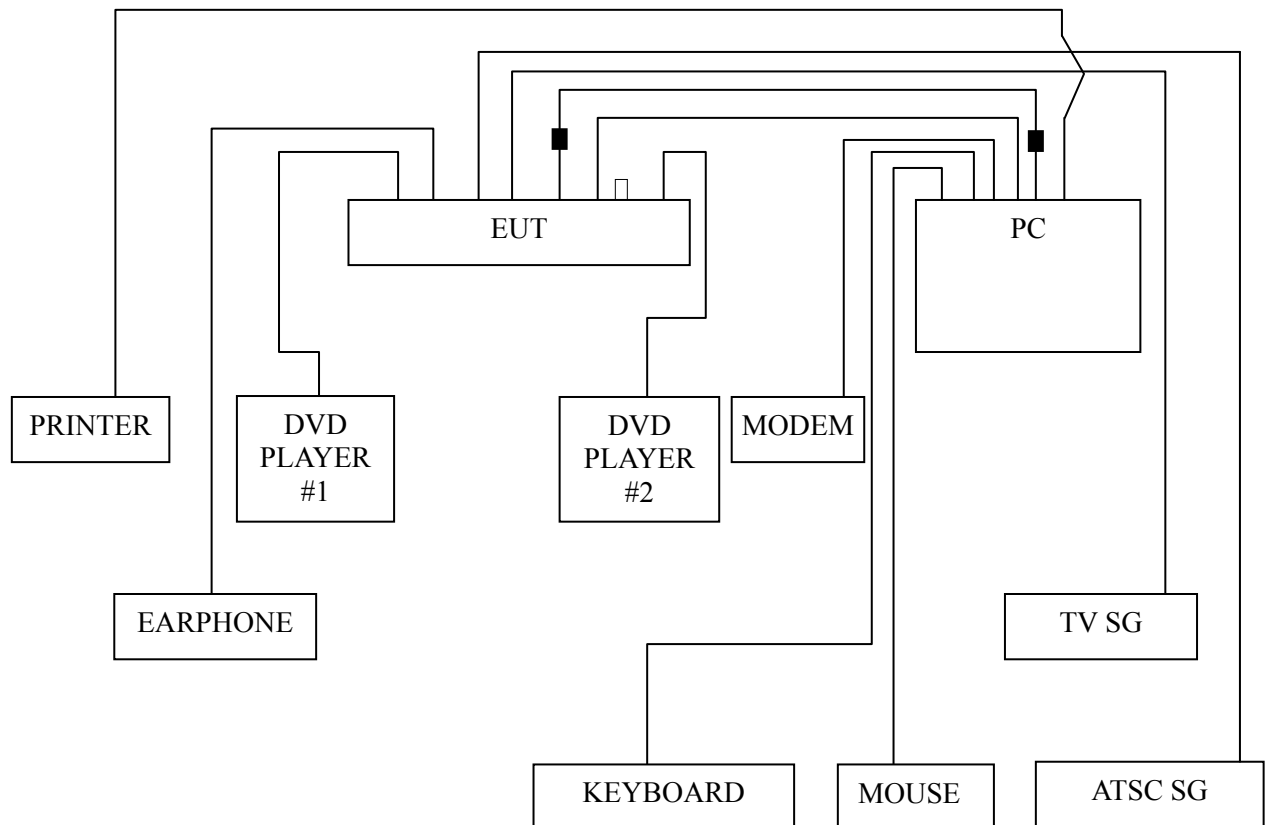
### 4.1 Test Equipment

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	ESCI	101302	Sep 11, 2012	Sep 11, 2013
2.	Preamplifier	Agilent	8447D	2944A10548	Sep 18, 2012	Mar 18, 2013
3.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 03, 2012	May 03, 2013
4.	Spectrum	Agilent	E7405A	MY45106600	Mar 22, 2012	Mar 22, 2013
5.	50 Coaxial Switch	Anritsu	MP59B	6200426390	Sep 18, 2012	Mar 18, 2013
6.	Software	Audix	E3	SET00200 9912M295-2	--	--

