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

LED LCD TV

Model No.	Brand
LTDN42A300MH	Hisense
42A300MH	

FCC ID : W9HLCDD0029

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

Prepared By : Audix Technology (Shanghai) Co., Ltd.
3F and 4F, 34Bldg 680 Guiping Rd,
Caohejing Hi-Tech Park,
Shanghai 200233, China

Tel: +86-21-64955500
Fax: +86-21-64955491

Report No. : ACI-F13057A1
Date of Test : Jan 06 – 10, 2014
Date of Report : Jan 24, 2014

TABLE OF CONTENTS

Page

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
LTDN42A300MH	Hisense	120V/60Hz
42A300MH		

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2013 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 Jan 06 – 10, 2014 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.F13056A1, a Verification report.

Date of Test : Jan 06 – 10, 2014 Date of Report : Jan 24, 2014

Producer : EMILY ZHU / Assistant

Review : DIO YANG / Assistant Manager

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

Signatory : BYRON KWO/Assistant General Manager

Authorized Signature EMC

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 2013 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2013 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. : LTDN42A300MH, 42A300MH

Note #1 : The modified histories of report are as follows:

Report No.	Model No.	Rev. Summary	Edition No.	Data of Rev.
ACI-F13057	LTDN42A300MH	Original Report	0	Apr 25, 2013
ACI-F13057A1	LTDN42A300MH, 42A300MH	1. To add a new model name. 2. To modify the main board and power board.	Rev. A1	Jan 24, 2014

Note #2 : The above models are all the same except for the model name.
LTDN42A300MH model was 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

Tuner : Manufacturer : XuGuang Tech.Co., Ltd
M/N : SDVT-10A/WF2\ROH

Max Resolution : 1024*768@60Hz (for D-Sub port)
1920*1080@60Hz (for HDMI port)

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:

Side Port:

(1) One ANT/CABLE Port
: Connected with ATSC SG / TV SG

(2) One SERVICE Port
: Do not open to customer

(3) One component of YPbPr Port
: Connected with DVD PLAYER

(4) One component of YPbPr Audio Port
: Connected with DVD PLAYER

(5) One HDMI1 Port
: Connected with PC

Bottom Port:

(1) One VGA Port
: Connected with PC

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

(3) One Digital Audio Out Port
: Connected with SPEAKER

(4) One HDMI2 Port
: Connected with DVD PLAYER

(5) One RJ12 IN Port
: Connected with PC

(6) One AUDIO OUT Port
: Connected with Earphone

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

(8) One component of AV IN 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	:	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	:	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 SPEAKER

