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

LED LCD TV

Model No.	Brand
LTDN50D36US	Hisense
50H3B	

FCC ID : W9HLCDF0057

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

Prepared By : Audix Technology (Shanghai) Co., Ltd.
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Report No. : ACI-F15086
Date of Test : Apr 22, 2015
Date of Report : May 11, 2015

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TEST REPORT FOR FCC CERTIFICATE

Applicant : Hisense Electric Co., Ltd.

Manufacturer : Hisense Electric Co., Ltd.

Factory #1 : Hisense Electric Co., Ltd.

Factory #2 : Tatung Mexico S.A. de C.V.

EUT Description : LED LCD TV

Model No.	Brand	Power Supply
Refer to Sec2.1	Hisense	120V/60Hz

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2014 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 Apr 22, 2015 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 Nso.F15087, a Verification report.

Date of Test : Apr 22, 2015 Date of Report : May 11, 2015

Producer : Kathy Wang
KATHY WANG / Assistant

Review : Wency Yang
WENCY YANG / Deputy Assistant Manager

For and on behalf of
Audix Technology (Shanghai) Co., Ltd.

Signatory : Byron Kwo
Authorized Signature EMC BYRON KWO / Assistant General 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 2014 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2014 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	:	☑ Production ☐ Pre-product ☐ Pro-type
Model No.	:	LTDN50D36US, 50H3B
Note	:	The above models are all the same except for model name. LTDN50D36US model is tested and recorded in the report.
Brand Name	:	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
Factory #1	:	Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China
Factory #2	:	Tatung Mexico S.A. de C.V. Miguel Catalán 420, Parque Industrial Rio Bravo, Cd. Juarez, Chih., CP 32557
LCD Panel	:	Manufacturer : Hisense M/N : HD500DF-B54(020)\S6\GM
Max Resolution	:	1920*1080@60Hz
HDMI Cable*2 (Lab provide)	:	Shielded, Detachable, 1.00m, with two cores
Power Cord	:	Unshielded, Detachable, 1.80m, without core
USB Cable (Lab provide)	:	Shielded, Detachable, 1.50m, without core
MHL to HDMI Adaptor: with RCP (Lab provide)		Manufacture : CE-Link M/N : 3002

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

Back Port:

(1) One USB Port
: Connected with U-Disk
(2) One component of Video/YPbPr Port
: Connected with DVD PLAYER
(3) One HDMI1/ARC Port
: Connected with PC

Side Port:

(1) One HDMI2/MHL Port
: Connected with Smart Mobile Phone
(2) One DVI Audio In Port
: Connected with PC
(4) One Audio out Port
: Connected with Earphone
(3) One ANT/CABLE IN Port
: Connected with Antenna or ATSC SG / TV SG
(4) One Digital Audio out Port
: Connected with DVD PLAYER

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; BSMI, 3C, MIC

2.2.2 Printer

Manufacturer	:	HP
Model Number	:	P1007
Serial Number	:	VNFN713831
Data Cable	:	Shielded, detachable, 1.8m
Certificate	:	GS, CE/EMC, C-Tick, FCC DoC

2.2.3 Keyboard

Manufacturer	:	HP
Model Number	:	CS105
Serial Number	:	9GTRNB1300120632
Data Cable	:	Shielded, undetachable, 1.8m
Certificate	:	CE/EMC, FCC DoC, VCCI, MIC, C-Tick, BSMI

2.2.4 Mouse

Manufacturer	:	HP
Model Number	:	CS105
Serial Number	:	9GTRNB1300120632
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	:	audio-technica
Model Number	:	ATH-CKL200

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

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

2.2.10 U-Disk

Manufacturer	:	Kingmax
Model Number	:	8G
Certificate	:	CE/EMC, FCC DoC, IC

2.2.11 Smart Mobile Phone

Manufacturer	:	SAMSUNG
Model Number	:	GT-I9100G
Serial Number	:	RV1C2250B7J
Certificate	:	CE/EMC, CCC

2.3 Description of Test Facility

Site Description (No.3 3m Chamber)	:	Sept. 17, 1998 file on Jan.15, 2015 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 = 2.8dB

Radiated Emission Expanded Uncertainty (30-200MHz):

U = 4.4dB (Horizontal)

