

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

LED LCD TV

Model No.	Brand
LTDN75K700GUWUS	Hisense
LC-75N8000U, LC-75N8000C	Sharp

FCC ID : W9HLCDF0063

Prepared For : Hisense Electric Co., Ltd.
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Development Zone, Qingdao, China

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Report No. : ACI-F15254
Date of Test : Nov30 – Dec 21, 2015
Date of Report : Dec 29, 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.
Factory #3 : HISENSE ELECTRONICA MEXICO, S.A. DE C.V.
EUT Description : LED LCD TV

Model No.	Brand	Power Supply
LTDN75K700GUWUS	Hisense	120V/60Hz
LC-75N8000U, LC-75N8000C	Sharp	

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 Nov30 – Dec 21, 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 No.F15255, a Verification report.

Date of Test : Nov30 – Dec 21, 2015 Date of Report : Dec 29, 2015

Producer : HUIMIN YAN
HUIMIN YAN / Assistant

Review : SAMMY CHEN
SAMMY CHEN / Manager

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

Signatory : BYRON KWO
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	LTDN75K700GUWUS	LC-75N8000U, LC-75N8000C
Brand	Hisense	Sharp

Note : The above models are all the same except for brand and model number. LTDN75K700GUWUS model is tested and recorded in the report.

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

Manufacturer : same as Applicant

Factory #1 : same as Applicant

Factory #2 : Tatung Mexico S.A. de C.V.
Miguel Catalán 420, Parque Industrial Rio Bravo,
Cd. Juarez, Chih., CP 32557

Factory #3 : HISENSE ELECTRONICA MEXICO, S.A. DE C.V.
Blvd. Sharp #3510 Parque Industrial Rosarito,
C.P. 22710 Playas de Rosarito, B.C.

LCD Panel : Manufacturer : INNOLUX
M/N : V750DK1-KS5

Tuner : Manufacturer : XuGuang Tech. Co., Ltd.
M/N : HFT-96S3/W11FJ2H/ROH

Max Resolution : 3840*2160@60Hz

HDMI Cable*4 : Shielded, Detachable, 1.50m
(Lab provide)

Power Cord : Unshielded, Detachable, 1.80m

LAN Cable : Shielded, Detachable, 1.50m

USB Cable*3 : Shielded, Detachable, 1.00m, without core
(Lab provide)

MHL to HDMI Adaptor: Manufacture: CE-Link
with RCP (Lab provide) M/N: 3002

Remark:

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

Side Port:

- (1) One USB3 Port : Connected with Hard-Disk #1
- (2) One HDMI2/ARC Port : Connected with DVD PLAYER #2
- (3) One HDMI1/MHL Port : Connected with Smart Mobile Phone
- (4) One Audio out Port : Connected with Earphone
- (5) One Service Port : Do not open to customer
- (6) One USB1 Port : Connected with Hard-Disk #2
- (7) One USB2 Port : Connected with Hard-Disk #3
- (8) One ANT/CABLE IN Port : Connected with Antenna or ATSC SG / TV SG

Back Port:

- (9) One LAN Port : Connected with PC
- (10) One HDMI3 Port : Connected with DVD PLAYER #1
- (11) One HDMI4 Port : Connected with PC
- (12) One Digital Audio Out Port : Connected with DVD PLAYER #1
- (13) One component of YPbPr+ Video Port : Connected with DVD PLAYER #2
- (14) One AV Port : Connected with DVD PLAYER #1

2.2 Peripherals

2.2.1 PC

Manufacturer : HP
Model Number : dx7400MT
Serial Number : CNG8130K89
Power Cord : Unshielded, Detachable, 1.8m
Certificate : FCC DoC; CE/EMC; VCCI; C-Tick;

2.2.2 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

2.2.3 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

2.2.4 Modem

Manufacturer : TP-LINK
Model Number : TM-EC5658V
Serial Number : 07123301053
Data Cable : Shielded, Detachable, 1.8m
Certificate : CCC

2.2.5 Earphone

Manufacturer : audio-technica
Model Number : ATH-CKL200

2.2.6 TV Signal Generator

Manufacturer : FLUKE
Model Number : 54200M01
Serial Number : 814008

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 : CCC

2.2.9 DVD PLAYER #2

Manufacturer : PHILIPS
Model Number : DVP3986K/93
Serial Number : KX1A0902120082
Certificate : CCC

2.2.10 Hard Disk #1

Manufacturer	:	Tetasys
Model Number	:	F12
Serial Number	:	A010022-4860010X
Data Cable	:	Shielded, Undetachable, 1.8m.
Certificate	:	CE, FCC DoC

2.2.11 Hard Disk #2

Manufacturer	:	Tetasys
Model Number	:	F12
Serial Number	:	A010022-4A60007
Data Cable	:	Shielded, Undetachable, 1.8m.
Certificate	:	CE, FCC DoC

2.2.12 Hard Disk #3

Manufacturer	:	Tetasys
Model Number	:	F12
Serial Number	:	A010022-40F0005
Data Cable	:	Shielded, Undetachable, 1.8m.
Certificate	:	CE, FCC DoC

2.2.13 Smart Mobile Phone

Manufacturer	:	SAMSUNG
Model Number	:	GT-I9100G
Serial Number	:	6935152011519
Certificate	:	CE/EMC

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 : $U = 3.4\text{dB}$

Radiated Emission Expanded Uncertainty (30-200MHz):

$U = 4.6\text{dB}$ (Horizontal)

$U = 4.3\text{dB}$ (Vertical)

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

$U = 4.5\text{dB}$ (Horizontal)

$U = 5.4\text{dB}$ (Vertical)