Model Number : FS-04
Serial Number : 002

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

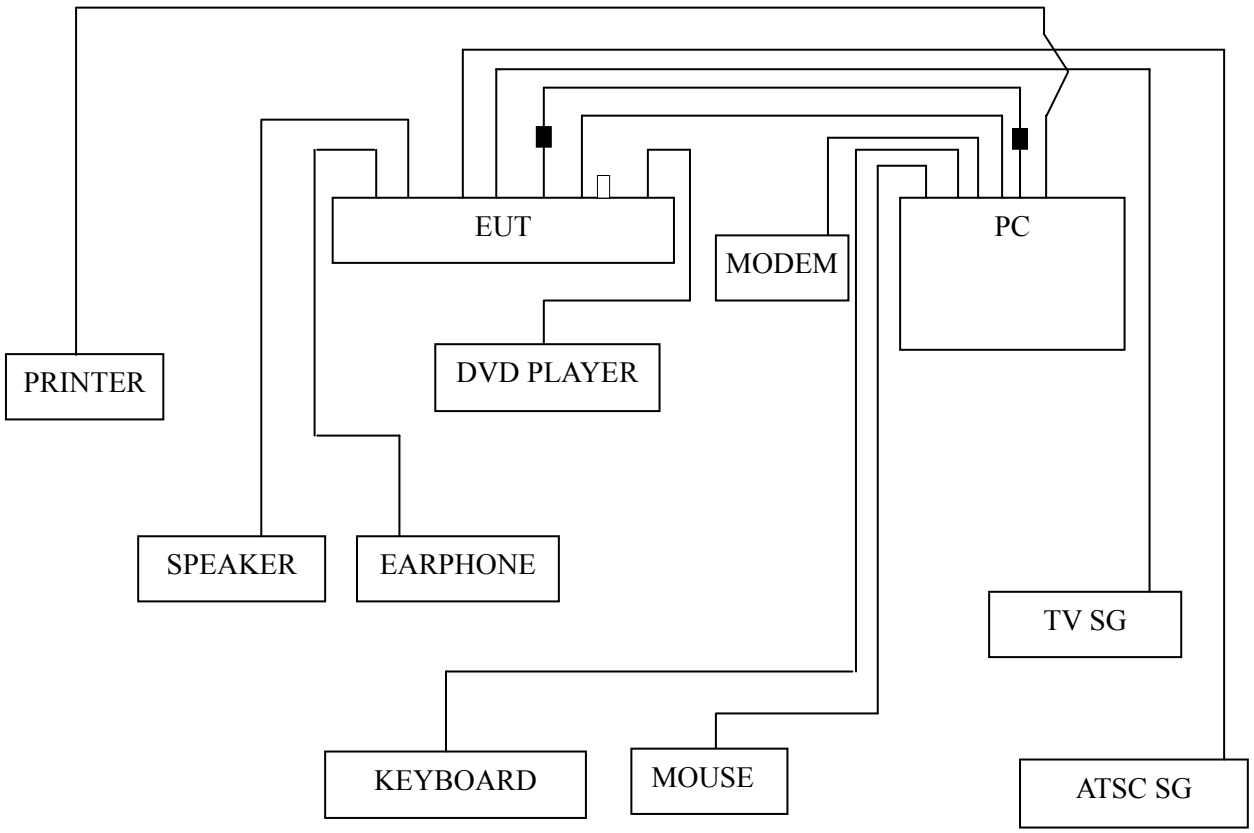
3.1 Test Equipment

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	6.2009-1-15	--	--

3.2 Block Diagram of Test Setup

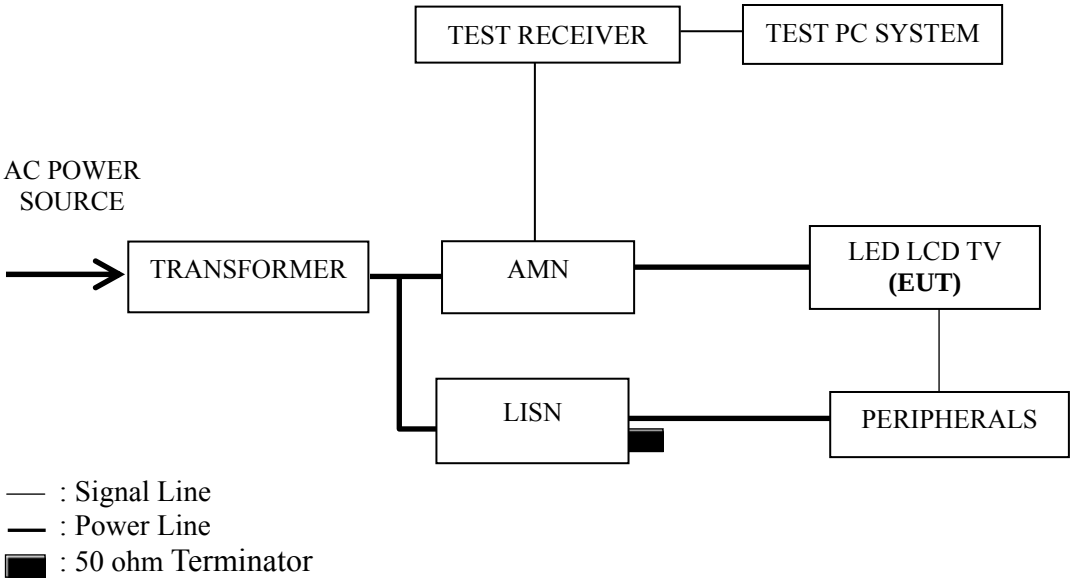
3.2.1 EUT & Peripherals



■: 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 1024*768@60Hz
HDMI 1920*1080@60Hz
D-Sub 800*600@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 1024*768@60Hz	P13
HDMI 1920*1080@60Hz	P14
D-Sub 800*600@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 640*480@60Hz test mode. The worst emission is detected at 0.489 MHz (Quasi-Peak Value) with corrected signal level of 47.81 dB (μV) (limit is 56.19 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300MH	Humidity	:	48%RH
Test Mode	:	D-Sub 1024*768@60Hz	Date of Test	:	Jan 10, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.151	39.80	0.15	39.95	65.93	25.98	QP
	0.201	43.50	0.12	43.62	63.58	19.96	
	0.492	47.30	-0.05	47.25	56.13	8.88	
	1.281	40.50	0.05	40.55	56.00	15.45	
	3.415	39.70	0.14	39.84	56.00	16.16	
	5.890	42.60	0.23	42.83	60.00	17.17	
	0.151	21.10	0.15	21.25	55.93	34.68	AV
	0.201	33.20	0.12	33.32	53.58	20.26	
	0.492	31.90	-0.05	31.85	46.13	14.28	
	1.281	24.90	0.05	24.95	46.00	21.05	
	3.415	28.30	0.14	28.44	46.00	17.56	
	5.890	34.90	0.23	35.13	50.00	14.87	
Neutral	0.196	48.00	0.20	48.20	63.77	15.57	QP
	0.495	**47.40**	**0.21**	**47.61**	**56.09**	**8.48**	
	0.710	43.70	0.12	43.82	56.00	12.18	
	1.272	41.40	0.17	41.57	56.00	14.43	
	4.120	42.80	0.21	43.01	56.00	12.99	
	5.673	44.70	0.26	44.96	60.00	15.04	
	0.196	39.30	0.20	39.50	53.77	14.27	AV
	0.495	31.30	0.21	31.51	46.09	14.58	