U = 4.4dB (Vertical)

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

U = 4.4dB (Horizontal)

U = 5.5dB (Vertical)

Radiated Emission Expanded Uncertainty (1GHz-6GHz):

U = 5.1dB

3 CONDUCTED EMISSION TEST

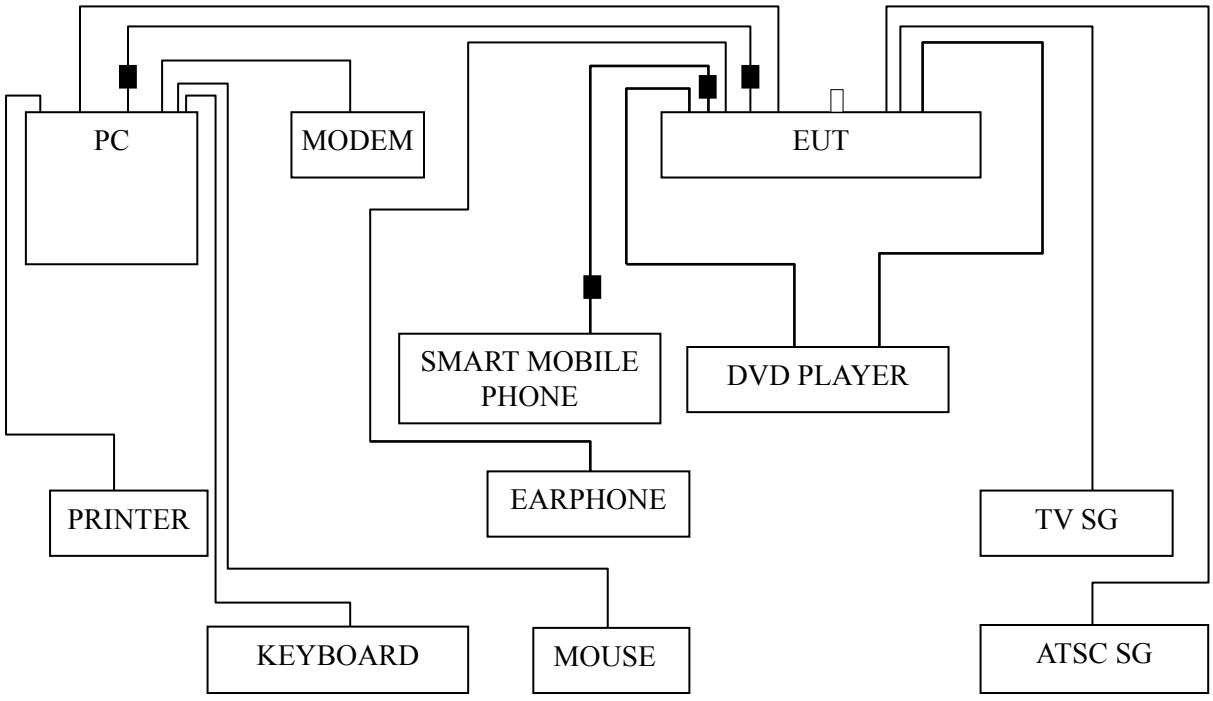
3.1 Test Equipment

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	101303	Sep 11, 2014	Sep 10, 2015
2.	Artificial Mains Network (AMN)	R&S	ENV4200	100125	Jun 27, 2014	Jun 26, 2015
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2015	Mar 19, 2016
4.	50Ω Coaxial Switch	Anritsu	MP59B	6200426389	Mar 18, 2015	Sep 17, 2015
5.	50Ω Terminator	Anritsu	BNC	001	Mar 20, 2015	Mar 19, 2016
6.	Software	Audix	E3	6.111206	--	--