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

$U = 5.1\text{dB}$

3 CONDUCTED EMISSION TEST

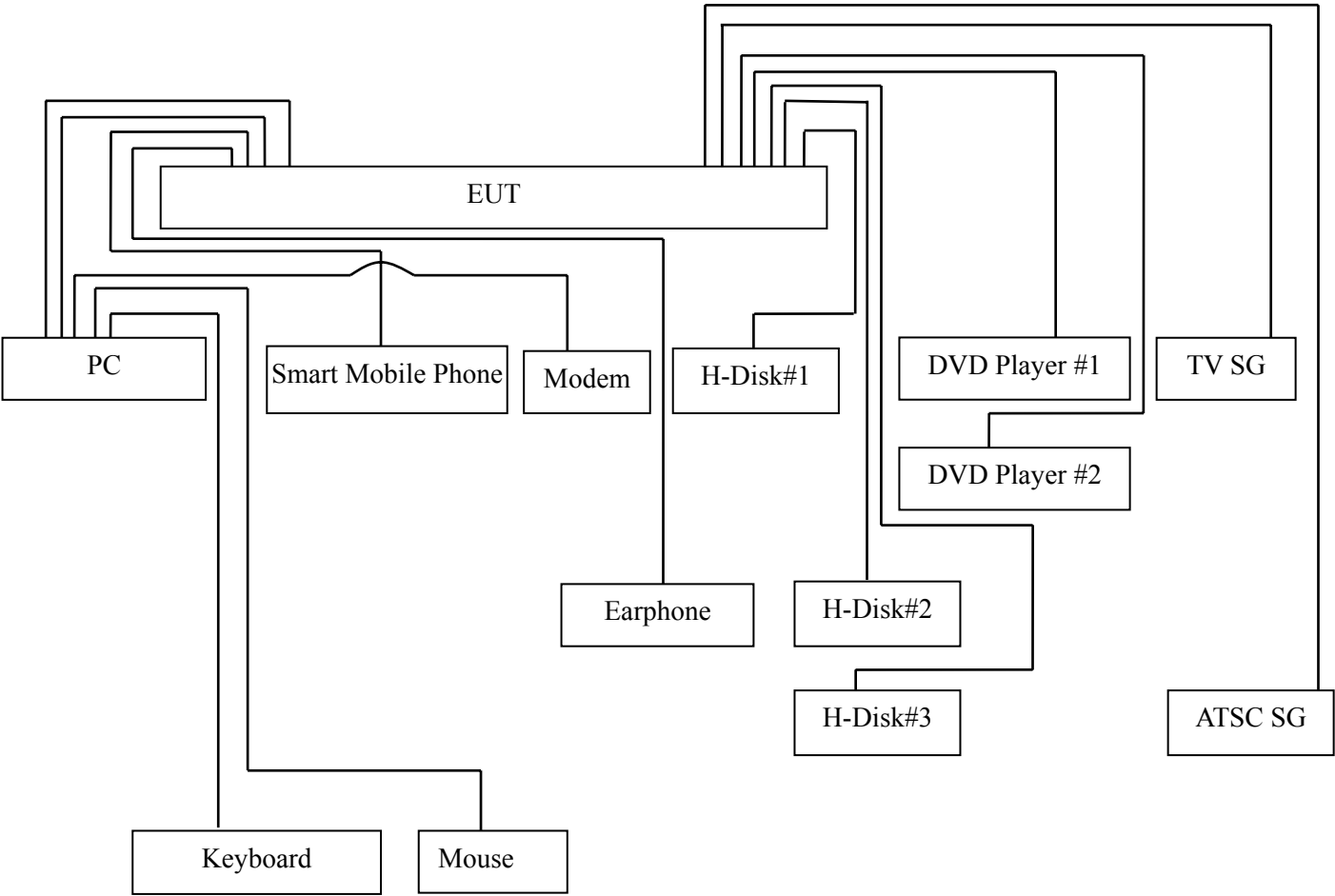
3.1 Test Equipment

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

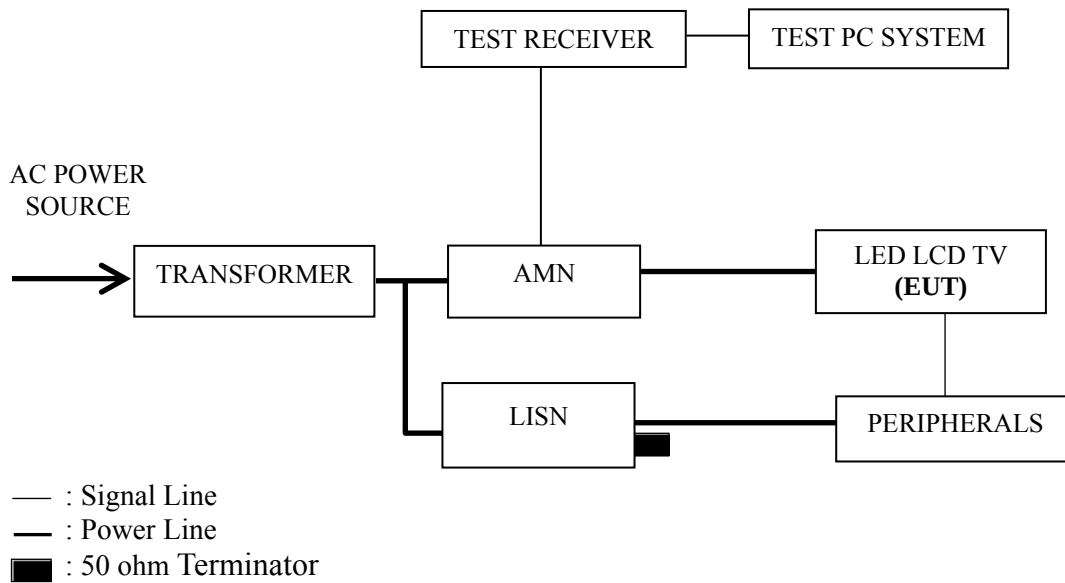
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	101302	Jul 03, 2015	Jul 02, 2016
2.	Artificial Mains Network (AMN)	R&S	ENV4200	100125	Jun 27, 2015	Jun 26, 2016
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-5	Mar 20, 2015	Mar 19, 2016
4.	50Ω Terminator	Anritsu	BNC	001	Mar 20, 2015	Mar 19, 2016
5.	Software	Audix	E3	6.111206	--	--

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 (μ 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 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 Hard Disk.

