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

LED LCD TV

Model No.	Brand
LTDN42A300US	Hisense
42A320	

FCC ID : W9HLCDD0035

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-F13184
Date of Test : Oct 16 – 19, 2013
Date of Report : Oct 24, 2013

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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
LTDN42A300US	Hisense	120V/60Hz
42A320		

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 Oct 16 – 19, 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.F13185, a Verification report.

Date of Test : Oct 16 – 19, 2013 **Date of Report :** Oct 24, 2013

Producer : Emily Zhu
EMILY ZHU / Assistant

Review : Dio Yang
DIO YANG / Assistant Manager

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

Signatory : Sammy Chen
Authorized Signature EMC **SAMMY CHEN / Deputy Manager**

1 SUMMARY OF STANDARDS AND RESULTS

1.1 Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

Description of Test Item	Standard	Limits	Results
EMISSION			
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 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	:	☐ Production ☑ Pre-product ☐ Pro-type
Model No.	:	LTDN42A300US, 42A320
Note	:	The above models are all the same except for model name. LTDN42A300US 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 : HE416GF-E01\S16
Max Resolution	:	1920*1080@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 LED LCD TV which input/output ports as follows:

Bottom Port:

(1) One HDMI1 Port
: Connected with PC

(2) One USB Port
: Connected with U-Disk

(3) One component of Audio/YPbPr Audio Port
: Connected with DVD PLAYER #1

(4) One component of Video/YPbPr Port
: Connected with DVD PLAYER #1

(5) One AUDIO OUT/Earphone Port
: Connected with Earphone

(6) One DIGITAL AUDIO OUT Port
: Connected with DVD PLAYER #1

Side Port:

(1) One VGA Port
: Connected with PC

(2) One PC AUDIO IN Port
: Connected with PC

(3) One ANT/CABLE Port
: Connected with Antenna or ATSC SG / TV SG

(4) One HDMI2 Port
: Connected with DVD PLAYER #1

(5) One HDMI3 Port
: Connected with DVD PLAYER #2

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 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

2.2.7 ATSC Signal Generator

Manufacturer	:	SENCORE
Model Number	:	ATSC997
Serial Number	:	6790071

2.2.8 DVD PLAYER #1

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

2.2.9 DVD PLAYER #2

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

2.2.10 Earphone

Manufacturer : Skullcandy
Model Number : FMJ

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 = 3.02 dB
Radiated Emission Expanded Uncertainty (30-200MHz):
U = 4.17 dB (Horizontal)
U = 4.02 dB (Vertical)
Radiated Emission Expanded Uncertainty (200M-1GHz):
U = 3.38 dB (Horizontal)
U = 3.28 dB (Vertical)
Radiated Emission Expanded Uncertainty (Above 1GHz):
U = 4.68 dB (Horizontal)
U = 4.87 dB (Vertical)

