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

LED LCD TV

Model No.	Brand
HU75K702UWG, 75H9C	Hisense
LC-75N8000U	Sharp

FCC ID : W9HLCDF0093

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-F16233
Date of Test : Sep 18 –20, 2016
Date of Report : Sep 26, 2016

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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
HU75K702UWG,75H9C	Hisense	120V/60Hz
LC-75N8000U	Sharp	

Test Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2015 AND ANSI C63.4-2014

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 Sep 18 –20, 2016 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 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.F16232, a Verification report.

Date of Test : Sep 18 –20, 2016 Date of Report : Sep 26, 2016

Producer : Hui Min Yan
HUI MIN YAN / Assistant

Review : Byron Wu
BYRON WU / Deputy Assistant Manager

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

Signatory :
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 2015 AND ANSI C63.4-2014	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2015 AND ANSI C63.4-2014	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.	Brand
HU75K702UWG, 75H9C	Hisense
LC-75N8000U	Sharp

Note : The above models are all the same except for the model number and brand. The LC-75N8000U was tested.

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(P2)

Tuner : Manufacturer : XUGUANG
M/N : HFT-96S3/W11FJ2H

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

Power Cord : Unshielded, Detachable, 1.80m, 2C

USB Cable*3 (Lab provide) : Shielded, Detachable, 1.00m

LAN Cable : Unshielded, Detachable, 1.50m

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:

Side Port:

(1) One USB3 Port
: Connected with Hard-Disk #3

(2) One HDMI2/ARC Port
: Connected with PC

(3) One HDMI1/MHL Port
: Connected with Smart Mobile Phone

(4) One Audio out Port
: Connected with Earphone#1

(5) One Service Port
: This port does not open to customer

(6) One USB1 Port
: Connected with Hard-Disk #1

(7) One USB2 Port
: Connected with Hard-Disk #2

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

Back Port:

(9) One COMPONENT IN/AV IN Port
: Connected with DVD Player #1

(10) One LAN Port
: Connected with PC

(11) One DIGITAL AUDIO OUT Port
: Connected with Audio Converter to Earphone#2

(12) One HDMI3 Port
: Connected with DVD Player #1

(13) One HDMI4 Port
: Connected with DVD Player #2

2.2 Peripherals

2.2.1 PC

Manufacturer	:	HP
Model Number	:	Pro3340
Serial Number	:	6CR2512VFD
Power Cord	:	Unshielded, Detachable, 1.8m
Certificate	:	CE/EMC, FCC DoC, VCCI, UL, CCC

2.2.2 Keyboard

Manufacturer	:	Microsoft
Model Number	:	RT2300
Serial Number	:	7668200662248
Data Cable	:	Shielded, Detachable, 1.5m
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, Detachable, 1.5m.
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 *2

Manufacturer	:	EDIFIER
Model Number	:	H210

2.2.6 DVD PLAYER #1

Manufacturer	:	PHILIPS
Model Number	:	DVP3986K/93
Serial Number	:	KX1A0902120108
Certificate	:	CCC

2.2.7 DVD PLAYER #2

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

2.2.8 Hard Disk #1

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

2.2.9 Hard Disk #2

Manufacturer	:	Tetasys
Model Number	:	F12
Serial Number	:	A010022-486006
Data Cable	:	Shielded, Undetachable, 1.8m.
Certificate	:	CE, FCC DoC

2.2.10 Hard Disk #3

Manufacturer	:	Tetasys
Model Number	:	F12
Serial Number	:	A010022-4A60007
Data Cable	:	Shielded, Detachable, 1.5m.
Certificate	:	CE, FCC DoC

2.2.11 ATSC Signal Generator

Manufacturer : SENCORE
Model Number : ATSC997
Serial Number : 6790071

2.2.12 TV Signal Generator

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

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
FCC registration Number	:	91789
NVLAP Lab Code	:	200371-0

2.4 Measurement Uncertainty

Conducted Emission Expanded Uncertainty : U = 3.4dB
Radiated Emission Expanded Uncertainty (30-200MHz):
U = 4.6dB(Horizontal)
U = 4.3dB (Vertical)
Radiated Emission Expanded Uncertainty (200M-1GHz):
U = 4.5dB (Horizontal)
U = 5.4dB (Vertical)
Radiated Emission Expanded Uncertainty (1GHz-6GHz):
U = 5.1dB