### 4.2 Block Diagram of Test Setup

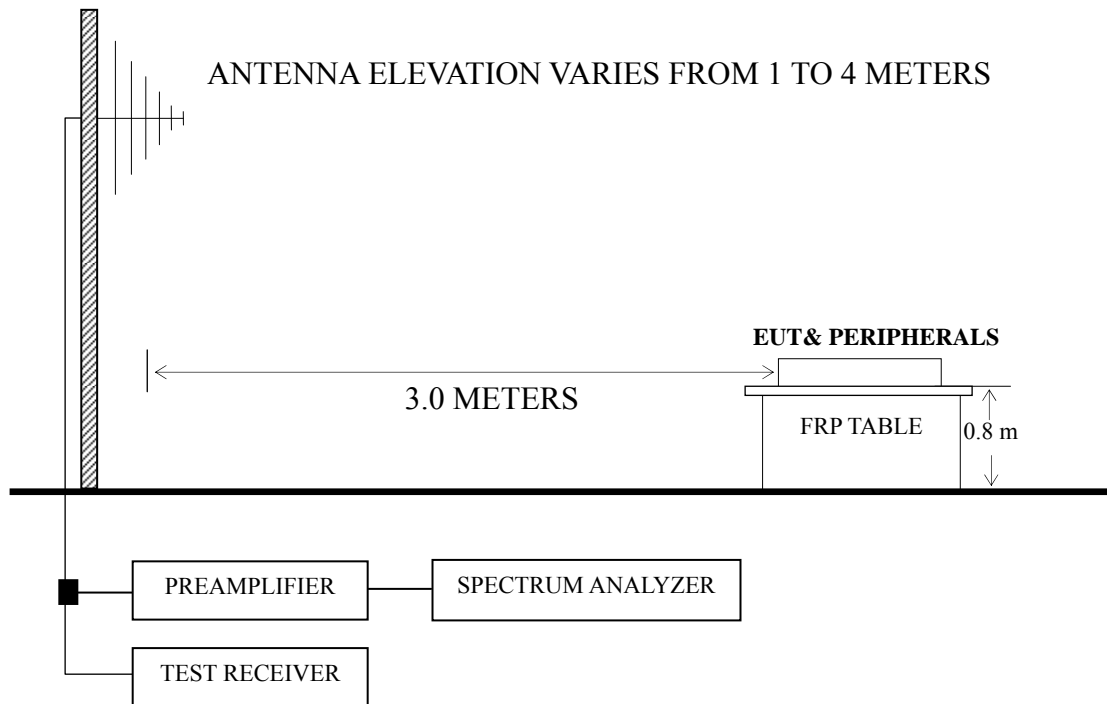
#### 4.2.1 EUT and Peripherals



■ : Ferrite core

□ : U-Disk

#### 4.2.2 Radiated emission test setup



■ : 50 ohm Coaxial Switch

#### 4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)]

Frequency (MHz)	Distance (m)	Field strength limits	
		( $\mu\text{V}/\text{m}$ )	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) was used as receiving antenna. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.4:2003 requirements during radiated emission test.

The I.F. bandwidth of Test Receiver R&S ESCI was set at 120 kHz.

The frequency range from 30 MHz to 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
HDMI 800*600@60Hz	P23
HDMI 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 HDMI 1080p mode was tested and recorded in a FCC Verification test report (No. F13006).

NOTE 5 – The worst case is for HDMI 640\*480@60Hz test mode. The worst emission at horizontal polarization was detected at 669.230 MHz with corrected signal level of 42.42 dB ( $\mu\text{V}/\text{m}$ ) (limit is 46.00 dB ( $\mu\text{V}/\text{m}$ )), when the antenna was 1.30 m height and the turntable was at 124°. The worst emission at vertical polarization was detected at 669.230 MHz with corrected signal level of 38.51 dB ( $\mu\text{V}/\text{m}$ ) (limit is 46.00 dB ( $\mu\text{V}/\text{m}$ )), when the antenna was 1.00 m height and the turntable was at 243°.

EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 60%RH

Test Mode : D-Sub 1024\*768@60Hz Date of Test : Jan 05, 2013

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	<b>30.910</b>	<b>15.49</b>	<b>17.80</b>	<b>0.67</b>	<b>33.96</b>	<b>40.00</b>	<b>6.04</b>
	43.580	22.33	10.60	0.80	33.73	40.00	6.27
	94.990	22.78	9.30	1.29	33.37	43.50	10.13
	159.980	25.27	9.60	1.70	36.57	43.50	6.93
	240.490	19.62	11.03	2.17	32.82	46.00	13.18
	591.630	14.40	18.60	3.20	36.20	46.00	9.80
Vertical	82.380	21.95	7.10	1.11	30.16	40.00	9.84
	167.740	23.21	8.40	1.76	33.37	43.50	10.13
	<b>238.290</b>	<b>27.50</b>	<b>10.67</b>	<b>2.15</b>	<b>40.32</b>	<b>46.00</b>	<b>5.68</b>
	303.540	19.35	12.80	2.56	34.71	46.00	11.29
	606.180	17.69	18.38	3.22	39.29	46.00	6.71
	800.180	11.92	19.80	3.61	35.33	46.00	10.67

TEST ENGINEER: RAVEN JIN

EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 60%RH

Test Mode : HDMI 1024\*768@60Hz Date of Test : Jan 05, 2013

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	80.440	16.67	6.84	1.08	24.59	40.00	15.41
	174.530	21.43	8.31	1.80	31.54	43.50	11.96
	298.690	20.68	12.52	2.52	35.72	46.00	10.28
	499.480	13.40	18.10	2.98	34.48	46.00	11.52
	594.540	17.30	18.50	3.20	39.00	46.00	7.00
	<b>897.180</b>	<b>15.55</b>	<b>19.47</b>	<b>4.43</b>	<b>39.45</b>	<b>46.00</b>	<b>6.55</b>
Vertical	43.580	17.79	10.60	0.80	29.19	40.00	10.81
	58.130	21.26	5.58	0.88	27.72	40.00	12.28
	109.540	14.63	11.84	1.40	27.87	43.50	15.63
	174.530	18.28	8.31	1.80	28.39	43.50	15.11
	352.040	15.19	14.83	2.63	32.65	46.00	13.35
	<b>628.490</b>	<b>19.26</b>	<b>18.52</b>	<b>3.32</b>	<b>41.10</b>	<b>46.00</b>	<b>4.90</b>