	0.710	27.20	0.12	27.32	46.00	18.68	
	1.272	26.90	0.17	27.07	46.00	18.93	
	4.120	32.00	0.21	32.21	46.00	13.79	
	5.673	37.10	0.26	37.36	50.00	12.64	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300MH	Humidity	:	48%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test	:	Jan 10, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	44.10	0.16	44.26	66.00	21.74	QP
	0.197	43.30	0.12	43.42	63.72	20.30	
	0.494	45.70	-0.05	45.65	56.10	10.45	
	0.564	45.70	0.01	45.71	56.00	10.29	
	2.199	40.10	0.08	40.18	56.00	15.82	
	5.600	44.80	0.22	45.02	60.00	14.98	
	0.150	28.50	0.16	28.66	56.00	27.34	AV
	0.197	32.80	0.12	32.92	53.72	20.80	
	0.494	28.90	-0.05	28.85	46.10	17.25	
	0.564	29.40	0.01	29.41	46.00	16.59	
	2.199	27.00	0.08	27.08	46.00	18.92	
	5.600	37.10	0.22	37.32	50.00	12.68	
Neutral	0.197	47.40	0.20	47.60	63.76	16.16	QP
	0.494	**45.90**	**0.21**	**46.11**	**56.10**	**9.99**	
	1.264	41.20	0.17	41.37	56.00	14.63	
	4.315	41.21	0.21	41.42	56.00	14.58	
	5.602	45.30	0.26	45.56	60.00	14.44	
	7.973	44.40	0.38	44.78	60.00	15.22	
	0.197	39.30	0.20	39.50	53.76	14.26	AV
	0.494	29.40	0.21	29.61	46.10	16.49	
	1.264	26.40	0.17	26.57	46.00	19.43	
	4.315	31.41	0.21	31.62	46.00	14.38	
	5.602	37.80	0.26	38.06	50.00	11.94	
	7.973	39.50	0.38	39.88	50.00	10.12	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300MH	Humidity	:	48%RH
Test Mode	:	D-Sub 800*600@60Hz	Date of Test	:	Jan 10, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.152	39.60	0.15	39.75	65.91	26.16	QP
	0.198	43.50	0.12	43.62	63.71	20.09	
	0.517	46.00	-0.04	45.96	56.00	10.04	
	0.710	42.79	0.11	42.90	56.00	13.10	
	3.034	38.59	0.13	38.72	56.00	17.28	
	5.666	45.50	0.22	45.72	60.00	14.28	
	0.152	19.60	0.15	19.75	55.91	36.16	AV
	0.198	33.20	0.12	33.32	53.71	20.39	