3 CONDUCTED EMISSION TEST

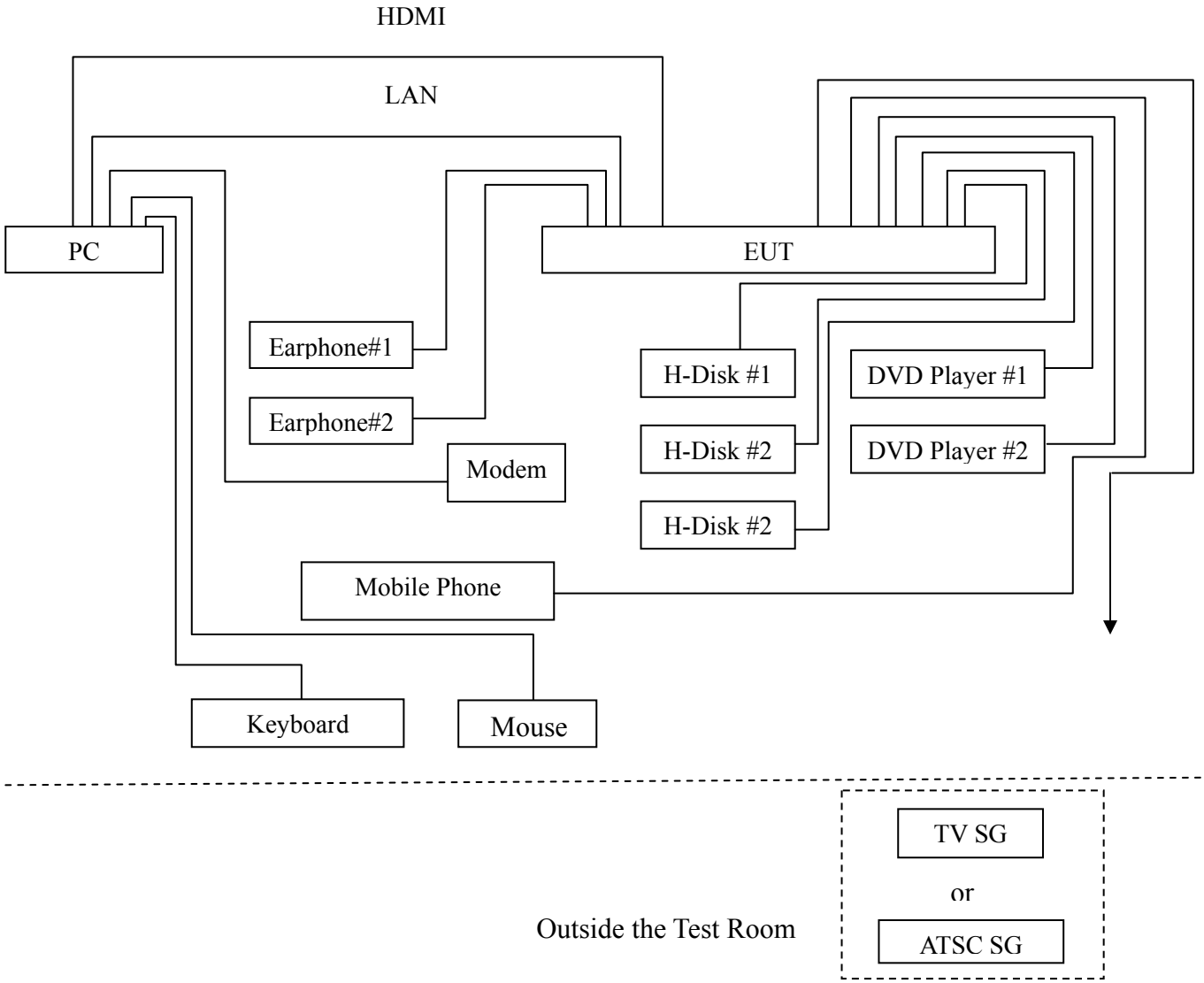
3.1 Test Equipment

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

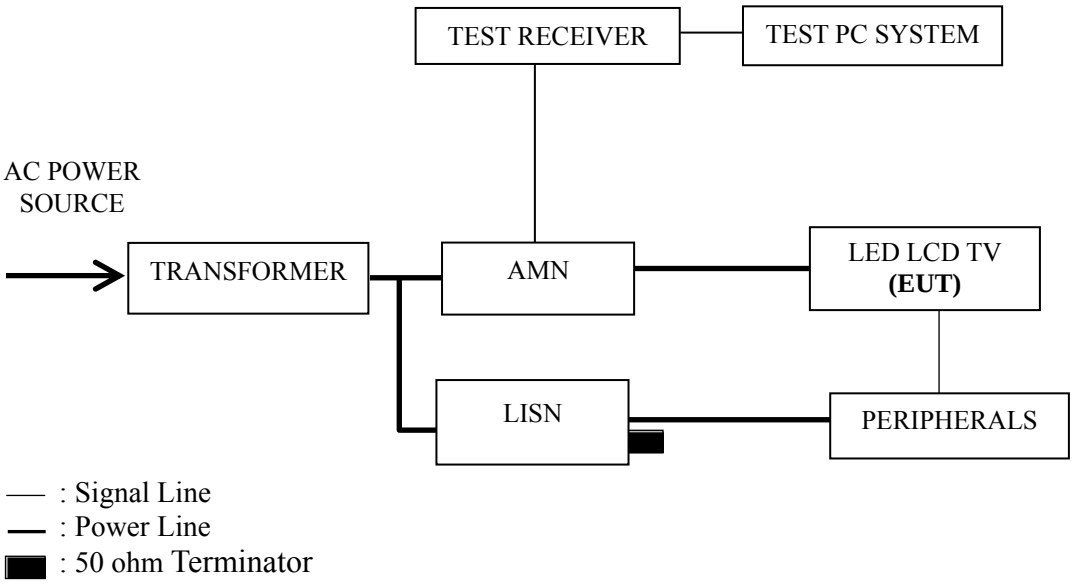
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	101302	Apr 27, 2016	Apr 26, 2017
2.	Artificial Mains Network (AMN)	R&S	ENV4200	100125	Jun 25, 2016	Jun 24, 2017
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2016	Mar 19, 2017
4.	50Ω Terminator	Anritsu	BNC	001	Mar 20, 2016	Mar 19, 2017
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 (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/D-Sub 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 H-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
USB Play
LAN Play
MHL