3 CONDUCTED EMISSION TEST

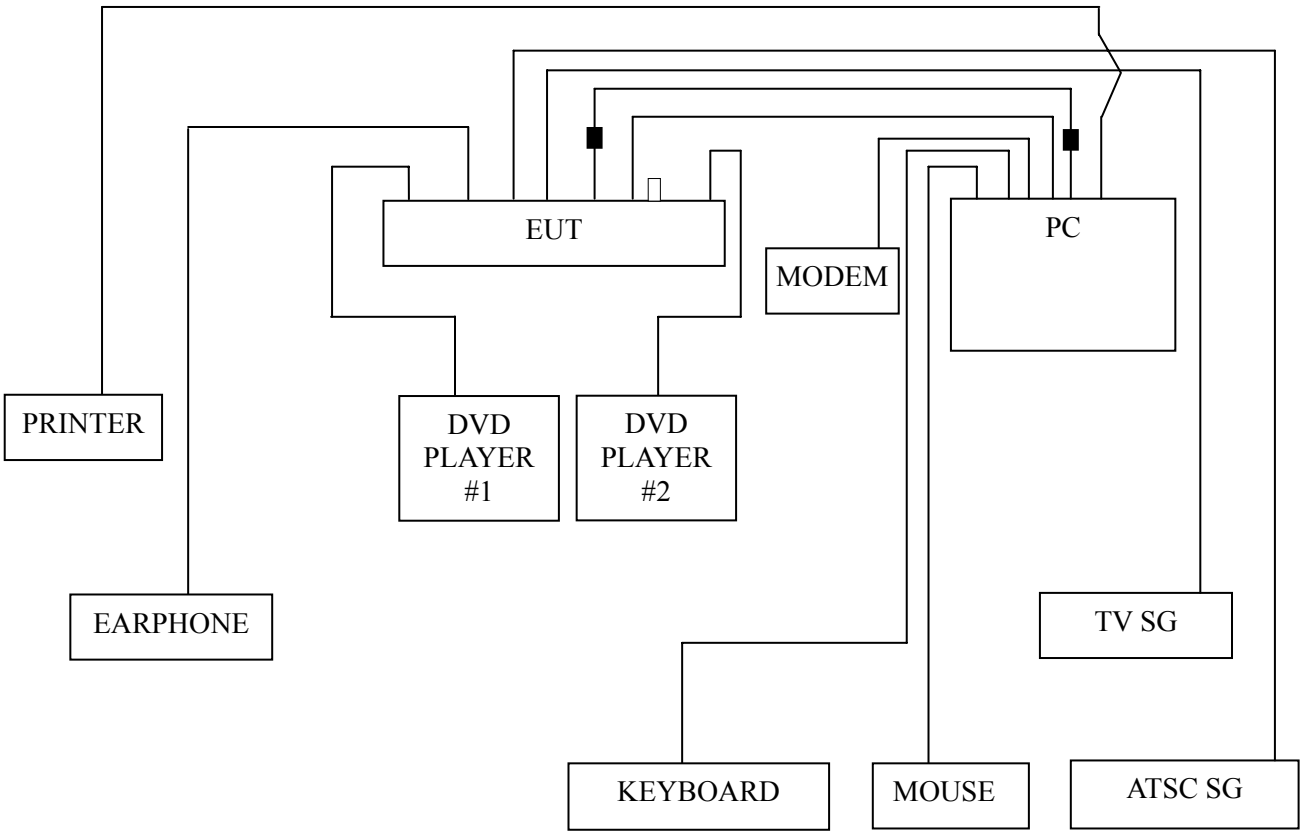
3.1 Test Equipment

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 20, 2013	Mar 19, 2014
2.	Artificial Mains Network (AMN)	R&S	ESH2-Z5	843890/011	Feb 25, 2013	Feb 24, 2014
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2013	Mar 19, 2014
4.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426389	Sep 18, 2013	Mar 17, 2014
5.	50Ω Terminator	Anritsu	BNC	001	Mar 20, 2013	Mar 19, 2014
6.	Software	Audix	E3	SET00200 9804M592	--	--