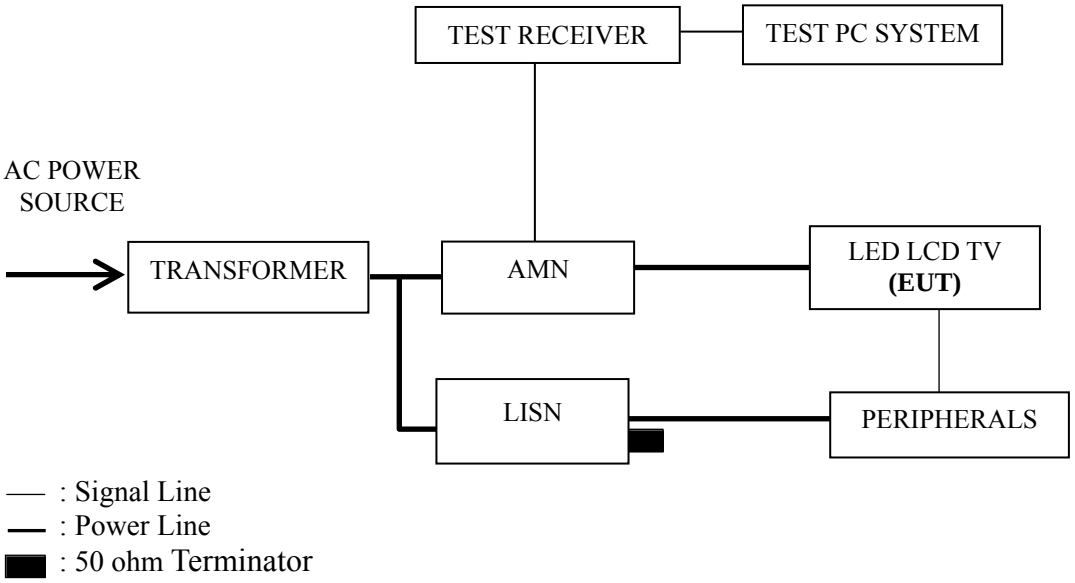
3.2 Block Diagram of Test Setup

3.2.1 EUT & Peripherals



□ : U-Disk
■ : 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 (μV)	
	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 HDMI Input).

3.5.5 PC system sent the 1kHz audio signal to EUT through audio port, the EUT speak out 1kHz audio signal.

3.5.6 In USB Play mode, set the EUT play digital media from U-Disk.

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
HDMI 1920*1080@60Hz & 1kHz playing
HDMI 1280*1024@60Hz & 1kHz playing
HDMI 640*480@60Hz & 1kHz playing
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
HDMI 1920*1080@60Hz & 1kHz playing	P13
HDMI 1280*1024@60Hz & 1kHz playing	P14
HDMI 640*480@60Hz & 1kHz playing	P15
USB Play	P16

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 HDMI 1920*1080@60Hz & 1kHz playing test mode. The worst emission is detected at 0.150 MHz (Quasi-Peak Value) with corrected signal level of 65.78 dB (μV) (limit is 66.00 dB (μV)), when the Line of the EUT is connected to AMN.

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN50D36US	Humidity :	48%RH	
Test Mode	:	HDMI 1920*1080@60Hz & 1kHz Playing	Date of Test :	Apr 22, 2015	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	**0.150**	**55.20**	**10.58**	**65.78**	**66.00**	**0.22**	QP
	0.608	31.40	10.43	41.83	56.00	14.17	
	0.815	25.00	10.41	35.41	56.00	20.59	
	1.606	26.70	10.41	37.11	56.00	18.89	
	6.294	38.20	10.42	48.62	60.00	11.38	
	18.220	23.70	10.58	34.28	60.00	25.72	
	0.150	44.40	10.58	54.98	56.00	1.02	AV
	0.608	20.00	10.43	30.43	46.00	15.57	
	0.815	12.90	10.41	23.31	46.00	22.69	
	1.606	16.90	10.41	27.31	46.00	18.69	
	6.294	25.00	10.42	35.42	50.00	14.58	
	18.220	18.60	10.58	29.18	50.00	20.82	
Neutral	0.150	55.10	10.58	65.68	66.00	0.32	QP
	0.618	31.30	10.42	41.72	56.00	14.28	
	0.834	25.60	10.40	36.00	56.00	20.00	
	1.743	27.70	10.44	38.14	56.00	17.86	
	6.306	37.69	10.50	48.19	60.00	11.81	
	19.040	23.99	10.71	34.70	60.00	25.30	
	0.150	43.50	10.58	54.08	56.00	1.92	AV
	0.618	20.80	10.42	31.22	46.00	14.78	
	0.834	14.70	10.40	25.10	46.00	20.90	
	1.743	19.90	10.44	30.34	46.00	15.66	
	6.306	23.99	10.50	34.49	50.00	15.51	
	19.040	18.49	10.71	29.20	50.00	20.80	