3.5.7 In LAN Play mode, set the EUT play digital media through LAN port.

3.5.8 In MHL mode, set the EUT play digital media from mobile phone.

3.5.9 The other peripherals devices were driven and operated during the test.

3.5.10 The test modes are as follows:

Test Mode
HDMI 3840*2160@60Hz & 1kHz playing
HDMI 1920*1080@60Hz & 1kHz playing
HDMI 1280*1024@60Hz & 1kHz playing
HDMI 640*480@60Hz & 1kHz playing
HDMI1080P
MHL
USB Play
LAN 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 3840*2160@60Hz & 1kHz playing	P14
HDMI 1920*1080@60Hz & 1kHz playing	P15
HDMI 1280*1024@60Hz & 1kHz playing	P16
HDMI 640*480@60Hz & 1kHz playing	P17
HDMI1080P	P18
MHL	P19
USB Play	P20
LAN Play	P21

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 MHL test mode. The worst emission is detected at 0.385MHz (Average Value) with corrected signal level of 38.91 dB (μV) (limit is 48.17 dB (μV)), when the Neutral of the EUT is connected to AMN.

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 48%RH

Test Mode : HDMI 3840*2160@60Hz Date of Test : Nov 30, 2015
& 1kHz Playing

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.175	42.70	10.55	53.25	64.72	11.47	QP
	0.385	28.70	10.43	39.13	58.18	19.05	
	0.767	22.80	10.38	33.18	56.00	22.82	
	3.240	20.30	10.45	30.75	56.00	25.25	
	6.077	31.80	10.47	42.27	60.00	17.73	
	21.080	29.90	10.63	40.53	60.00	19.47	
	0.175	34.80	10.55	45.35	54.72	9.37	AV
	0.385	28.00	10.43	38.43	48.18	9.75	
	0.767	21.60	10.38	31.98	46.00	14.02	
	3.240	14.10	10.45	24.55	46.00	21.45	
	6.077	26.90	10.47	37.37	50.00	12.63	
	21.080	25.20	10.63	35.83	50.00	14.17	
Neutral	0.173	41.79	10.55	52.34	64.82	12.48	QP
	0.384	28.80	10.41	39.21	58.18	18.97	
	0.768	22.80	10.36	33.16	56.00	22.84	
	2.767	19.70	10.43	30.13	56.00	25.87	
	6.077	32.01	10.49	42.50	60.00	17.50	
	22.080	33.20	10.77	43.97	60.00	16.03	
	0.173	31.89	10.55	42.44	54.82	12.38	AV
	0.384	28.10	10.41	38.51	48.18	9.67	
	0.768	21.90	10.36	32.26	46.00	13.74	
	2.767	12.70	10.43	23.13	46.00	22.87	
	6.077	27.51	10.49	38.00	50.00	12.00	
	22.080	28.40	10.77	39.17	50.00	10.83	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 48%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Nov 30, 2015
& 1kHz Playing

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.173	42.80	10.55	53.35	64.81	11.46	QP
	0.385	28.70	10.43	39.13	58.18	19.05	
	0.768	22.80	10.38	33.18	56.00	22.82	
	3.239	20.90	10.45	31.35	56.00	24.65	
	6.077	31.80	10.47	42.27	60.00	17.73	
	20.660	29.20	10.62	39.82	60.00	20.18	
	0.173	34.70	10.55	45.25	54.81	9.56	AV
	0.385	28.00	10.43	38.43	48.18	9.75	
	0.768	21.70	10.38	32.08	46.00	13.92	
	3.239	14.30	10.45	24.75	46.00	21.25	
	6.077	27.20	10.47	37.67	50.00	12.33	
	20.660	24.70	10.62	35.32	50.00	14.68	
Neutral	0.173	41.69	10.55	52.24	64.83	12.59	QP
	0.384	28.90	10.41	39.31	58.20	18.89	
	0.768	22.80	10.36	33.16	56.00	22.84	
	2.633	18.80	10.43	29.23	56.00	26.77	
	6.074	32.01	10.49	42.50	60.00	17.50	
	22.070	31.10	10.77	41.87	60.00	18.13	
	0.173	31.79	10.55	42.34	54.83	12.49	AV
	0.384	28.30	10.41	38.71	48.20	9.49	
	0.768	21.70	10.36	32.06	46.00	13.94	
	2.633	13.20	10.43	23.63	46.00	22.37	
	6.074	27.21	10.49	37.70	50.00	12.30	
	22.070	24.90	10.77	35.67	50.00	14.33	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 48%RH