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 C63.4:2014 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	P13
HDMI 1920*1080@60Hz & 1kHz Playing	P14
HDMI 1280*1024@60Hz & 1kHz playing	P15
HDMI 640*480@60Hz & 1kHz playing	P16
HDMI1080P	P17
USB Play	P18
LAN Play	P19
MHL	P20

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 640*480@60Hz & 1kHz playing test mode. The worst emission is detected at 17.480MHz (Quasi-Peak Value) with corrected signal level of 43.18 dB (μV) (limit is 50.00 dB (μV)), when the Line of the EUT is connected to AMN.

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity :	48%RH	
Test Mode	:	HDMI 3840*2160@60Hz & 1kHz Playing	Date of Test :	Sep 18, 2016	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.151	44.70	10.59	55.29	65.94	10.65	QP
	0.385	28.00	10.44	38.44	58.18	19.74	
	0.769	23.30	10.40	33.70	56.00	22.30	
	2.688	22.39	10.43	32.82	56.00	23.18	
	6.255	28.80	10.46	39.26	60.00	20.74	
	17.570	35.40	10.58	45.98	60.00	14.02	
	0.151	34.20	10.59	44.79	55.94	11.15	AV
	0.385	28.20	10.44	38.64	48.18	9.54	
	0.769	21.10	10.40	31.50	46.00	14.50	
	2.688	17.19	10.43	27.62	46.00	18.38	
	6.255	23.40	10.46	33.86	50.00	16.14	
	17.570	**32.20**	**10.58**	**42.78**	**50.00**	**7.22**	
Neutral	0.152	43.90	10.58	54.48	65.88	11.40	QP
	0.385	28.00	10.43	38.43	58.18	19.75	
	1.245	21.20	10.41	31.61	56.00	24.39	
	2.555	22.20	10.45	32.65	56.00	23.35	
	6.259	32.50	10.52	43.02	60.00	16.98	
	17.960	33.00	10.69	43.69	60.00	16.31	
	0.152	33.20	10.58	43.78	55.88	12.10	AV
	0.385	28.30	10.43	38.73	48.18	9.45	
	1.245	16.50	10.41	26.91	46.00	19.09	
	2.555	16.90	10.45	27.35	46.00	18.65	
	6.259	27.50	10.52	38.02	50.00	11.98	
	17.960	30.40	10.69	41.09	50.00	8.91	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity :	48%RH	
Test Mode	:	HDMI 1920*1080@60Hz & 1kHz Playing	Date of Test :	Sep 18, 2016	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.152	45.00	10.59	55.59	65.88	10.29	QP
	0.384	27.80	10.44	38.24	58.18	19.94	
	0.769	23.40	10.40	33.80	56.00	22.20	
	2.685	22.29	10.43	32.72	56.00	23.28	
	6.262	31.70	10.46	42.16	60.00	17.84	
	17.820	33.50	10.58	44.08	60.00	15.92	
	0.152	34.00	10.59	44.59	55.88	11.29	AV
	0.384	28.40	10.44	38.84	48.18	9.34	
	0.769	21.10	10.40	31.50	46.00	14.50	
	2.685	16.99	10.43	27.42	46.00	18.58	
	6.262	26.50	10.46	36.96	50.00	13.04	
	17.820	**31.30**	**10.58**	**41.88**	**50.00**	**8.12**	
Neutral	0.151	43.90	10.58	54.48	65.96	11.48	QP
	0.384	27.70	10.43	38.13	58.19	20.06	
	0.721	22.30	10.39	32.69	56.00	23.31	
	2.685	22.19	10.46	32.65	56.00	23.35	
	6.313	31.80	10.52	42.32	60.00	17.68	
	17.230	34.11	10.67	44.78	60.00	15.22	
	0.151	33.20	10.58	43.78	55.96	12.18	AV
	0.384	28.40	10.43	38.83	48.19	9.36	
	0.721	17.60	10.39	27.99	46.00	18.01	
	2.685	16.99	10.46	27.45	46.00	18.55	
	6.313	26.70	10.52	37.22	50.00	12.78	
	17.230	29.31	10.67	39.98	50.00	10.02	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity :	48%RH	
Test Mode	:	HDMI 1280*1024@60Hz & 1kHz playing	Date of Test :	Sep 18, 2016	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.151	45.00	10.59	55.59	65.96	10.37	QP
	0.383	27.80	10.44	38.24	58.22	19.98	
	0.722	22.40	10.40	32.80	56.00	23.20	
	2.689	20.99	10.43	31.42	56.00	24.58	