TEST ENGINEER: WENCY YANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN50D36US	Humidity :	48%RH	
Test Mode	:	HDMI 1280*1024@60Hz & 1kHz Playing	Date of Test :	Apr 22, 2015	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.165	50.40	10.57	60.97	65.19	4.22	QP
	0.598	32.50	10.43	42.93	56.00	13.07	
	0.745	26.10	10.42	36.52	56.00	19.48	
	1.738	28.90	10.42	39.32	56.00	16.68	
	6.271	37.40	10.42	47.82	60.00	12.18	
	18.580	25.21	10.58	35.79	60.00	24.21	
	0.165	36.50	10.57	47.07	55.19	8.12	AV
	0.598	20.90	10.43	31.33	46.00	14.67	
	0.745	14.80	10.42	25.22	46.00	20.78	
	1.738	20.50	10.42	30.92	46.00	15.08	
	6.271	24.40	10.42	34.82	50.00	15.18	
	18.580	19.81	10.58	30.39	50.00	19.61	
Neutral	**0.167**	**50.40**	**10.56**	**60.96**	**65.12**	**4.16**	QP
	0.594	31.90	10.42	42.32	56.00	13.68	
	0.752	26.80	10.41	37.21	56.00	18.79	
	1.594	27.79	10.43	38.22	56.00	17.78	
	6.299	37.29	10.50	47.79	60.00	12.21	
	18.260	24.00	10.69	34.69	60.00	25.31	
	0.167	37.80	10.56	48.36	55.12	6.76	AV
	0.594	21.70	10.42	32.12	46.00	13.88	
	0.752	15.50	10.41	25.91	46.00	20.09	
	1.594	17.59	10.43	28.02	46.00	17.98	
	6.299	24.29	10.50	34.79	50.00	15.21	
	18.260	18.60	10.69	29.29	50.00	20.71	

TEST ENGINEER: WENCY YANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN50D36US	Humidity :	48%RH	
Test Mode	:	HDMI 640*480@60Hz & 1kHz Playing	Date of Test :	Apr 22, 2015	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.168	50.30	10.56	60.86	65.04	4.18	QP
	0.595	32.10	10.43	42.53	56.00	13.47	
	0.789	27.30	10.41	37.71	56.00	18.29	
	1.591	28.00	10.41	38.41	56.00	17.59	
	6.299	38.00	10.42	48.42	60.00	11.58	
	18.780	24.81	10.58	35.39	60.00	24.61	
	0.168	38.20	10.56	48.76	55.04	6.28	AV
	0.595	22.30	10.43	32.73	46.00	13.27	
	0.789	16.00	10.41	26.41	46.00	19.59	
	1.591	18.30	10.41	28.71	46.00	17.29	
	6.299	25.00	10.42	35.42	50.00	14.58	
	18.780	19.21	10.58	29.79	50.00	20.21	
Neutral	**0.167**	**50.50**	**10.56**	**61.06**	**65.10**	**4.04**	QP
	0.595	32.00	10.42	42.42	56.00	13.58	
	0.738	26.00	10.41	36.41	56.00	19.59	
	1.737	28.80	10.44	39.24	56.00	16.76	
	6.287	37.39	10.50	47.89	60.00	12.11	
	18.750	24.30	10.70	35.00	60.00	25.00	
	0.167	38.00	10.56	48.56	55.10	6.54	AV
	0.595	22.10	10.42	32.52	46.00	13.48	
	0.738	14.00	10.41	24.41	46.00	21.59	
	1.737	20.20	10.44	30.64	46.00	15.36	
	6.287	24.29	10.50	34.79	50.00	15.21	
	18.750	18.90	10.70	29.60	50.00	20.40	

TEST ENGINEER: WENCY YANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN50D36US	Humidity	:	48%RH
Test Mode	:	USB Play	Date of Test :	Apr 22, 2015