TEST ENGINEER: RAVEN JIN

EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 60%RH

Test Mode : HDMI 800\*600@60Hz Date of Test : Jan 05, 2013

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	75.590	18.22	6.54	1.01	25.77	40.00	14.23
	104.690	15.10	11.30	1.37	27.77	43.50	15.73
	174.530	20.77	8.31	1.80	30.88	43.50	12.62
	298.690	22.22	12.52	2.52	37.26	46.00	8.74
	499.480	14.01	18.10	2.98	35.09	46.00	10.91
	<b>669.230</b>	<b>16.97</b>	<b>19.45</b>	<b>3.44</b>	<b>39.86</b>	<b>46.00</b>	<b>6.14</b>
Vertical	42.610	15.99	11.30	0.79	28.08	40.00	11.92
	58.130	21.36	5.58	0.88	27.82	40.00	12.18
	109.540	15.22	11.84	1.40	28.46	43.50	15.04
	352.040	15.82	14.83	2.63	33.28	46.00	12.72
	446.130	16.38	17.07	2.82	36.27	46.00	9.73
	<b>594.540</b>	<b>15.27</b>	<b>18.50</b>	<b>3.20</b>	<b>36.97</b>	<b>46.00</b>	<b>9.03</b>

TEST ENGINEER: RAVEN JIN

EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 60%RH

Test Mode : HDMI 640\*480@60Hz Date of Test : Jan 05, 2013

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	36.790	15.10	14.92	0.74	30.76	40.00	9.24
	58.130	21.98	5.58	0.88	28.44	40.00	11.56
	298.690	18.45	12.52	2.52	33.49	46.00	12.51
	352.040	16.31	14.83	2.63	33.77	46.00	12.23
	446.130	17.79	17.07	2.82	37.68	46.00	8.32
	<b>669.230</b>	<b>19.53</b>	<b>19.45</b>	<b>3.44</b>	<b>42.42</b>	<b>46.00</b>	<b>3.58</b>
Vertical	41.640	19.06	11.88	0.79	31.73	40.00	8.27
	58.130	23.39	5.58	0.88	29.85	40.00	10.15
	298.690	17.45	12.52	2.52	32.49	46.00	13.51
	352.040	15.35	14.83	2.63	32.81	46.00	13.19
	446.130	16.19	17.07	2.82	36.08	46.00	9.92
	<b>669.230</b>	<b>15.62</b>	<b>19.45</b>	<b>3.44</b>	<b>38.51</b>	<b>46.00</b>	<b>7.49</b>

TEST ENGINEER: RAVEN JIN



EUT : LED LCD TV Temperature : 22

Model No. : LTDN40K360MUS Humidity : 60%RH

Test Mode : USB Play Date of Test : Jan 05, 2013

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	80.440	16.67	6.84	1.08	24.59	40.00	15.41
	174.530	25.43	8.31	1.80	35.54	43.50	7.96
	298.690	20.68	12.52	2.52	35.72	46.00	10.28
	352.040	15.38	14.83	2.63	32.84	46.00	13.16
	562.530	13.76	19.10	3.12	35.98	46.00	10.02
	<b>594.540</b>	<b>17.30</b>	<b>18.50</b>	<b>3.20</b>	<b>39.00</b>	<b>46.00</b>	<b>7.00</b>
Vertical	58.130	21.26	5.58	0.88	27.72	40.00	12.28
	109.540	14.63	11.84	1.40	27.87	43.50	15.63
	174.530	18.28	8.31	1.80	28.39	43.50	15.11
	298.690	17.82	12.52	2.52	32.86	46.00	13.14
	446.130	17.12	17.07	2.82	37.01	46.00	8.99
	<b>628.490</b>	<b>19.26</b>	<b>18.52</b>	<b>3.32</b>	<b>41.10</b>	<b>46.00</b>	<b>4.90</b>

TEST ENGINEER: RAVEN JIN

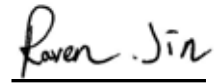
## 5 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Manufacturer	Location
Ferrite Core	ZCAT2132-1130\ROH	FEELUX	See Internal photos Figure 19
		Rui Feng Electronic Co., Ltd.	
		Hai An Magnetic Material No.2 Factory	
		JIANGSU LETTALL ELECTRONICS CO., LTD.	
Gasket	35X0.7X41mm\VGA\ROH	Qingdao Joinset S&T Co., Ltd.	See Internal photos Figure 20

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)**

## **6 DEVIATION TO TEST SPECIFICATIONS**

None.