	5.839	31.30	10.46	41.76	60.00	18.24	
	17.230	32.20	10.57	42.77	60.00	17.23	
	0.151	33.80	10.59	44.39	55.96	11.57	AV
	0.383	28.00	10.44	38.44	48.22	9.78	
	0.722	17.30	10.40	27.70	46.00	18.30	
	2.689	14.89	10.43	25.32	46.00	20.68	
	5.839	26.40	10.46	36.86	50.00	13.14	
	17.230	28.70	10.57	39.27	50.00	10.73	
Neutral	0.151	44.10	10.58	54.68	65.94	11.26	QP
	0.384	28.10	10.43	38.53	58.19	19.66	
	1.244	22.70	10.41	33.11	56.00	22.89	
	2.684	22.39	10.46	32.85	56.00	23.15	
	6.261	32.50	10.52	43.02	60.00	16.98	
	16.170	29.20	10.67	39.87	60.00	20.13	
	0.151	32.60	10.58	43.18	55.94	12.76	AV
	0.384	**28.40**	**10.43**	**38.83**	**48.19**	**9.36**	
	1.244	16.50	10.41	26.91	46.00	19.09	
	2.684	17.09	10.46	27.55	46.00	18.45	
	6.261	27.50	10.52	38.02	50.00	11.98	
	16.170	25.80	10.67	36.47	50.00	13.53	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity :	48%RH	
Test Mode	:	HDMI 640*480@60Hz & 1kHz playing	Date of Test :	Sep 18, 2016	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.151	45.00	10.59	55.59	65.95	10.36	QP
	0.384	28.20	10.44	38.64	58.20	19.56	
	0.768	23.60	10.40	34.00	56.00	22.00	
	2.225	22.59	10.42	33.01	56.00	22.99	
	6.261	32.80	10.46	43.26	60.00	16.74	
	17.480	35.00	10.58	45.58	60.00	14.42	
	0.151	33.40	10.59	43.99	55.95	11.96	AV
	0.384	28.40	10.44	38.84	48.20	9.36	
	0.768	21.30	10.40	31.70	46.00	14.30	
	2.225	17.09	10.42	27.51	46.00	18.49	
	6.261	27.70	10.46	38.16	50.00	11.84	
	17.480	**32.60**	**10.58**	**43.18**	**50.00**	**6.82**	
Neutral	0.151	44.10	10.58	54.68	65.97	11.29	QP
	0.384	28.10	10.43	38.53	58.18	19.65	
	0.769	23.00	10.39	33.39	56.00	22.61	
	2.685	22.29	10.46	32.75	56.00	23.25	
	6.259	32.40	10.52	42.92	60.00	17.08	
	16.560	30.40	10.67	41.07	60.00	18.93	
	0.151	32.60	10.58	43.18	55.97	12.79	AV
	0.384	28.40	10.43	38.83	48.18	9.35	
	0.769	20.90	10.39	31.29	46.00	14.71	
	2.685	17.19	10.46	27.65	46.00	18.35	
	6.259	27.50	10.52	38.02	50.00	11.98	
	16.560	25.20	10.67	35.87	50.00	14.13	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity	:	48%RH
Test Mode	:	HDMI1080P	Date of Test	:	Sep 18, 2016

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	45.10	10.59	55.69	65.98	10.29	QP
	0.386	27.80	10.44	38.24	58.16	19.92	
	0.768	23.40	10.40	33.80	56.00	22.20	
	2.158	22.00	10.41	32.41	56.00	23.59	
	6.261	32.50	10.46	42.96	60.00	17.04	
	17.740	34.50	10.58	45.08	60.00	14.92	
	0.150	33.20	10.59	43.79	55.98	12.19	AV
	0.386	28.00	10.44	38.44	48.16	9.72	
	0.768	21.20	10.40	31.60	46.00	14.40	
	2.158	16.10	10.41	26.51	46.00	19.49	
	6.261	27.80	10.46	38.26	50.00	11.74	
	17.740	**32.10**	**10.58**	**42.68**	**50.00**	**7.32**	
Neutral	0.151	44.10	10.58	54.68	65.97	11.29	QP
	0.383	28.00	10.43	38.43	58.21	19.78	
	1.178	22.71	10.40	33.11	56.00	22.89	
	2.682	22.39	10.46	32.85	56.00	23.15	
	6.260	33.00	10.52	43.52	60.00	16.48	
	17.870	32.60	10.69	43.29	60.00	16.71	
	0.151	32.30	10.58	42.88	55.97	13.09	AV
	0.383	28.30	10.43	38.73	48.21	9.48	
	1.178	17.21	10.40	27.61	46.00	18.39	
	2.682	16.89	10.46	27.35	46.00	18.65	
	6.260	27.40	10.52	37.92	50.00	12.08	
	17.870	30.00	10.69	40.69	50.00	9.31	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity	:	48%RH
Test Mode	:	USB Play	Date of Test	:	Sep 18, 2016