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	**0.167**	**50.40**	**10.56**	**60.96**	**65.09**	**4.13**	QP
	0.592	31.59	10.44	42.03	56.00	13.97	
	0.788	26.80	10.41	37.21	56.00	18.79	
	1.734	28.90	10.42	39.32	56.00	16.68	
	6.285	37.80	10.42	48.22	60.00	11.78	
	18.600	24.71	10.58	35.29	60.00	24.71	
	0.167	37.70	10.56	48.26	55.09	6.83	AV
	0.592	19.70	10.44	30.14	46.00	15.86	
	0.788	16.70	10.41	27.11	46.00	18.89	
	1.734	20.30	10.42	30.72	46.00	15.28	
	6.285	24.80	10.42	35.22	50.00	14.78	
	18.600	18.41	10.58	28.99	50.00	21.01	
Neutral	0.168	50.20	10.56	60.76	65.06	4.30	QP
	0.598	31.70	10.42	42.12	56.00	13.88	
	0.735	26.30	10.41	36.71	56.00	19.29	
	1.734	28.70	10.44	39.14	56.00	16.86	
	6.285	38.49	10.50	48.99	60.00	11.01	
	18.420	23.81	10.69	34.50	60.00	25.50	
	0.168	38.40	10.56	48.96	55.06	6.10	AV
	0.598	20.30	10.42	30.72	46.00	15.28	
	0.735	15.80	10.41	26.21	46.00	19.79	
	1.734	21.30	10.44	31.74	46.00	14.26	
	6.285	26.09	10.50	36.59	50.00	13.41	
	18.420	18.41	10.69	29.10	50.00	20.90	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