	0.517	29.70	-0.04	29.66	46.00	16.34	
	0.710	26.29	0.11	26.40	46.00	19.60	
	3.034	27.49	0.13	27.62	46.00	18.38	
	5.666	36.60	0.22	36.82	50.00	13.18	
Neutral	0.150	44.10	0.15	44.25	65.98	21.73	QP
	0.197	47.50	0.20	47.70	63.74	16.04	
	0.518	**46.20**	**0.20**	**46.40**	**56.00**	**9.60**	
	0.706	42.90	0.12	43.02	56.00	12.98	
	4.822	42.90	0.23	43.13	56.00	12.87	
	8.072	43.20	0.39	43.59	60.00	16.41	
	0.150	27.80	0.15	27.95	55.98	28.03	AV
	0.197	39.60	0.20	39.80	53.74	13.94	
	0.518	30.80	0.20	31.00	46.00	15.00	
	0.706	27.20	0.12	27.32	46.00	18.68	
	4.822	34.00	0.23	34.23	46.00	11.77	
	8.072	39.30	0.39	39.69	50.00	10.31	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300MH	Humidity	:	48%RH
Test Mode	:	D-Sub 640*480@60Hz	Date of Test	:	Jan 10, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	41.40	0.16	41.56	65.99	24.43	QP
	0.200	42.70	0.12	42.82	63.62	20.80	
	0.495	47.40	-0.05	47.35	56.09	8.74	
	0.708	42.79	0.11	42.90	56.00	13.10	
	2.201	40.60	0.08	40.68	56.00	15.32	
	5.889	42.30	0.23	42.53	60.00	17.47	
	0.150	24.70	0.16	24.86	55.99	31.13	AV
	0.200	33.40	0.12	33.52	53.62	20.10	
	0.495	30.80	-0.05	30.75	46.09	15.34	
	0.708	26.59	0.11	26.70	46.00	19.30	
	2.201	27.40	0.08	27.48	46.00	18.52	
	5.889	34.90	0.23	35.13	50.00	14.87	
Neutral	0.152	40.00	0.15	40.15	65.88	25.73	QP
	0.194	48.09	0.20	48.29	63.84	15.55	
	0.489	**47.60**	**0.21**	**47.81**	**56.19**	**8.38**	
	1.418	41.30	0.17	41.47	56.00	14.53	
	4.822	42.70	0.23	42.93	56.00	13.07	
	8.043	44.70	0.39	45.09	60.00	14.91	
	0.152	22.90	0.15	23.05	55.88	32.83	AV
	0.194	37.99	0.20	38.19	53.84	15.65	
	0.489	32.80	0.21	33.01	46.19	13.18	
	1.418	27.40	0.17	27.57	46.00	18.43	
	4.822	33.90	0.23	34.13	46.00	11.87	
	8.043	39.20	0.39	39.59	50.00	10.41	