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.151	45.10	10.59	55.69	65.94	10.25	QP
	0.383	28.00	10.44	38.44	58.21	19.77	
	0.768	23.50	10.40	33.90	56.00	22.10	
	2.158	22.30	10.41	32.71	56.00	23.29	
	6.241	29.80	10.46	40.26	60.00	19.74	
	17.670	34.10	10.58	44.68	60.00	15.32	
	0.151	32.90	10.59	43.49	55.94	12.45	AV
	0.383	28.30	10.44	38.74	48.21	9.47	
	0.768	21.30	10.40	31.70	46.00	14.30	
	2.158	16.50	10.41	26.91	46.00	19.09	
	6.241	22.70	10.46	33.16	50.00	16.84	
	17.670	**31.80**	**10.58**	**42.38**	**50.00**	**7.62**	
Neutral	0.166	43.60	10.56	54.16	65.16	11.00	QP
	0.384	28.10	10.43	38.53	58.20	19.67	
	0.769	23.10	10.39	33.49	56.00	22.51	
	2.094	22.50	10.43	32.93	56.00	23.07	
	6.259	32.40	10.52	42.92	60.00	17.08	
	17.210	34.01	10.67	44.68	60.00	15.32	
	0.166	27.90	10.56	38.46	55.16	16.70	AV
	0.384	28.40	10.43	38.83	48.20	9.37	
	0.769	20.90	10.39	31.29	46.00	14.71	
	2.094	17.10	10.43	27.53	46.00	18.47	
	6.259	27.30	10.52	37.82	50.00	12.18	
	17.210	31.21	10.67	41.88	50.00	8.12	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity	:	48%RH
Test Mode	:	LAN Play	Date of Test	:	Sep 18, 2016

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.150	45.10	10.59	55.69	65.98	10.29	QP
	0.384	28.20	10.44	38.64	58.19	19.55	
	0.769	23.50	10.40	33.90	56.00	22.10	
	2.160	22.30	10.41	32.71	56.00	23.29	
	6.259	33.00	10.46	43.46	60.00	16.54	
	17.660	35.40	10.58	45.98	60.00	14.02	
	0.150	32.60	10.59	43.19	55.98	12.79	AV
	0.384	28.50	10.44	38.94	48.19	9.25	
	0.769	21.20	10.40	31.60	46.00	14.40	
	2.160	16.40	10.41	26.81	46.00	19.19	
	6.259	27.60	10.46	38.06	50.00	11.94	
	17.660	**31.90**	**10.58**	**42.48**	**50.00**	**7.52**	
Neutral	0.150	44.10	10.58	54.68	65.98	11.30	QP
	0.384	28.20	10.43	38.63	58.19	19.56	
	0.769	23.20	10.39	33.59	56.00	22.41	
	1.897	21.40	10.43	31.83	56.00	24.17	
	6.018	32.10	10.52	42.62	60.00	17.38	
	21.780	31.00	10.76	41.76	60.00	18.24	
	0.150	31.80	10.58	42.38	55.98	13.60	AV
	0.384	28.40	10.43	38.83	48.19	9.36	
	0.769	21.20	10.39	31.59	46.00	14.41	
	1.897	16.60	10.43	27.03	46.00	18.97	
	6.018	25.70	10.52	36.22	50.00	13.78	
	21.780	26.60	10.76	37.36	50.00	12.64	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity	:	48%RH
Test Mode	:	MHL	Date of Test	:	Sep 18, 2016

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.151	45.00	10.59	55.59	65.96	10.37	QP
	0.384	28.20	10.44	38.64	58.19	19.55	
	0.768	23.60	10.40	34.00	56.00	22.00	
	2.223	22.69	10.42	33.11	56.00	22.89	
	6.260	32.80	10.46	43.26	60.00	16.74	
	16.740	31.90	10.57	42.47	60.00	17.53	
	0.151	32.60	10.59	43.19	55.96	12.77	AV
	0.384	**28.50**	**10.44**	**38.94**	**48.19**	**9.25**	
	0.768	21.30	10.40	31.70	46.00	14.30	
	2.223	16.99	10.42	27.41	46.00	18.59	
	6.260	27.50	10.46	37.96	50.00	12.04	
	16.740	28.00	10.57	38.57	50.00	11.43	
Neutral	0.150	44.20	10.58	54.78	65.99	11.21	QP
	0.383	28.00	10.43	38.43	58.21	19.78	
	1.180	21.81	10.40	32.21	56.00	23.79	
	2.158	22.51	10.43	32.94	56.00	23.06	
	5.979	31.60	10.52	42.12	60.00	17.88	
	21.580	30.40	10.76	41.16	60.00	18.84	
	0.150	31.80	10.58	42.38	55.99	13.61	AV
	0.383	28.30	10.43	38.73	48.21	9.48	
	1.180	15.81	10.40	26.21	46.00	19.79	
	2.158	16.81	10.43	27.24	46.00	18.76	
	5.979	26.50	10.52	37.02	50.00	12.98	
	21.580	24.70	10.76	35.46	50.00	14.54	