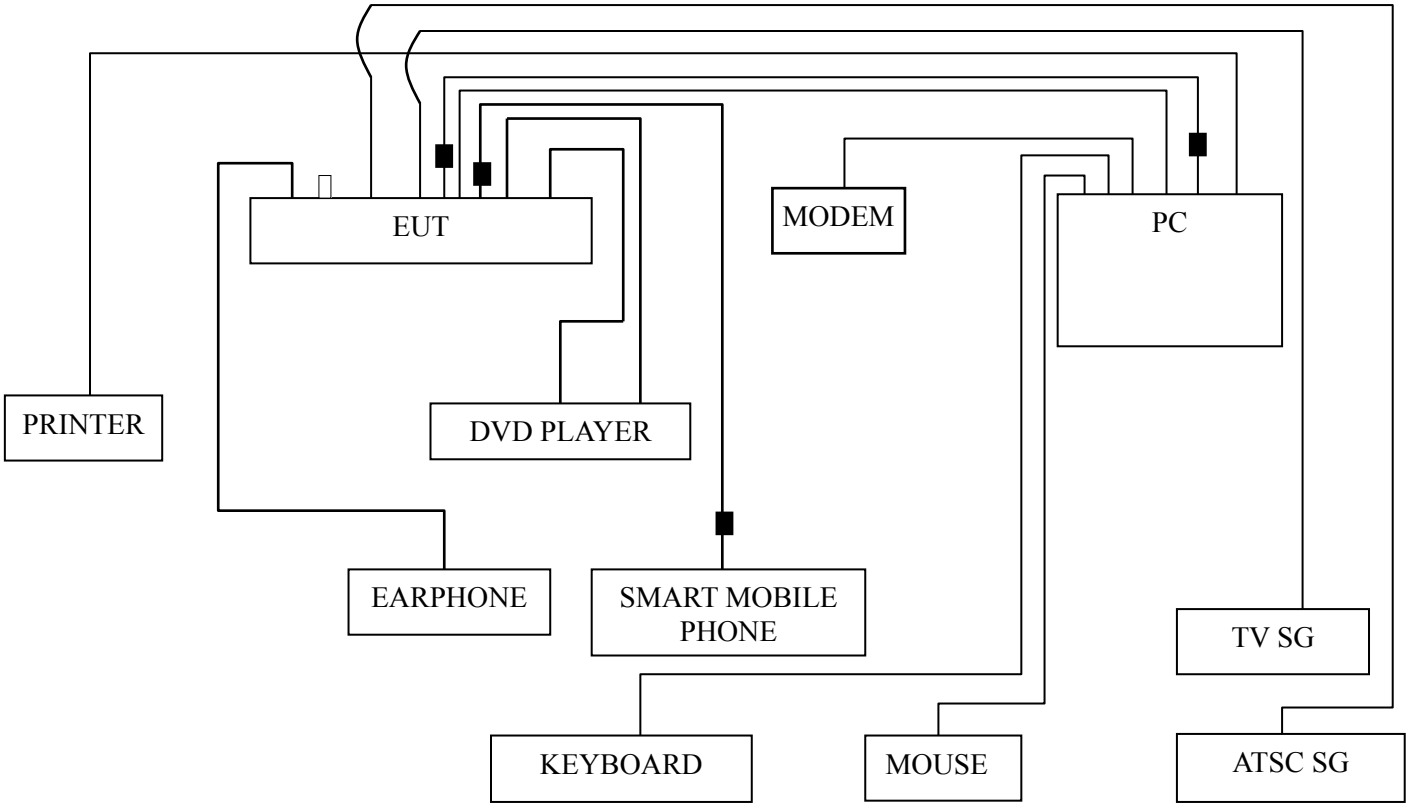
4.1 Test Equipment

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	ESCI	101302	Mar 18, 2015	Sep 17, 2015
2.	Preamplifier	Agilent	8447D	2944A10548	Mar 20, 2015	Mar 19, 2016
3.	Preamplifier	HP	8449B	3008A00864	May 03, 2014	May 02, 2015
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 11, 2014	May 10, 2015
5.	Horn Antenna	EMCO	3115	9607-4878	Nov 11, 2014	Nov 10, 2015
6.	Spectrum	Agilent	E7405A	MY45106600	Mar 18, 2015	Sep 17, 2015
7.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Mar 18, 2015	Sep 17, 2015
8.	Software	Audix	E3	6.2007-9-10	--	--

4.2 Block Diagram of Test Setup

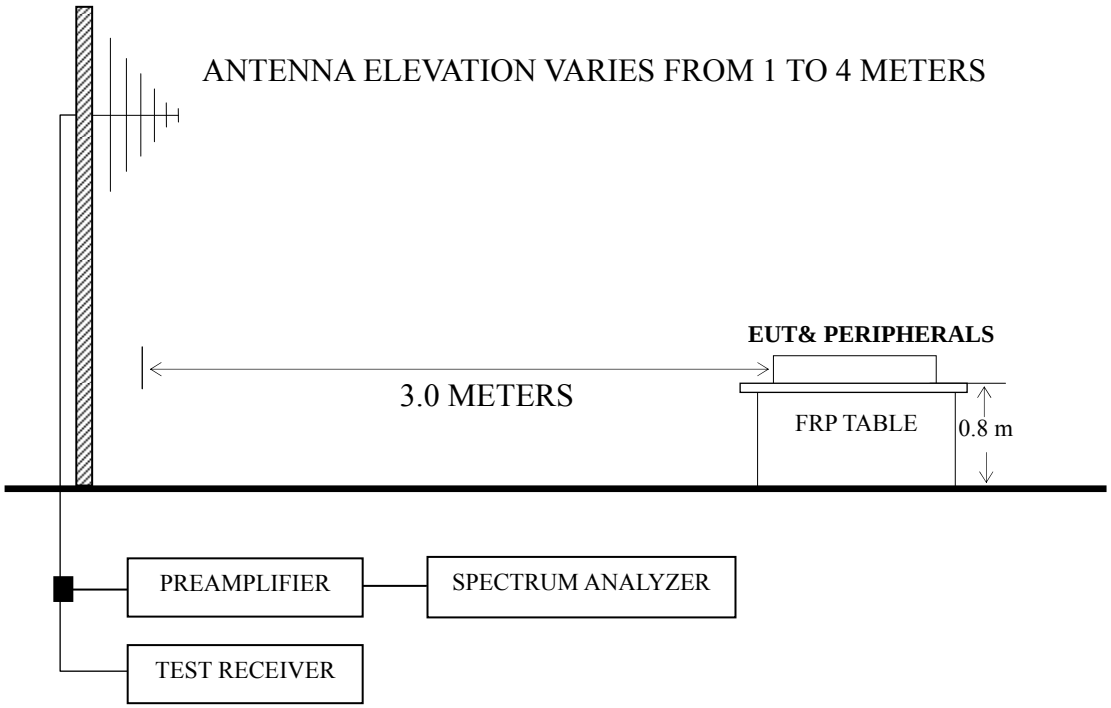
4.2.1 EUT & Peripherals



: U-Disk

■ : 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	
		(μV/m)	dB (μV/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 (μV/m) = 20 log Emission Level (μV/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 frequency range from 1 GHz to 2 GHz was checked for the maximum resolution test mode.