TEST ENGINEER: ERIC TANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300MH	Humidity	:	48%RH
Test Mode	:	USB Play	Date of Test	:	Jan 10, 2014

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.153	39.90	0.15	40.05	65.86	25.81	QP
	0.195	42.60	0.12	42.72	63.82	21.10	
	0.489	46.41	-0.05	46.36	56.19	9.83	
	1.460	40.30	0.06	40.36	56.00	15.64	
	4.135	39.90	0.18	40.08	56.00	15.92	
	5.901	45.50	0.23	45.73	60.00	14.27	
	0.153	19.40	0.15	19.55	55.86	36.31	AV
	0.195	30.50	0.12	30.62	53.82	23.20	
	0.489	30.91	-0.05	30.86	46.19	15.33	
	1.460	25.00	0.06	25.06	46.00	20.94	
	4.135	29.90	0.18	30.08	46.00	15.92	
	5.901	36.20	0.23	36.43	50.00	13.57	
Neutral	0.153	40.30	0.15	40.45	65.84	25.39	QP
	0.195	47.29	0.20	47.49	63.80	16.31	
	0.485	**46.50**	**0.21**	**46.71**	**56.25**	**9.54**	
	0.707	41.80	0.12	41.92	56.00	14.08	
	3.770	41.00	0.20	41.20	56.00	14.80	
	8.032	45.60	0.39	45.99	60.00	14.01	
	0.153	22.60	0.15	22.75	55.84	33.09	AV
	0.195	38.29	0.20	38.49	53.80	15.31	
	0.485	31.40	0.21	31.61	46.25	14.64	
	0.707	25.80	0.12	25.92	46.00	20.08	
	3.770	29.90	0.20	30.10	46.00	15.90	
	8.032	39.40	0.39	39.79	50.00	10.21	