TEST ENGINEER: BYRON WU

4 RADIATED EMISSION TEST

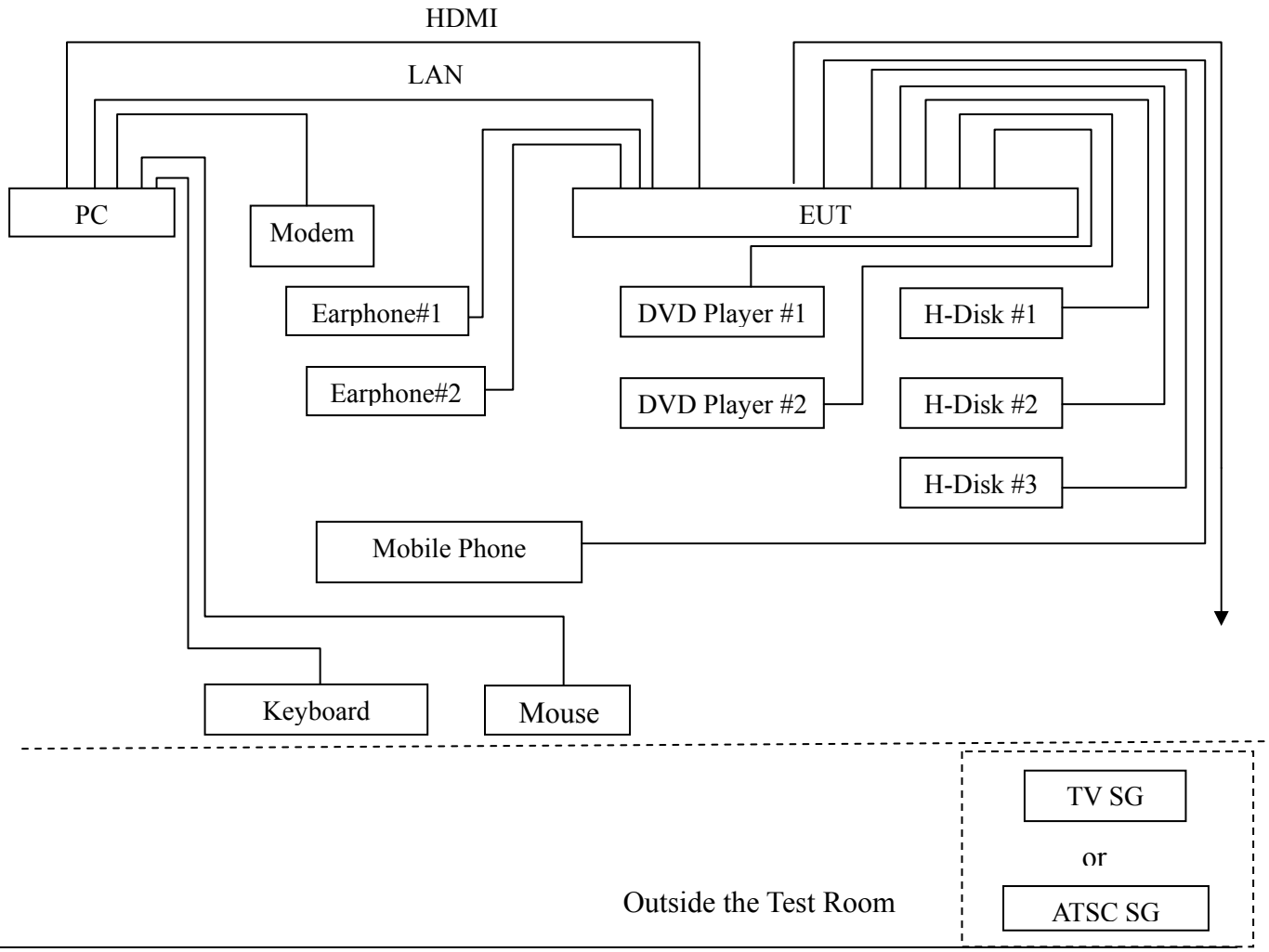
4.1 Test Equipment

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, 2016	May 06, 2017
2.	Preamplifier	Agilent	8447D	2944A06664	Apr 27, 2016	Apr 26, 2017
3.	Preamplifier	HP	8449B	3008A00864	Mar 20, 2016	Mar 19, 2017
4.	Bi-log Antenna	TESEQ	CBL6112D	23193	May 15, 2016	May 14, 2017
5.	Horn Antenna	EMCO	3115	9607-4878	Jun 03, 2016	Jun 02, 2017
6.	Spectrum	Agilent	E7405A	MY45106600	Apr 26, 2016	Apr 25, 2017
7.	Software	Audix	e3	6.2007-9-10	--	--