Test Mode : HDMI 1280*1024@60Hz & 1kHz Playing Date of Test : Nov 30, 2015

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.172	42.79	10.56	53.35	64.87	11.52	QP
	0.383	28.80	10.43	39.23	58.21	18.98	
	0.768	22.80	10.38	33.18	56.00	22.82	
	2.227	18.50	10.42	28.92	56.00	27.08	
	6.043	29.00	10.47	39.47	60.00	20.53	
	21.940	31.19	10.67	41.86	60.00	18.14	
	0.172	34.39	10.56	44.95	54.87	9.92	AV
	0.383	28.10	10.43	38.53	48.21	9.68	
	0.768	21.90	10.38	32.28	46.00	13.72	
	2.227	12.20	10.42	22.62	46.00	23.38	
	6.043	22.00	10.47	32.47	50.00	17.53	
	21.940	27.39	10.67	38.06	50.00	11.94	
Neutral	0.173	41.49	10.55	52.04	64.83	12.79	QP
	0.383	28.60	10.41	39.01	58.22	19.21	
	0.770	22.60	10.36	32.96	56.00	23.04	
	2.160	18.91	10.41	29.32	56.00	26.68	
	6.074	32.01	10.49	42.50	60.00	17.50	
	21.870	32.09	10.77	42.86	60.00	17.14	
	0.173	31.79	10.55	42.34	54.83	12.49	AV
	0.383	28.50	10.41	38.91	48.22	9.31	
	0.770	21.40	10.36	31.76	46.00	14.24	
	2.160	13.01	10.41	23.42	46.00	22.58	
	6.074	27.41	10.49	37.90	50.00	12.10	
	21.870	28.89	10.77	39.66	50.00	10.34	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 48%RH

Test Mode : HDMI 640*480@60Hz & 1kHz Playing Date of Test : Nov 30, 2015

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.175	42.70	10.55	53.25	64.72	11.47	QP
	0.384	28.80	10.43	39.23	58.18	18.95	
	0.769	22.80	10.38	33.18	56.00	22.82	
	2.159	19.41	10.41	29.82	56.00	26.18	
	6.074	32.60	10.47	43.07	60.00	16.93	
	21.930	32.59	10.67	43.26	60.00	16.74	
	0.175	34.80	10.55	45.35	54.72	9.37	AV
	0.384	28.00	10.43	38.43	48.18	9.75	
	0.769	21.60	10.38	31.98	46.00	14.02	
	2.159	13.51	10.41	23.92	46.00	22.08	
	6.074	27.70	10.47	38.17	50.00	11.83	
	21.930	28.49	10.67	39.16	50.00	10.84	
Neutral	0.173	41.29	10.55	51.84	64.84	13.00	QP
	0.384	28.80	10.41	39.21	58.19	18.98	
	0.767	22.70	10.36	33.06	56.00	22.94	
	2.972	17.21	10.43	27.64	56.00	28.36	
	6.074	32.31	10.49	42.80	60.00	17.20	
	21.800	31.69	10.77	42.46	60.00	17.54	
	0.173	31.49	10.55	42.04	54.84	12.80	AV
	0.384	28.20	10.41	38.61	48.19	9.58	
	0.767	21.60	10.36	31.96	46.00	14.04	
	2.972	12.01	10.43	22.44	46.00	23.56	
	6.074	27.41	10.49	37.90	50.00	12.10	
	21.800	28.49	10.77	39.26	50.00	10.74	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 48%RH

Test Mode : HDMI1080P Date of Test : Nov 30, 2015

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.171	42.10	10.56	52.66	64.94	12.28	QP
	0.386	28.10	10.43	38.53	58.16	19.63	
	0.766	22.60	10.38	32.98	56.00	23.02	
	2.766	18.49	10.44	28.93	56.00	27.07	
	6.073	32.50	10.47	42.97	60.00	17.03	
	21.800	30.79	10.67	41.46	60.00	18.54	
	0.171	34.20	10.56	44.76	54.94	10.18	AV
	0.386	27.90	10.43	38.33	48.16	9.83	
	0.766	21.50	10.38	31.88	46.00	14.12	
	2.766	12.89	10.44	23.33	46.00	22.67	
	6.073	27.70	10.47	38.17	50.00	11.83	
	21.800	26.29	10.67	36.96	50.00	13.04	
Neutral	0.171	41.10	10.55	51.65	64.94	13.29	QP
	0.384	28.90	10.41	39.31	58.19	18.88	
	1.153	20.71	10.37	31.08	56.00	24.92	
	2.765	18.10	10.43	28.53	56.00	27.47	
	6.073	32.11	10.49	42.60	60.00	17.40	
	21.860	33.29	10.77	44.06	60.00	15.94	
	0.171	31.20	10.55	41.75	54.94	13.19	AV
	0.384	28.10	10.41	38.51	48.19	9.68	
	1.153	17.81	10.37	28.18	46.00	17.82	
	2.765	12.40	10.43	22.83	46.00	23.17	
	6.073	27.31	10.49	37.80	50.00	12.20	
	21.860	28.09	10.77	38.86	50.00	11.14	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 48%RH

Test Mode : MHL Date of Test : Nov 30, 2015

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.170	42.30	10.56	52.86	64.95	12.09	QP
	0.384	28.10	10.43	38.53	58.19	19.66	
	0.769	22.80	10.38	33.18	56.00	22.82	
	2.295	18.30	10.42	28.72	56.00	27.28	
	6.101	28.30	10.47	38.77	60.00	21.23	
	21.650	32.50	10.65	43.15	60.00	16.85	
	0.170	34.00	10.56	44.56	54.95	10.39	AV
	0.384	28.00	10.43	38.43	48.19	9.76	
	0.769	21.50	10.38	31.88	46.00	14.12	
	2.295	12.40	10.42	22.82	46.00	23.18	
	6.101	22.80	10.47	33.27	50.00	16.73	
	21.650	28.40	10.65	39.05	50.00	10.95	
Neutral	0.173	41.09	10.55	51.64	64.84	13.20	QP
	0.385	28.80	10.41	39.21	58.17	18.96	
	0.768	22.90	10.36	33.26	56.00	22.74	
	2.298	16.60	10.42	27.02	56.00	28.98	
	5.935	31.90	10.49	42.39	60.00	17.61	
	21.720	32.21	10.75	42.96	60.00	17.04	
	0.173	31.49	10.55	42.04	54.84	12.80	AV
	0.385	28.50	10.41	38.91	48.17	9.26	
	0.768	21.70	10.36	32.06	46.00	13.94	
	2.298	9.30	10.42	19.72	46.00	26.28	
	5.935	27.20	10.49	37.69	50.00	12.31	
	21.720	28.81	10.75	39.56	50.00	10.44	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 48%RH