3.2 Block Diagram of Test Setup

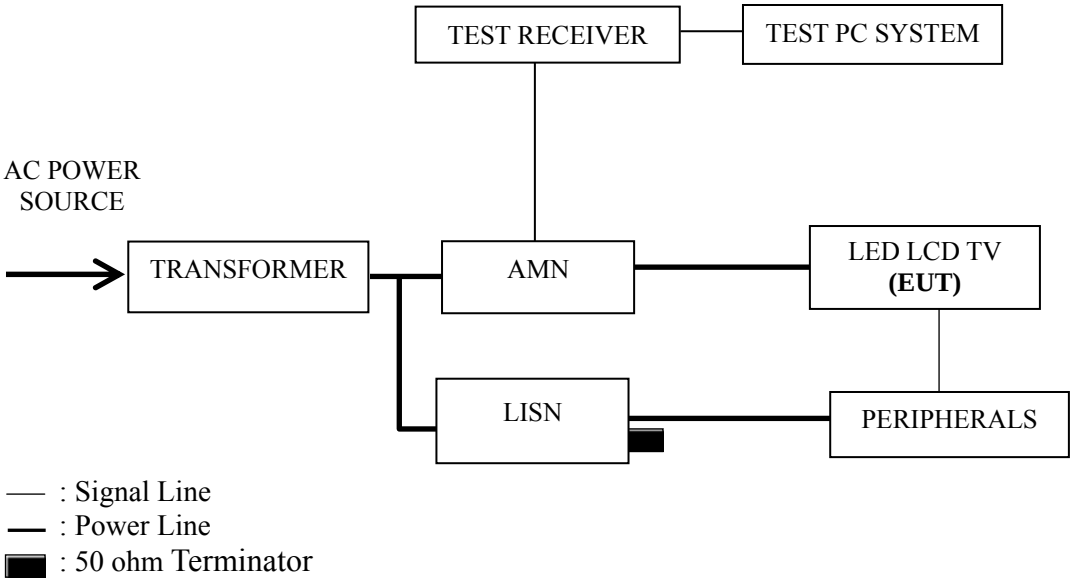
3.2.1 EUT & Peripherals



■: Ferrite core

: U-Disk

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 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 1920*1080@60Hz
HDMI 1920*1080@60Hz
D-Sub 1280*1024@60Hz
D-Sub 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 1920*1080@60Hz	P13
HDMI 1920*1080@60Hz	P14
D-Sub 1280*1024@60Hz	P15
D-Sub 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 worst case is for D-Sub 1920*1080@60Hz test mode. The worst emission is detected at 0.530 MHz (Quasi-Peak Value) with corrected signal level of 46.73 dB (μV) (limit is 56.00 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300US	Humidity	:	48%RH
Test Mode	:	D-Sub 1920*1080@60Hz	Date of Test	:	Oct 16, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.186	46.50	0.13	46.63	64.23	17.60	QP
	0.466	43.41	-0.04	43.37	56.59	13.22	
	0.534	46.24	-0.02	46.22	56.00	9.78	
	2.004	39.70	0.08	39.78	56.00	16.22	
	4.527	42.09	0.20	42.29	56.00	13.71	
	5.557	46.00	0.22	46.22	60.00	13.78	
	0.186	38.60	0.13	38.73	54.23	15.50	AV
	0.466	28.31	-0.04	28.27	46.59	18.32	
	0.534	28.60	-0.02	28.58	46.00	17.42	
	2.004	26.30	0.08	26.38	46.00	19.62	
	4.527	30.89	0.20	31.09	46.00	14.91	
	5.557	35.40	0.22	35.62	50.00	14.38	
Neutral	0.187	44.50	0.19	44.69	64.19	19.50	QP
	0.467	43.30	0.21	43.51	56.57	13.06	
	0.530	**46.54**	**0.19**	**46.73**	**56.00**	**9.27**	
	0.998	38.80	0.18	38.98	56.00	17.02	
	4.080	39.40	0.21	39.61	56.00	16.39	
	5.957	44.90	0.28	45.18	60.00	14.82	
	0.187	35.00	0.19	35.19	54.19	19.00	AV
	0.467	27.10	0.21	27.31	46.57	19.26	
	0.530	30.00	0.19	30.19	46.00	15.81	
	0.998	25.30	0.18	25.48	46.00	20.52	
	4.080	28.50	0.21	28.71	46.00	17.29	
	5.957	35.00	0.28	35.28	50.00	14.72	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300US	Humidity	:	48%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test	:	Oct 16, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.185	46.40	0.13	46.53	64.24	17.71	QP
	0.467	43.70	-0.04	43.66	56.57	12.91	
	0.547	44.70	-0.01	44.69	56.00	11.31	
	2.064	39.40	0.08	39.48	56.00	16.52	
	4.917	41.80	0.21	42.01	56.00	13.99	
	5.953	46.10	0.23	46.33	60.00	13.67	
	0.185	38.90	0.13	39.03	54.24	15.21	AV
	0.467	27.70	-0.04	27.66	46.57	18.91	
	0.547	27.10	-0.01	27.09	46.00	18.91	
	2.064	26.50	0.08	26.58	46.00	19.42	
	4.917	32.50	0.21	32.71	46.00	13.29	
	5.953	36.30	0.23	36.53	50.00	13.47	
Neutral	0.189	44.30	0.19	44.49	64.10	19.61	QP
	0.466	43.40	0.21	43.61	56.58	12.97	
	0.533	**45.30**	**0.19**	**45.49**	**56.00**	**10.51**	
	1.306	39.60	0.17	39.77	56.00	16.23	
	4.549	41.70	0.22	41.92	56.00	14.08	