TEST ENGINEER: ERIC TANG

4 RADIATED EMISSION TEST

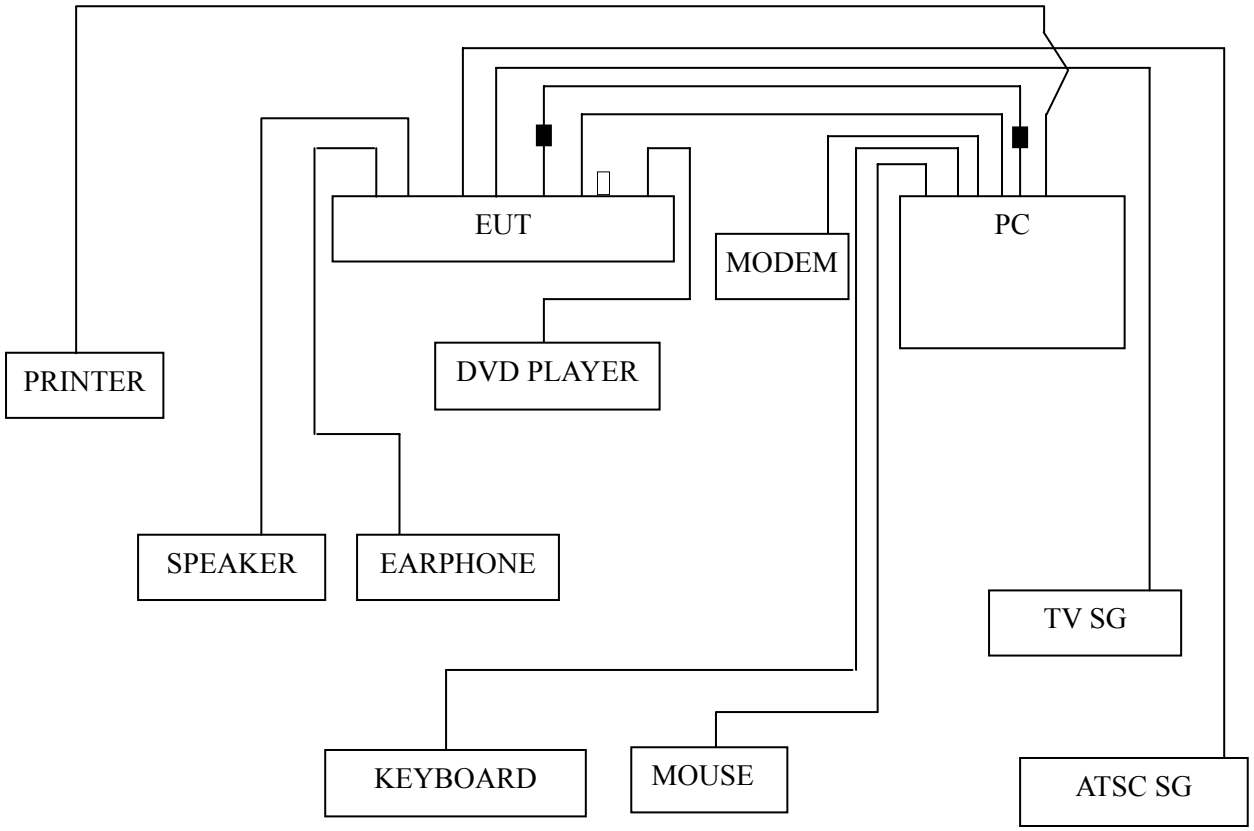
4.1 Test Equipment

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	Nov 11, 2013	Nov 10, 2014
7.	50Ω Coaxial Switch	Anritsu	MP59B	6200426390	Sep 18, 2013	Mar 17, 2014
8.	Software	Audix	E3	6.2007-9-10	--	--

4.2 Block Diagram of Test Setup

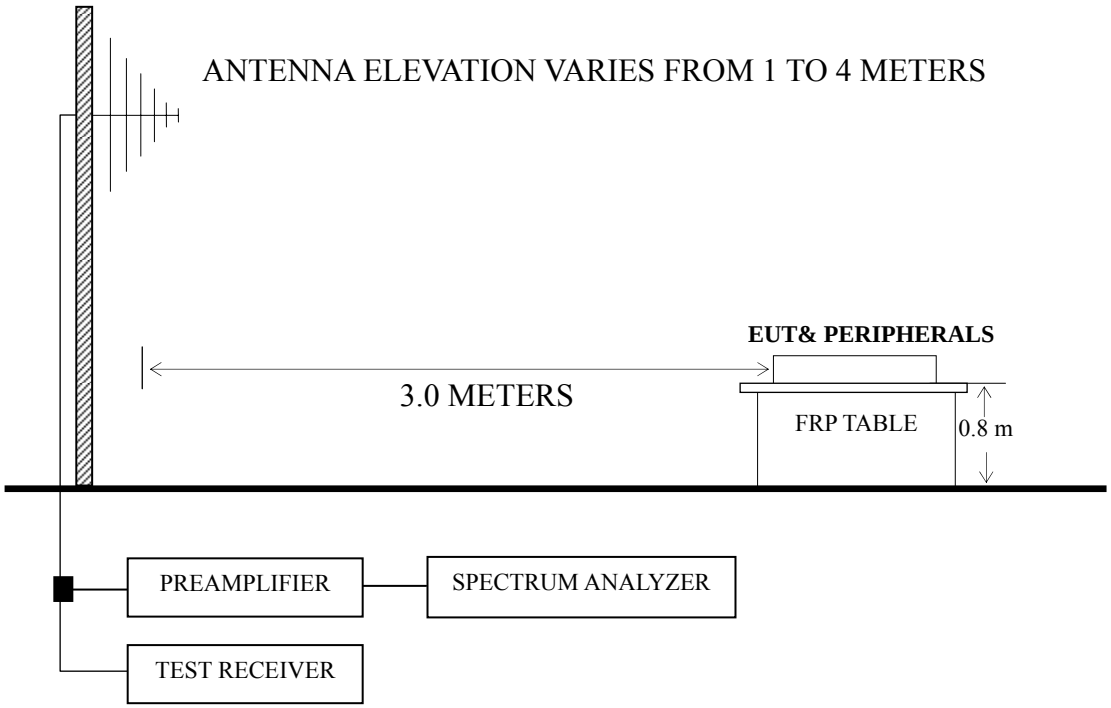
4.2.1 EUT and Peripherals



■: 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	
		(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
D-Sub 1024*768@60Hz	P22
HDMI 1920*1080@60Hz	P23 – 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 890.390 MHz with corrected signal level of 42.11 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.80 m height and the turntable was at 265°. The worst emission at vertical polarization was detected at 890.390 MHz with corrected signal level of 42.90 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.70 m height and the turntable was at 60°.