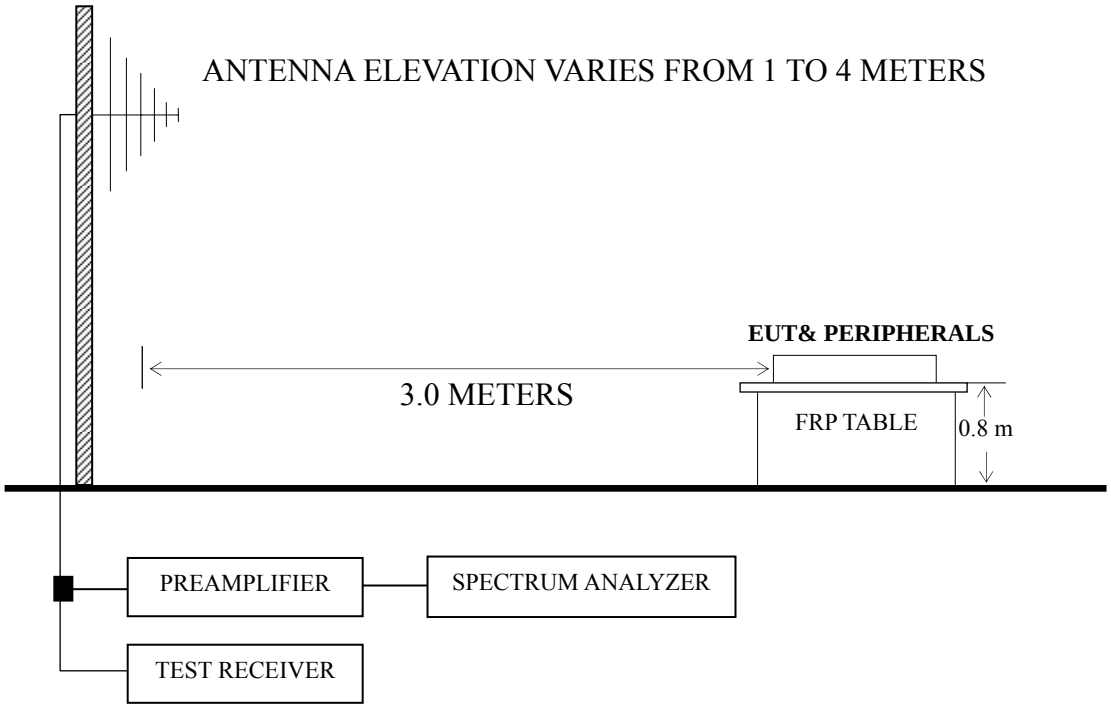
4.2 Block Diagram of Test Setup

4.2.1 EUT & Peripherals



4.2.2 Radiated emission test setup

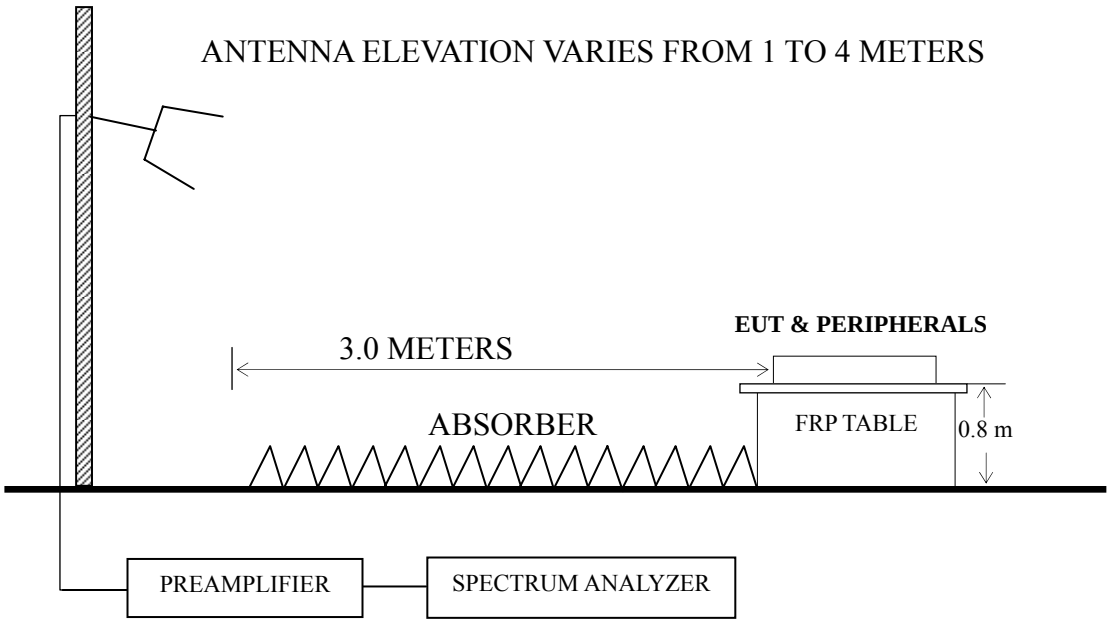
4.2.2.1 Below 1GHz



■ : 50 ohm Coaxial Switch

4.2.2.2 Above 1GHz

BORE-SIGHT ANTENNA TOWER



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 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 5 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.

Frequency	Test Mode	Data Page
Below 1GHz	HDMI 3840*2160@60Hz & 1kHz Playing	P25-P26
	HDMI 1920*1080@60Hz & 1kHz Playing	P27
	HDMI 1280*1024@60Hz & 1kHz playing	P28
	HDMI 640*480@60Hz & 1kHz playing	P29
	HDMI1080P	P30
	USB Play	P31
	LAN Play	P32
	MHL	P33
Above 1GHz	HDMI 3840*2160@60Hz & 1kHz Playing	P25-P26

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + 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 851.035 MHz with corrected signal level of 43.00dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 2.3 m height and the turntable was at 70°. The worst emission at vertical polarization was detected at 890.728 MHz with corrected signal level of 43.74dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 2.0 m height and the turntable was at 250°.

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-75N8000U	Humidity :	60%RH
Test Mode	:	HDMI 3840*2160@60Hz & 1kHz Playing	Date of Test :	Sep 20, 2016

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	77.865	22.87	0.88	8.64	0.00	32.39	40.00	7.61	QP
	89.905	21.94	0.95	10.75	0.00	33.64	43.50	9.86	
	163.182	24.63	1.34	11.19	0.00	37.16	43.50	6.34	
	297.224	25.52	1.75	13.60	0.00	40.87	46.00	5.13	
	851.035	**19.43**	**3.00**	**20.57**	**0.00**	**43.00**	**46.00**	**3.00**	
	890.728	18.24	3.07	21.10	0.00	42.41	46.00	3.59	
	1696.503	63.65	26.42	4.07	35.44	58.70	74.00	15.30	PK