Test Mode : USB Play Date of Test : Nov 30, 2015

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.170	41.90	10.56	52.46	64.98	12.52	QP
	0.384	28.10	10.43	38.53	58.19	19.66	
	0.769	22.70	10.38	33.08	56.00	22.92	
	2.161	18.81	10.41	29.22	56.00	26.78	
	6.057	29.30	10.47	39.77	60.00	20.23	
	22.670	29.30	10.69	39.99	60.00	20.01	
	0.170	33.70	10.56	44.26	54.98	10.72	AV
	0.384	27.90	10.43	38.33	48.19	9.86	
	0.769	21.60	10.38	31.98	46.00	14.02	
	2.161	12.41	10.41	22.82	46.00	23.18	
	6.057	21.60	10.47	32.07	50.00	17.93	
	22.670	25.40	10.69	36.09	50.00	13.91	
Neutral	0.172	41.29	10.55	51.84	64.87	13.03	QP
	0.384	28.70	10.41	39.11	58.20	19.09	
	0.767	22.70	10.36	33.06	56.00	22.94	
	2.159	18.81	10.41	29.22	56.00	26.78	
	6.073	32.21	10.49	42.70	60.00	17.30	
	21.790	32.49	10.77	43.26	60.00	16.74	
	0.172	31.39	10.55	41.94	54.87	12.93	AV
	0.384	28.10	10.41	38.51	48.20	9.69	
	0.767	21.50	10.36	31.86	46.00	14.14	
	2.159	13.21	10.41	23.62	46.00	22.38	
	6.073	27.31	10.49	37.80	50.00	12.20	
	21.790	27.69	10.77	38.46	50.00	11.54	

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 48%RH

Test Mode : LAN Play Date of Test : Nov 30, 2015

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.171	42.80	10.56	53.36	64.91	11.55	QP
	0.385	28.40	10.43	38.83	58.16	19.33	
	0.767	22.70	10.38	33.08	56.00	22.92	
	4.115	19.89	10.47	30.36	56.00	25.64	
	6.110	28.90	10.47	39.37	60.00	20.63	
	21.720	33.51	10.65	44.16	60.00	15.84	
	0.171	34.20	10.56	44.76	54.91	10.15	AV
	0.385	28.30	10.43	38.73	48.16	9.43	
	0.767	21.60	10.38	31.98	46.00	14.02	
	4.115	14.79	10.47	25.26	46.00	20.74	
	6.110	23.20	10.47	33.67	50.00	16.33	
	21.720	28.81	10.65	39.46	50.00	10.54	
Neutral	0.174	41.09	10.55	51.64	64.79	13.15	QP
	0.384	28.10	10.41	38.51	58.19	19.68	
	0.768	22.90	10.36	33.26	56.00	22.74	
	2.234	16.90	10.42	27.32	56.00	28.68	
	6.069	31.61	10.49	42.10	60.00	17.90	
	22.530	30.51	10.78	41.29	60.00	18.71	
	0.174	31.59	10.55	42.14	54.79	12.65	AV
	0.384	28.00	10.41	38.41	48.19	9.78	
	0.768	21.80	10.36	32.16	46.00	13.84	
	2.234	6.20	10.42	16.62	46.00	29.38	
	6.069	26.81	10.49	37.30	50.00	12.70	
	22.530	27.21	10.78	37.99	50.00	12.01	