	5.583	43.70	0.26	43.96	60.00	16.04	
	0.189	35.40	0.19	35.59	54.10	18.51	AV
	0.466	26.90	0.21	27.11	46.58	19.47	
	0.533	28.90	0.19	29.09	46.00	16.91	
	1.306	25.30	0.17	25.47	46.00	20.53	
	4.549	30.10	0.22	30.32	46.00	15.68	
	5.583	34.70	0.26	34.96	50.00	15.04	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300US	Humidity	:	48%RH
Test Mode	:	D-Sub 1280*1024@60Hz	Date of Test	:	Oct 16, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.185	46.70	0.13	46.83	64.25	17.42	QP
	0.467	43.90	-0.04	43.86	56.57	12.71	
	0.548	44.81	-0.01	44.80	56.00	11.20	
	1.798	39.40	0.07	39.47	56.00	16.53	
	4.888	42.00	0.21	42.21	56.00	13.79	
	5.956	45.90	0.23	46.13	60.00	13.87	
	0.185	39.00	0.13	39.13	54.25	15.12	AV
	0.467	27.90	-0.04	27.86	46.57	18.71	
	0.548	28.00	-0.01	27.99	46.00	18.01	
	1.798	25.40	0.07	25.47	46.00	20.53	
	4.888	32.40	0.21	32.61	46.00	13.39	
	5.956	36.50	0.23	36.73	50.00	13.27	
Neutral	0.184	44.49	0.19	44.68	64.30	19.62	QP
	0.464	43.50	0.21	43.71	56.61	12.90	
	0.534	**45.60**	**0.19**	**45.79**	**56.00**	**10.21**	
	1.799	38.60	0.17	38.77	56.00	17.23	
	4.261	38.99	0.22	39.21	56.00	16.79	
	5.552	45.40	0.26	45.66	60.00	14.34	
	0.184	34.39	0.19	34.58	54.30	19.72	AV
	0.464	28.30	0.21	28.51	46.61	18.10	
	0.534	28.00	0.19	28.19	46.00	17.81	
	1.799	24.60	0.17	24.77	46.00	21.23	
	4.261	29.49	0.22	29.71	46.00	16.29	
	5.552	35.00	0.26	35.26	50.00	14.74	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300US	Humidity	:	48%RH
Test Mode	:	D-Sub 640*480@60Hz	Date of Test	:	Oct 16, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.186	46.80	0.13	46.93	64.20	17.27	QP
	0.458	43.60	-0.03	43.57	56.74	13.17	
	0.530	**45.91**	**-0.03**	**45.88**	**56.00**	**10.12**	
	1.819	39.30	0.07	39.37	56.00	16.63	
	4.079	41.30	0.17	41.47	56.00	14.53	
	5.954	46.80	0.23	47.03	60.00	12.97	
	0.186	39.80	0.13	39.93	54.20	14.27	AV
	0.458	29.80	-0.03	29.77	46.74	16.97	
	0.530	30.61	-0.03	30.58	46.00	15.42	
	1.819	25.20	0.07	25.27	46.00	20.73	
	4.079	30.40	0.17	30.57	46.00	15.43	
	5.954	36.70	0.23	36.93	50.00	13.07	
Neutral	0.186	44.40	0.19	44.59	64.24	19.65	QP
	0.465	43.70	0.21	43.91	56.60	12.69	
	0.530	45.62	0.19	45.81	56.00	10.19	
	1.815	38.63	0.17	38.80	56.00	17.20	
	4.893	40.40	0.23	40.63	56.00	15.37	
	5.953	45.00	0.28	45.28	60.00	14.72	
	0.186	35.30	0.19	35.49	54.24	18.75	AV
	0.465	28.00	0.21	28.21	46.60	18.39	
	0.530	30.30	0.19	30.49	46.00	15.51	
	1.815	24.70	0.17	24.87	46.00	21.13	
	4.893	31.00	0.23	31.23	46.00	14.77	
	5.953	35.40	0.28	35.68	50.00	14.32	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300US	Humidity	:	48%RH
Test Mode	:	USB Play	Date of Test	:	Oct 16, 2013