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
HDMI 1920*1080@60Hz & 1kHz playing	P21
HDMI 1280*1024@60Hz & 1kHz playing	P22 – P23
HDMI 640*480@60Hz & 1kHz playing	P24
USB Play	P25

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading. (< 1GHz);
Emission Level = Antenna Factor + Cable Loss – Preamp Factor + Meter Reading. (> 1GHz)

NOTE 2 – All readings are Quasi-Peak values below or equal to 1GHz, Peak and Average values above 1GHz.

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 HDMI 1280*1024@60Hz & 1kHz playing test mode. The worst emission at horizontal polarization was detected at 304.610 MHz with corrected signal level of 41.69 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 2.12 m height and the turntable was at 124°. The worst emission at vertical polarization was detected at 30.962 MHz with corrected signal level of 37.66 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.00m height and the turntable was at 25°.

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN50D36US	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz & 1kHz Playing	Date of Test :	Apr 22, 2015

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	66.967	23.89	6.76	0.81	31.46	40.00	8.54
	116.950	19.19	11.96	1.09	32.24	43.50	11.26
	153.739	20.70	10.80	1.25	32.75	43.50	10.75
	294.114	25.64	11.80	1.76	39.20	46.00	6.80
	607.787	13.31	20.02	2.51	35.84	46.00	10.16
	928.200	**17.81**	**21.93**	**3.08**	**42.82**	**46.00**	**3.18**
Vertical	31.620	18.12	17.37	0.55	36.04	40.00	3.96
	61.995	27.84	6.60	0.78	35.22	40.00	4.78
	136.939	20.21	11.83	1.18	33.22	43.50	10.28
	300.367	23.09	12.49	1.79	37.37	46.00	8.63
	605.659	15.95	20.02	2.51	38.48	46.00	7.52
	928.200	**18.01**	**21.93**	**3.08**	**43.02**	**46.00**	**2.98**

TEST ENGINEER: MARK LI

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN50D36US	Humidity :	60%RH
Test Mode	:	HDMI 1280*1024@60Hz & 1kHz Playing	Date of Test :	Apr 22, 2015

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Horizontal	30.962	5.86	18.31	0.54	--	24.71	40.00	15.29	QP
	67.913	23.73	6.84	0.82	--	31.39	40.00	8.61	
	153.200	21.07	10.90	1.24	--	33.21	43.50	10.29	
	304.610	**27.14**	**12.75**	**1.80**	**--**	**41.69**	**46.00**	**4.31**	
	607.787	11.81	20.02	2.51	--	34.34	46.00	11.66	
	945.440	11.67	22.30	3.10	--	37.07	46.00	8.93	
	1134.000	47.78	23.91	3.41	36.50	38.60	74.00	35.40	PK
	1224.000	47.69	24.45	3.58	36.35	39.37	74.00	34.63	
	1367.000	47.93	25.21	3.78	36.10	40.82	74.00	33.18	
	1583.000	48.88	25.98	4.06	35.72	43.20	74.00	30.80	
	1795.000	51.73	26.79	4.32	35.47	47.37	74.00	26.63	
	1911.000	51.12	27.16	4.44	35.37	47.35	74.00	26.65	
	1134.000	35.63	23.91	3.41	36.50	26.45	54.00	27.55	AV
	1224.000	35.71	24.45	3.58	36.35	27.39	54.00	26.61	
	1367.000	36.09	25.21	3.78	36.10	28.98	54.00	25.02	
	1583.000	36.10	25.98	4.06	35.72	30.42	54.00	23.58	
	1795.000	40.16	26.79	4.32	35.47	35.80	54.00	18.20	
	1911.000	41.63	27.16	4.44	35.37	37.86	54.00	16.14	

TEST ENGINEER: MARK LI

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LHD32K220WUS	Humidity :	60%RH
Test Mode	:	HDMI 1280*1024@60Hz & 1kHz Playing	Date of Test :	Apr 22, 2015