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

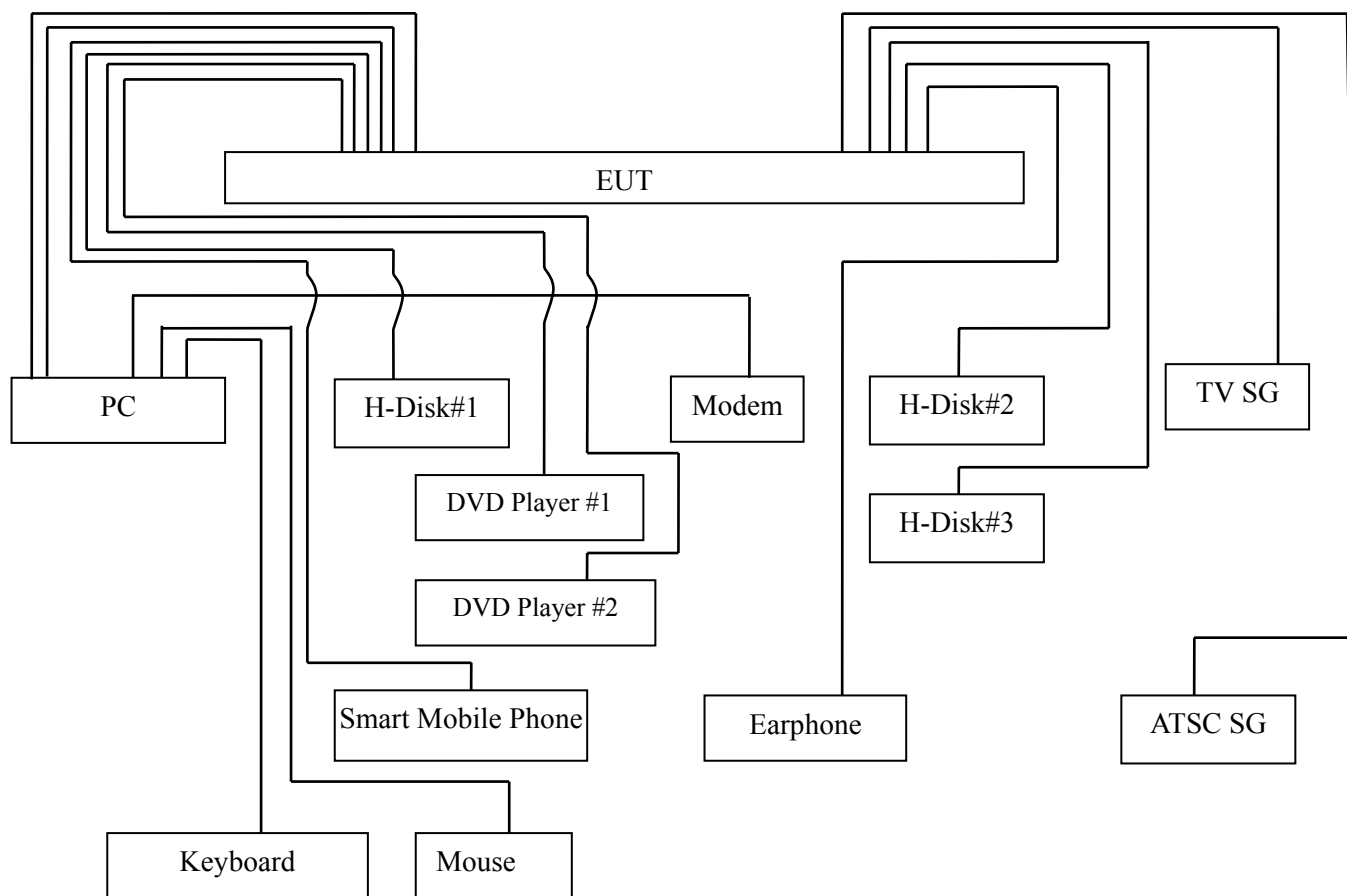
4.1 Test Equipment

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

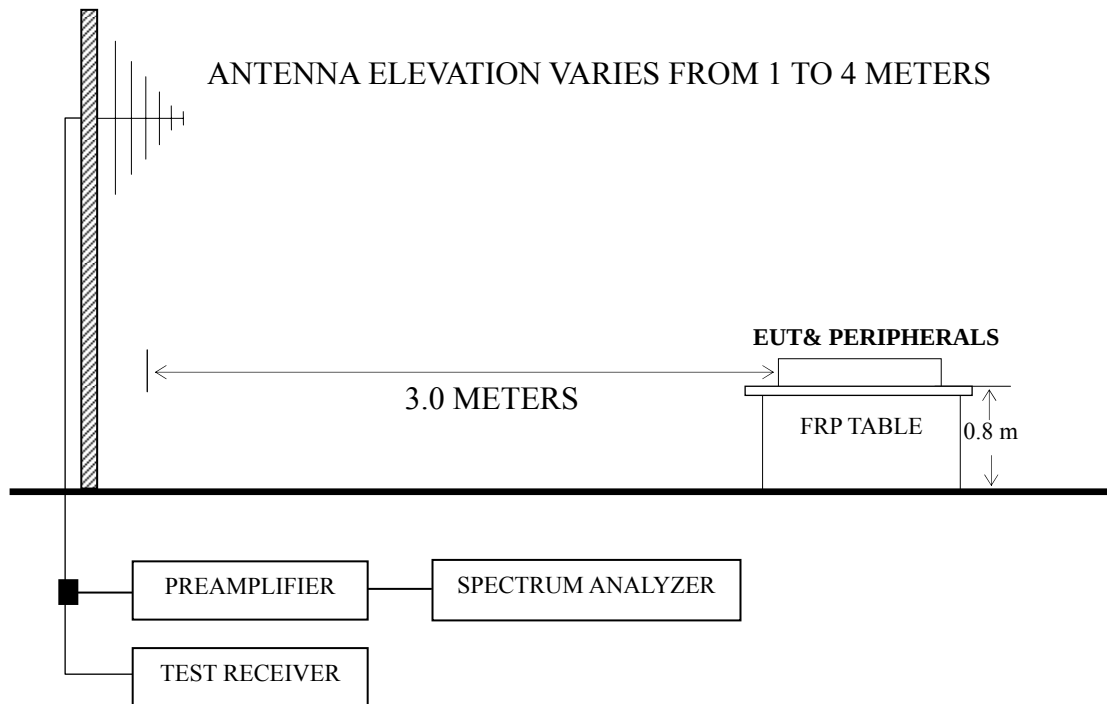
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	101303	May 07, 2015	May 06, 2016
2.	Preamplifier	Agilent	8447D	2944A06664	Apr 27, 2015	Apr 26, 2016
3.	Preamplifier	HP	8449B	3008A00864	Mar 20, 2015	Sep 19, 2016
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 15, 2015	May 14, 2016
5.	Horn Antenna	EMCO	3115	9607-4878	Jun 03, 2015	Jun 02, 2016
6.	Spectrum	Agilent	N9010A	MY52221182	Jun 12, 2015	Jun 11, 2016
7.	Spectrum	HP	8591EM	3628A00908	May 07, 2015	May 06, 2016
8.	50 Ω Coaxial Switch	Anritsu	MP59B	6200426390	Sep 18, 2015	Mar 17, 2016
9.	Software	Audix	E3	6.2007-9-10	--	--

4.2 Block Diagram of Test Setup

4.2.1 EUT & Peripherals



4.2.2 Radiated emission test setup



■ : 50 ohm Coaxial Switch

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

Frequency (MHz)	Distance (m)	Field strength limits	
		($\mu\text{V/m}$)	dB ($\mu\text{V/m}$)
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

NOTE 1 - Emission Level dB ($\mu\text{V/m}$) = 20 log Emission Level ($\mu\text{V/m}$)

NOTE 2 - The tighter limit applies at the band edges.