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300MH	Humidity :	60%RH
Test Mode	:	D-Sub 1024*768@60Hz	Date of Test :	Jan 06, 2014

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	51.340	22.25	7.20	0.86	30.31	40.00	9.69
	144.460	20.44	10.30	1.61	32.35	43.50	11.15
	365.620	17.59	14.90	2.64	35.13	46.00	10.87
	498.510	13.60	17.98	2.98	34.56	46.00	11.44
	806.970	13.28	20.07	3.70	37.05	46.00	8.95
	889.420	**14.26**	**19.80**	**4.43**	**38.49**	**46.00**	**7.51**
Vertical	**51.340**	**27.44**	**7.20**	**0.86**	**35.50**	**40.00**	**4.50**
	116.330	19.88	11.54	1.46	32.88	43.50	10.62
	144.460	23.79	10.30	1.61	35.70	43.50	7.80
	629.460	11.58	18.40	3.32	33.30	46.00	12.70
	770.110	18.86	18.20	3.60	40.66	46.00	5.34
	875.840	13.93	20.03	4.32	38.28	46.00	7.72

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300MH	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test :	Jan 06, 2014

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	150.280	25.06	10.04	1.64	--	36.74	43.50	6.76	QP
	206.540	25.91	7.75	1.98	--	35.64	43.50	7.86	
	250.190	22.63	12.20	2.20	--	37.03	46.00	8.97	
	446.130	18.49	17.07	2.82	--	38.38	46.00	7.62	
	741.980	19.59	18.87	3.57	--	42.03	46.00	3.97	
	890.390	**17.88**	**19.80**	**4.43**	**--**	**42.11**	**46.00**	**3.89**	
	1018.000	47.60	23.76	4.91	38.16	38.11	74.00	35.89	PK
	1205.000	46.27	24.56	5.15	37.73	38.25	74.00	35.75	
	1307.000	45.91	25.02	5.39	37.46	38.86	74.00	35.14	
	1415.000	45.62	25.38	5.60	37.14	39.46	74.00	34.54	
	1627.000	46.92	26.98	5.74	36.63	43.01	74.00	30.99	
	1960.000	45.64	30.68	6.19	36.14	46.37	74.00	27.63	
	1018.000	34.26	23.76	4.91	38.16	24.77	54.00	29.23	AV
	1205.000	33.22	24.56	5.15	37.73	25.20	54.00	28.80	
	1307.000	32.11	25.02	5.39	37.46	25.06	54.00	28.94	
	1415.000	32.13	25.38	5.60	37.14	25.97	54.00	28.03	
	1627.000	33.72	26.98	5.74	36.63	29.81	54.00	24.19	
	1960.000	32.43	30.68	6.19	36.14	33.16	54.00	20.84	

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300MH	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz	Date of Test :	Jan 06, 2014

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	30.970	17.95	17.65	0.67	--	36.27	40.00	3.73	QP
	43.580	23.58	10.60	0.80	--	34.98	40.00	5.02	
	150.280	24.62	10.04	1.64	--	36.30	43.50	7.20	
	252.130	22.50	12.17	2.22	--	36.89	46.00	9.11	
	594.540	19.38	18.50	3.20	--	41.08	46.00	4.92	
	890.390	**18.67**	**19.80**	**4.43**	**--**	**42.90**	**46.00**	**3.10**	
	1027.000	47.19	23.80	4.92	38.14	37.77	74.00	36.23	PK
	1192.000	45.25	24.50	5.10	37.76	37.09	74.00	36.91	
	1270.000	45.44	24.87	5.30	37.56	38.05	74.00	35.95	
	1445.000	45.68	25.46	5.61	37.05	39.70	74.00	34.30	
	1580.000	45.63	26.45	5.66	36.73	41.01	74.00	32.99	
	1779.000	45.39	28.87	6.11	36.38	43.99	74.00	30.01	
	1027.000	34.54	23.80	4.92	38.14	25.12	54.00	28.88	AV
	1192.000	32.10	24.50	5.10	37.76	23.94	54.00	30.06	
	1270.000	32.62	24.87	5.30	37.56	25.23	54.00	28.77	
	1445.000	32.73	25.46	5.61	37.05	26.75	54.00	27.25	
	1580.000	32.72	26.45	5.66	36.73	28.10	54.00	25.90	
	1779.000	32.81	28.87	6.11	36.38	31.41	54.00	22.59	