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Vertical	**30.962**	**18.81**	**18.31**	**0.54**	**--**	**37.66**	**40.00**	**2.34**	QP
	66.967	29.28	6.76	0.81	--	36.85	40.00	3.15	
	143.830	20.67	11.50	1.21	--	33.38	43.50	10.12	
	298.268	22.88	12.25	1.77	--	36.90	46.00	9.10	
	603.539	16.85	19.65	2.51	--	39.01	46.00	6.99	
	887.610	9.50	20.90	3.03	--	33.43	46.00	12.57	
	1060.000	47.29	23.49	3.29	36.61	37.46	74.00	36.54	PK
	1267.000	46.28	24.72	3.64	36.28	38.36	74.00	35.64	
	1418.000	46.84	25.42	3.87	35.99	40.14	74.00	33.86	
	1543.000	46.58	25.84	4.04	35.78	40.68	74.00	33.32	
	1682.000	47.59	26.35	4.21	35.59	42.56	74.00	31.44	
	1931.000	48.97	27.23	4.46	35.35	45.31	74.00	28.69	
	1060.000	35.58	23.49	3.29	36.61	25.75	54.00	28.25	AV
	1267.000	35.72	24.72	3.64	36.28	27.80	54.00	26.20	
	1418.000	35.62	25.42	3.87	35.99	28.92	54.00	25.08	
	1543.000	35.09	25.84	4.04	35.78	29.19	54.00	24.81	
	1682.000	36.59	26.35	4.21	35.59	31.56	54.00	22.44	
	1931.000	37.62	27.23	4.46	35.35	33.96	54.00	20.04	

TEST ENGINEER: MARK LI

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN50D36US	Humidity :	60%RH
Test Mode	:	HDMI 640*480@60Hz & 1kHz Playing	Date of Test :	Apr 22, 2015

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	61.778	18.47	6.60	0.78	25.85	40.00	14.15
	143.830	19.17	11.50	1.21	31.88	43.50	11.62
	296.184	**26.66**	**11.95**	**1.77**	**40.38**	**46.00**	**5.62**
	605.659	10.33	20.02	2.51	32.86	46.00	13.14
	661.151	10.30	21.90	2.62	34.82	46.00	11.18
	890.728	7.40	20.90	3.03	31.33	46.00	14.67
Vertical	**30.962**	**17.49**	**18.31**	**0.54**	**36.34**	**40.00**	**3.66**
	61.995	27.66	6.60	0.78	35.04	40.00	4.96
	157.007	21.62	10.64	1.26	33.52	43.50	9.98
	302.481	20.60	12.57	1.79	34.96	46.00	11.04
	605.659	17.14	20.02	2.51	39.67	46.00	6.33
	900.147	9.81	20.70	3.05	33.56	46.00	12.44

TEST ENGINEER: MARK LI

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN50D36US	Humidity :	60%RH
Test Mode	:	USB Play	Date of Test :	Apr 22, 2015

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	31.048	6.23	18.31	0.54	25.08	40.00	14.92
	63.844	24.67	6.60	0.79	32.06	40.00	7.94
	145.025	18.93	11.50	1.22	31.65	43.50	11.85
	285.201	**28.45**	**10.60**	**1.73**	**40.78**	**46.00**	**5.22**
	611.125	13.06	20.62	2.53	36.21	46.00	9.79
	873.340	17.01	20.70	2.99	40.70	46.00	5.30
Vertical	**31.924**	**19.99**	**17.00**	**0.55**	**37.54**	**40.00**	**2.46**
	59.693	28.99	6.60	0.76	36.35	40.00	3.65
	135.037	20.50	12.10	1.17	33.77	43.50	9.73
	286.359	26.72	10.73	1.75	39.20	46.00	6.80
	579.015	18.98	17.20	2.45	38.63	46.00	7.37
	888.825	17.63	20.90	3.03	41.56	46.00	4.44

TEST ENGINEER: MARK LI

5 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Manufacturer	Location
Gasket	JCT-RF-5-0.12-30	Qingdao Joinset Co., Ltd	See Internal Photos Figure 17, 18

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: Wency Yang

(WENCY YANG)

6 DEVIATION TO TEST SPECIFICATIONS

None.