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.191	46.49	0.13	46.62	64.00	17.38	QP
	0.466	44.00	-0.04	43.96	56.58	12.62	
	0.531	**45.85**	**-0.02**	**45.83**	**56.00**	**10.17**	
	1.811	39.20	0.07	39.27	56.00	16.73	
	4.903	41.70	0.21	41.91	56.00	14.09	
	5.277	44.40	0.22	44.62	60.00	15.38	
	0.191	39.99	0.13	40.12	54.00	13.88	AV
	0.466	27.70	-0.04	27.66	46.58	18.92	
	0.531	30.50	-0.02	30.48	46.00	15.52	
	1.811	25.30	0.07	25.37	46.00	20.63	
	4.903	32.30	0.21	32.51	46.00	13.49	
	5.277	35.50	0.22	35.72	50.00	14.28	
Neutral	0.185	44.60	0.19	44.79	64.26	19.47	QP
	0.465	43.70	0.21	43.91	56.60	12.69	
	0.530	45.60	0.19	45.79	56.00	10.21	
	1.808	38.80	0.17	38.97	56.00	17.03	
	4.076	39.00	0.21	39.21	56.00	16.79	
	5.277	43.39	0.25	43.64	60.00	16.36	
	0.185	35.30	0.19	35.49	54.26	18.77	AV
	0.465	29.20	0.21	29.41	46.60	17.19	
	0.530	30.42	0.19	30.61	46.00	15.39	
	1.808	24.80	0.17	24.97	46.00	21.03	
	4.076	29.40	0.21	29.61	46.00	16.39	
	5.277	34.19	0.25	34.44	50.00	15.56	