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LTDN42A300MH	Humidity :	60%RH	
Test Mode	:	HDMI 1280*1024@60Hz	Date of Test :	Jan 06, 2014	

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	206.540	27.38	7.75	1.98	37.11	43.50	6.39
	237.580	24.27	10.67	2.15	37.09	46.00	8.91
	339.430	19.16	14.80	2.61	36.57	46.00	9.43
	424.790	16.73	17.40	2.76	36.89	46.00	9.11
	509.180	19.35	18.35	3.00	40.70	46.00	5.30
	931.130	**17.63**	**19.10**	**4.63**	**41.36**	**46.00**	**4.64**
Vertical	**30.970**	**17.36**	**17.65**	**0.67**	**35.68**	**40.00**	**4.32**
	240.490	23.16	11.03	2.17	36.36	46.00	9.64
	300.630	20.72	12.60	2.55	35.87	46.00	10.13
	509.180	15.45	18.35	3.00	36.80	46.00	9.20
	749.740	14.89	18.80	3.58	37.27	46.00	8.73
	900.090	17.56	19.30	4.55	41.41	46.00	4.59

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300MH	Humidity :	60%RH
Test Mode	:	HDMI 640*480@60Hz	Date of Test :	Jan 06, 2014

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	109.540	16.70	11.84	1.40	29.94	43.50	13.56
	208.480	26.11	7.63	2.00	35.74	43.50	7.76
	242.430	24.22	11.10	2.17	37.49	46.00	8.51
	324.880	22.48	14.09	2.58	39.15	46.00	6.85
	541.190	17.47	19.48	3.06	40.01	46.00	5.99
	647.890	**19.28**	**18.40**	**3.38**	**41.06**	**46.00**	**4.94**
Vertical	**33.880**	**18.56**	**16.12**	**0.70**	**35.38**	**40.00**	**4.62**
	242.430	22.44	11.10	2.17	35.71	46.00	10.29
	324.880	16.18	14.09	2.58	32.85	46.00	13.15
	599.390	13.30	18.30	3.22	34.82	46.00	11.18
	647.890	19.20	18.40	3.38	40.98	46.00	5.02
	756.530	17.22	18.57	3.59	39.38	46.00	6.62

TEST ENGINEER: NEAL WANG

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LTDN42A300MH	Humidity :	60%RH
Test Mode	:	USB Play	Date of Test :	Jan 06, 2014

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)
Horizontal	57.160	22.86	5.81	0.88	29.55	40.00	10.45
	104.690	20.10	11.30	1.37	32.77	43.50	10.73
	166.770	22.90	8.40	1.75	33.05	43.50	10.45
	242.430	21.18	11.10	2.17	34.45	46.00	11.55
	334.580	17.85	14.60	2.60	35.05	46.00	10.95
	489.780	**15.19**	**17.60**	**2.96**	**35.75**	**46.00**	**10.25**
Vertical	**41.640**	**20.97**	**11.88**	**0.79**	**33.64**	**40.00**	**6.36**
	125.060	21.71	11.50	1.50	34.71	43.50	8.79
	202.660	22.59	8.00	1.97	32.56	43.50	10.94
	266.680	17.87	12.83	2.32	33.02	46.00	12.98
	404.420	15.57	16.23	2.69	34.49	46.00	11.51
	709.000	9.62	19.80	3.55	32.97	46.00	13.03

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\ROH	Rui Feng Electronic Co., Ltd.	See Internal Photo Appendix Figure 14

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.