NOTE 3 - Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

NOTE 4 - The limits shown are based on Quasi-peak value detector.

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 6 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 3840*2160@60Hz & 1kHz playing	P26 - P27
HDMI 1920*1080@60Hz & 1kHz playing	P28
HDMI 1280*1024@60Hz & 1kHz playing	P29
HDMI 640*480@60Hz & 1kHz playing	P30
HDMI1080P	P31
MHL	P32
USB Play	P33
LAN Play	P34

- 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 3840*2160@60Hz & 1kHz Playing test mode. The worst emission at horizontal polarization was detected at 844.800 MHz with corrected signal level of 44.55 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.6 m height and the turntable was at 160°. The worst emission at vertical polarization was detected at 891.000 MHz with corrected signal level of 44.86 dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 1.4m height and the turntable was at 340°.

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : HDMI 3840*2160@60Hz & 1kHz Playing Date of Test : Dec 21, 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	83.350	23.94	9.66	1.13	--	34.73	40.00	5.27	QP
	201.690	22.86	9.73	1.97	--	34.56	43.50	8.94	
	221.090	22.74	10.60	2.05	--	35.39	46.00	10.61	
	297.000	25.20	13.70	2.56	--	41.46	46.00	4.54	
	702.210	19.84	19.80	3.54	--	43.18	46.00	2.82	
	844.800	19.75	20.73	4.07	--	44.55	46.00	1.45	
	1271.371	24.75	58.86	3.61	36.02	51.20	74.00	22.80	PK
	2552.543	28.63	61.07	4.96	35.16	59.50	74.00	14.50	
	2956.525	30.33	61.82	5.69	35.20	62.64	74.00	11.36	
	3381.760	31.29	57.89	6.10	34.82	60.46	74.00	13.54	
	3806.281	32.30	51.90	5.94	34.45	55.69	74.00	18.31	
	5914.609	35.07	46.45	8.31	34.08	55.75	74.00	18.25	AV
	1271.371	24.75	42.29	3.61	36.02	34.63	54.00	19.37	
	2552.543	28.63	43.40	4.96	35.16	41.83	54.00	12.17	
	2956.525	30.33	42.30	5.69	35.20	43.12	54.00	10.88	
	3381.760	31.29	41.30	6.10	34.82	43.87	54.00	10.13	
	3806.281	32.30	36.20	5.94	34.45	39.99	54.00	14.01	
	5914.609	35.07	30.29	8.31	34.08	39.59	54.00	14.41	

TEST ENGINEER: BILL WU

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : HDMI 3840*2160@60Hz & 1kHz Playing Date of Test : Dec 21, 2015

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Emission Level dB (μV/m)	Limits dB (μV/m)	Margin (dB)	Remark
Vertical	31.080	16.70	18.15	0.65	--	35.50	40.00	4.50	QP
	88.200	21.47	10.25	1.18	--	32.90	43.50	10.60	
	225.940	21.72	10.88	2.07	--	34.67	46.00	11.33	
	297.000	27.50	13.70	2.56	--	43.76	46.00	2.24	
	517.910	16.44	18.05	2.84	--	37.33	46.00	8.67	
	891.000	19.10	21.30	4.46	--	44.86	46.00	1.14	
	1209.161	24.49	62.72	3.54	36.12	54.63	74.00	19.37	PK
	2051.345	27.61	65.98	4.50	35.11	62.98	74.00	11.02	
	2538.859	28.57	64.07	4.96	35.16	62.44	74.00	11.56	
	2977.790	30.43	63.80	5.76	35.20	64.79	74.00	9.21	
	3375.707	31.27	55.75	6.10	34.83	58.29	74.00	15.71	
	5914.609	35.07	46.45	8.31	34.08	55.75	74.00	18.25	
	1209.161	24.49	43.30	3.54	36.12	35.21	54.00	18.79	AV
	2051.345	27.61	46.94	4.50	35.11	43.94	54.00	10.06	
	2538.859	28.57	46.29	4.96	35.16	44.66	54.00	9.34	
	2977.790	30.43	43.11	5.76	35.20	44.10	54.00	9.90	
	3375.707	31.27	39.30	6.10	34.83	41.84	54.00	12.16	
	5914.609	35.07	29.20	8.31	34.08	38.50	54.00	15.50	

TEST ENGINEER: BILL WU

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Dec 21, 2015
& 1kHz Playing

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	81.410	20.71	9.51	1.10	31.32	40.00	8.68
	165.800	24.25	11.24	1.75	37.24	43.50	6.26
	297.000	25.10	13.70	2.56	41.36	46.00	4.64
	697.360	17.34	19.77	3.54	40.65	46.00	5.35
	782.720	17.63	20.50	3.66	41.79	46.00	4.21
	890.960	16.50	21.30	4.46	42.26	46.00	3.74
Vertical	34.850	18.70	15.80	0.68	35.18	40.00	4.82
	81.410	24.85	9.51	1.10	35.46	40.00	4.54
	144.460	18.61	12.15	1.60	32.36	43.50	11.14
	481.050	17.13	17.52	2.90	37.55	46.00	8.45
	699.300	15.68	19.80	3.54	39.02	46.00	6.98
	850.620	16.59	20.70	4.17	41.46	46.00	4.54

TEST ENGINEER: BILL WU

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : HDMI 1280*1024@60Hz Date of Test : Dec 21, 2015
& 1kHz Playing