TEST ENGINEER: ERIC TANG

4 RADIATED EMISSION TEST

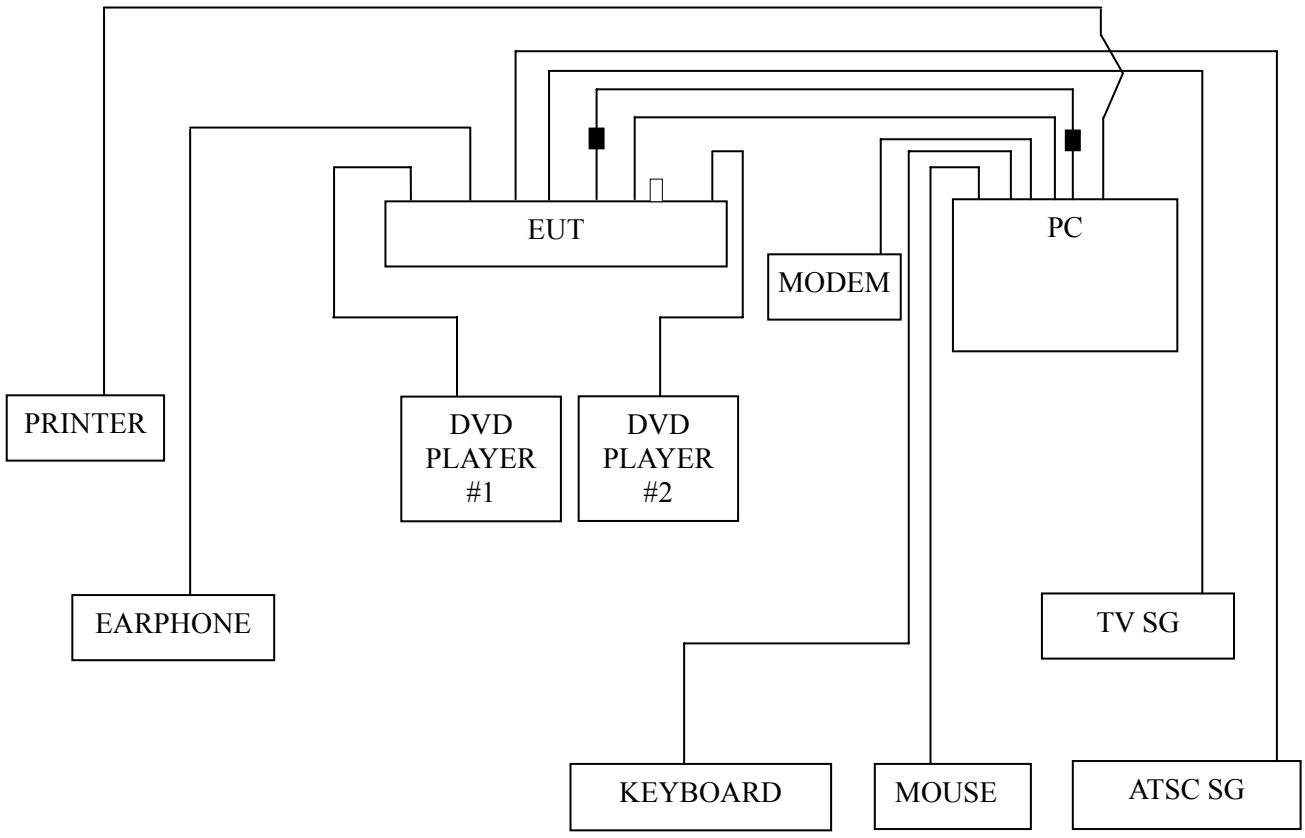
4.1 Test Equipment

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 03, 2013	Sep 02, 2014
2.	Preamplifier	Agilent	8447D	2944A10548	Sep 18, 2013	Mar 17, 2014
3.	Preamplifier	HP	8449B	3008A00864	Mar 20, 2013	Mar 19, 2014
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 03, 2013	May 02, 2014
5.	Horn Antenna	EMCO	3115	9607-4878	May 11, 2013	May 10, 2014
6.	Spectrum	Agilent	E7405A	MY45106600	Dec 17, 2012	Dec 16, 2013
7.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Sep 18, 2013	Mar 17, 2014
8.	Software	Audix	E3	SET00200 9912M295-2	--	--

4.2 Block Diagram of Test Setup

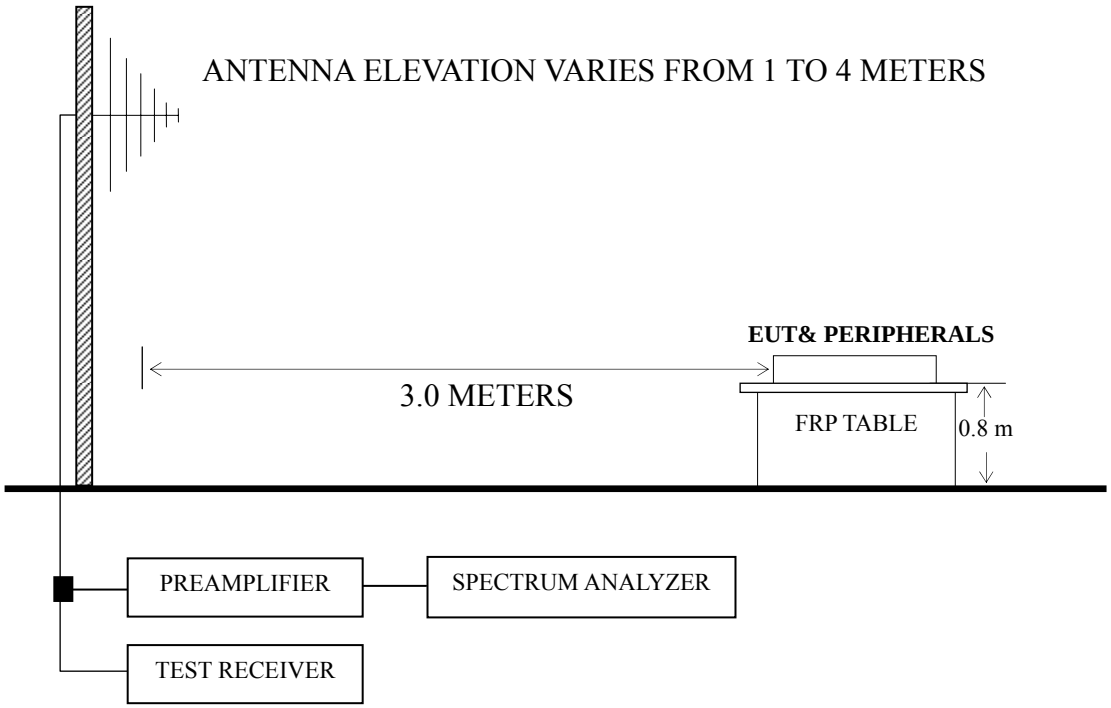
4.2.1 EUT & Peripherals



■: 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	
		(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 worst test mode in 30 – 1000 MHz test.

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	P22 – P23
D-Sub 1920*1080@60Hz	P24
HDMI 1280*1024@60Hz	P25
HDMI 640*480@60Hz	P26
USB Play	P27

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 1920*1080@60Hz test mode. The worst emission at horizontal polarization was detected at 869.050 MHz with corrected signal level of 36.27 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.20 m height and the turntable was at 162°. The worst emission at vertical polarization was detected at 43.580 MHz with corrected signal level of 34.55 dB (μV/m) (limit is 40.00 dB (μV/m)), when the antenna was 1.00 m height and the turntable was at 197°.

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300US	Humidity	:	60%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test	:	Oct 19, 2013

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	104.690	14.44	11.30	1.37	--	27.11	43.50	16.39	QP
	150.280	17.83	10.04	1.64	--	29.51	43.50	13.99	
	232.730	19.30	9.85	2.11	--	31.26	46.00	14.74	
	292.870	15.35	12.67	2.49	--	30.51	46.00	15.49	
	582.900	13.60	18.78	3.18	--	35.56	46.00	10.44	
	869.050	**11.77**	**20.30**	**4.20**	--	**36.27**	**46.00**	**9.73**	
	1090.000	47.90	24.05	4.99	38.00	38.94	74.00	35.06	PK
	1167.000	47.77	24.37	5.07	37.82	39.39	74.00	34.61	
	1356.000	45.88	25.19	5.51	37.33	39.25	74.00	34.75	
	1481.000	46.06	25.56	5.63	36.95	40.3	74.00	33.70	
	1593.000	48.26	26.60	5.66	36.70	43.82	74.00	30.18	
	1732.000	48.52	28.30	6.06	36.44	46.44	74.00	27.56	
	1090.000	34.73	24.05	4.99	38.00	25.77	54.00	28.23	AV
	1167.000	34.73	24.37	5.07	37.82	26.35	54.00	27.65	
	1356.000	32.17	25.19	5.51	37.33	25.54	54.00	28.46	
	1481.000	33.03	25.56	5.63	36.95	27.27	54.00	26.73	
	1593.000	35.38	26.60	5.66	36.70	30.94	54.00	23.06	
	1732.000	35.73	28.30	6.06	36.44	33.65	54.00	20.35	

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300US	Humidity	:	60%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test	:	Oct 19, 2013

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	35.820	17.20	15.63	0.73	--	33.56	40.00	6.44	QP
	43.580	**23.15**	**10.60**	**0.80**	**--**	**34.55**	**40.00**	**5.45**	
	120.210	19.04	11.41	1.48	--	31.93	43.50	11.57	
	291.900	17.89	12.75	2.49	--	33.13	46.00	12.87	
	737.130	11.35	19.00	3.57	--	33.92	46.00	12.08	
	859.350	11.02	20.70	4.08	--	35.80	46.00	10.20	
	1022.000	46.28	23.79	4.91	38.15	36.83	74.00	37.17	PK
	1099.000	47.39	24.09	4.99	37.98	38.49	74.00	35.51	
	1214.000	45.82	24.60	5.15	37.70	37.87	74.00	36.13	
	1445.000	45.68	25.46	5.61	37.05	39.7	74.00	34.30	
	1636.000	46.04	27.09	5.81	36.61	42.33	74.00	31.67	
	1763.000	50.37	28.69	6.11	36.40	48.77	74.00	25.23	
	1022.000	33.32	23.79	4.91	38.15	23.87	54.00	30.13	AV
	1099.000	34.34	24.09	4.99	37.98	25.44	54.00	28.56	
	1214.000	32.71	24.60	5.15	37.70	24.76	54.00	29.24	
	1445.000	32.02	25.46	5.61	37.05	26.04	54.00	27.96	
	1636.000	33.19	27.09	5.81	36.61	29.48	54.00	24.52	
	1763.000	37.09	28.69	6.11	36.40	35.49	54.00	18.51	

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300US	Humidity :	60%RH
Test Mode	:	D-Sub 1920*1080@60Hz	Date of Test :	Oct 19, 2013