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	96.930	22.94	11.93	1.29	36.16	43.50	7.34
	244.370	23.20	12.20	2.14	37.54	46.00	8.46
	297.000	24.10	13.70	2.56	40.36	46.00	5.64
	479.110	20.28	17.50	2.90	40.68	46.00	5.32
	519.850	19.06	18.10	2.78	39.94	46.00	6.06
	853.530	14.42	20.73	4.17	39.32	46.00	6.68
Vertical	78.500	24.36	9.12	1.05	34.53	40.00	5.47
	170.650	24.62	10.87	1.78	37.27	43.50	6.23
	241.460	23.14	12.00	2.13	37.27	46.00	8.73
	300.630	23.17	13.84	2.59	39.60	46.00	6.40
	522.760	18.40	18.18	2.78	39.36	46.00	6.64
	844.800	15.63	20.73	4.07	40.43	46.00	5.57

TEST ENGINEER: BILL WU

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : HDMI 640*480@60Hz & 1kHz Playing Date of Test : Dec 21, 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	34.850	16.03	15.80	0.68	32.51	40.00	7.49
	79.470	20.99	9.29	1.07	31.35	40.00	8.65
	149.310	17.15	11.57	1.63	30.35	43.50	13.15
	300.630	23.66	13.84	2.59	40.09	46.00	5.91
	517.910	17.35	18.05	2.84	38.24	46.00	7.76
	847.710	16.65	20.70	4.07	41.42	46.00	4.58
Vertical	34.850	15.71	15.80	0.68	32.19	40.00	7.81
	84.320	20.17	9.74	1.13	31.04	40.00	8.96
	224.970	16.96	10.80	2.07	29.83	46.00	16.17
	530.520	13.84	18.30	2.73	34.87	46.00	11.13
	699.300	13.90	19.80	3.54	37.24	46.00	8.76
	841.890	9.19	20.77	4.07	34.03	46.00	11.97

TEST ENGINEER: BILL WU

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : HDMI1080P Date of Test : Dec 21, 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	90.140	17.96	10.50	1.21	29.67	43.50	13.83
	170.650	17.20	10.87	1.78	29.85	43.50	13.65
	298.690	23.26	13.75	2.56	39.57	46.00	6.43
	568.350	19.53	18.45	2.47	40.45	46.00	5.55
	844.800	15.58	20.73	4.07	40.38	46.00	5.62
	890.040	15.00	21.30	4.46	40.76	46.00	5.24
Vertical	34.850	17.62	15.80	0.68	34.10	40.00	5.90
	56.190	25.23	6.30	0.85	32.38	40.00	7.62
	90.140	20.84	10.50	1.21	32.55	43.50	10.95
	219.150	19.64	10.44	2.04	32.12	46.00	13.88
	704.150	13.67	19.80	3.56	37.03	46.00	8.97
	847.710	15.57	20.70	4.07	40.34	46.00	5.66

TEST ENGINEER: BILL WU

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : MHL Date of Test : Dec 21, 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	92.080	21.11	11.00	1.23	33.34	43.50	10.16
	130.880	18.68	12.76	1.53	32.97	43.50	10.53
	301.600	22.93	13.88	2.59	39.40	46.00	6.60
	366.590	18.93	16.17	2.68	37.78	46.00	8.22
	714.820	15.19	19.85	3.57	38.61	46.00	7.39
	847.710	14.62	20.70	4.07	39.39	46.00	6.61
Vertical	33.880	16.89	16.47	0.67	34.03	40.00	5.97
	82.380	23.26	9.60	1.12	33.98	40.00	6.02
	152.220	23.34	11.35	1.65	36.34	43.50	7.16
	410.240	13.01	16.60	2.73	32.34	46.00	13.66
	547.980	12.72	18.74	2.63	34.09	46.00	11.91
	844.800	15.19	20.73	4.07	39.99	46.00	6.01

TEST ENGINEER: BILL WU

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : USB Play Date of Test : Dec 21, 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	80.440	23.87	9.43	1.09	34.39	40.00	5.61
	98.870	20.92	12.16	1.30	34.38	43.50	9.12
	237.580	22.95	11.64	2.11	36.70	46.00	9.30
	301.600	22.89	13.88	2.59	39.36	46.00	6.64
	478.140	19.22	17.46	2.90	39.58	46.00	6.42
	853.530	15.38	20.73	4.17	40.28	46.00	5.72
Vertical	81.410	23.16	9.51	1.10	33.77	40.00	6.23
	134.760	22.65	12.60	1.55	36.80	43.50	6.70
	151.250	23.50	11.43	1.65	36.58	43.50	6.92
	165.800	24.27	11.24	1.75	37.26	43.50	6.24
	479.110	15.17	17.50	2.90	35.57	46.00	10.43
	891.000	14.90	21.30	4.46	40.66	46.00	5.34

TEST ENGINEER: BILL WU

EUT : LED LCD TV Temperature : 22°C

Model No. : LTDN75K700GUWUS Humidity : 60%RH

Test Mode : LAN Play Date of Test : Dec 21, 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	79.470	23.05	9.29	1.07	33.41	40.00	6.59
	151.250	25.36	11.43	1.65	38.44	43.50	5.06
	255.040	21.98	12.70	2.22	36.90	46.00	9.10
	334.580	20.01	14.93	2.64	37.58	46.00	8.42
	850.620	16.36	20.70	4.17	41.23	46.00	4.77
	891.000	15.00	21.30	4.46	40.76	46.00	5.24
Vertical	77.530	23.89	8.95	1.05	33.89	40.00	6.11
	151.250	24.77	11.43	1.65	37.85	43.50	5.65
	245.340	25.34	12.30	2.14	39.78	46.00	6.22
	335.550	21.89	14.97	2.64	39.50	46.00	6.50
	447.100	21.08	16.83	2.82	40.73	46.00	5.27
	742.520	16.30	19.97	3.60	39.87	46.00	6.13

TEST ENGINEER: BILL WU

5 DEVIATION TO TEST SPECIFICATIONS

None.