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	43.580	12.51	10.60	0.80	23.91	40.00	16.09
	104.690	15.51	11.30	1.37	28.18	43.50	15.32
	144.460	**18.93**	**10.30**	**1.61**	**30.84**	**43.50**	**12.66**
	232.730	20.90	9.85	2.11	32.86	46.00	13.14
	483.960	12.13	17.80	2.94	32.87	46.00	13.13
	916.580	9.07	19.57	4.59	33.23	46.00	12.77
Vertical	35.820	17.24	15.63	0.73	33.60	40.00	6.40
	43.580	**22.39**	**10.60**	**0.80**	**33.79**	**40.00**	**6.21**
	120.210	19.66	11.41	1.48	32.55	43.50	10.95
	319.060	13.63	13.83	2.58	30.04	46.00	15.96
	683.780	10.67	19.32	3.51	33.50	46.00	12.50
	902.030	9.21	19.30	4.55	33.06	46.00	12.94

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300US	Humidity :	60%RH
Test Mode	:	HDMI 1280*1024@60Hz	Date of Test :	Oct 19, 2013

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	44.550	12.64	9.91	0.81	23.36	40.00	16.64
	67.830	15.84	5.31	0.91	22.06	40.00	17.94
	92.080	15.46	8.66	1.24	25.36	43.50	18.14
	129.910	**14.42**	**11.90**	**1.53**	**27.85**	**43.50**	**15.65**
	226.910	17.92	9.10	2.09	29.11	46.00	16.89
	357.860	9.81	14.95	2.63	27.39	46.00	18.61
Vertical	**38.730**	**16.58**	**13.30**	**0.76**	**30.64**	**40.00**	**9.36**
	115.360	13.26	11.58	1.45	26.29	43.50	17.21
	146.400	14.50	10.25	1.62	26.37	43.50	17.13
	370.470	11.03	14.85	2.65	28.53	46.00	17.47
	533.430	7.46	18.67	3.05	29.18	46.00	16.82
	908.820	8.15	19.30	4.55	32.00	46.00	14.00

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300US	Humidity :	60%RH
Test Mode	:	HDMI 640*480@60Hz	Date of Test :	Oct 19, 2013

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	105.660	13.91	11.40	1.38	26.69	43.50	16.81
	150.280	17.38	10.04	1.64	29.06	43.50	14.44
	234.670	16.18	10.00	2.13	28.31	46.00	17.69
	378.230	13.61	15.07	2.66	31.34	46.00	14.66
	585.810	11.87	18.72	3.18	33.77	46.00	12.23
	887.480	**9.69**	**19.80**	**4.43**	**33.92**	**46.00**	**12.08**
Vertical	35.820	16.34	15.63	0.73	32.70	40.00	7.30
	43.580	**21.74**	**10.60**	**0.80**	**33.14**	**40.00**	**6.86**
	117.300	15.40	11.50	1.46	28.36	43.50	15.14
	150.280	17.74	10.04	1.64	29.42	43.50	14.08
	292.870	14.43	12.67	2.49	29.59	46.00	16.41
	690.570	4.23	20.30	3.51	28.04	46.00	17.96

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300US	Humidity :	60%RH
Test Mode	:	USB Play	Date of Test :	Oct 19, 2013

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	101.780	13.71	10.76	1.35	25.82	43.50	17.68
	148.340	**17.18**	**10.15**	**1.63**	**28.96**	**43.50**	**14.54**
	256.980	13.55	12.30	2.25	28.10	46.00	17.90
	404.420	8.58	16.23	2.69	27.50	46.00	18.50
	540.220	5.85	19.50	3.06	28.41	46.00	17.59
	718.700	6.41	19.42	3.56	29.39	46.00	16.61
Vertical	**39.700**	**17.68**	**12.54**	**0.77**	**30.99**	**40.00**	**9.01**
	64.920	16.21	4.70	0.90	21.81	40.00	18.19
	118.270	17.14	11.46	1.47	30.07	43.50	13.43
	164.830	13.67	8.40	1.75	23.82	43.50	19.68
	284.140	14.06	12.27	2.43	28.76	46.00	17.24
	516.940	4.79	18.32	3.01	26.12	46.00	19.88

TEST ENGINEER: NEAL WANG

5 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Manufacturer	Location
Ferrite Core	LGK2029-HX	Jiangsu Ruifeng Electronic Co., Ltd.	See Internal Photo Figure 1
		FEELUX	
		Jiangsu Chenlang Electronic Co., Ltd.	
		Jiangsu Litong Electronic Co., Ltd.	

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

TEST ENGINEER: Neal_wang

(NEAL WANG)

6 DEVIATION TO TEST SPECIFICATIONS

None.