	2547.974	60.94	28.63	4.96	35.16	59.37	74.00	14.63	
	3387.825	57.29	31.29	6.10	34.82	59.86	74.00	14.14	
	1696.503	42.63	26.42	4.07	35.44	37.68	54.00	16.32	AV
	2547.974	40.74	28.63	4.96	35.16	39.17	54.00	14.83	
	3387.825	37.64	31.29	6.10	34.82	40.21	54.00	13.79	

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-75N8000U	Humidity :	60%RH
Test Mode	:	HDMI 3840*2160@60Hz & 1kHz Playing	Date of Test :	Sep 20, 2016

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	31.843	18.90	0.58	17.19	0.00	36.67	40.00	3.33	QP
	80.081	22.79	0.89	8.90	0.00	32.58	40.00	7.42	
	139.851	21.73	1.23	13.20	0.00	36.16	43.50	7.34	
	297.224	24.05	1.75	13.60	0.00	39.40	46.00	6.60	
	845.088	19.28	2.98	20.40	0.00	42.66	46.00	3.34	
	890.728	**19.57**	**3.07**	**21.10**	**0.00**	**43.74**	**46.00**	**2.26**	
	1702.593	61.56	26.44	4.07	35.43	56.64	74.00	17.36	PK
	2940.675	61.32	30.27	5.69	35.20	62.08	74.00	11.92	
	3387.825	55.47	31.29	6.10	34.82	58.04	74.00	15.96	
	1702.593	40.83	26.44	4.07	35.43	35.91	54.00	18.09	AV
	2940.675	39.02	30.27	5.69	35.20	39.78	54.00	14.22	
	3387.825	35.73	31.29	6.10	34.82	38.30	54.00	15.70	

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-75N8000U	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz & 1kHz Playing	Date of Test :	Sep 20, 2016

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	77.865	23.73	0.88	8.64	33.25	40.00	6.75
	132.221	21.45	1.19	12.86	35.50	43.50	8.00
	164.908	24.31	1.35	11.10	36.76	43.50	6.74
	297.224	25.88	1.75	13.60	41.23	46.00	4.77
	845.088	18.57	2.98	20.40	41.95	46.00	4.05
	890.728	**18.53**	**3.07**	**21.10**	**42.70**	**46.00**	**3.30**
Vertical	31.955	18.45	0.58	17.10	36.13	40.00	3.87
	132.221	22.69	1.19	12.86	36.74	43.50	6.76
	164.908	25.11	1.35	11.10	37.56	43.50	5.94
	297.224	26.04	1.75	13.60	41.39	46.00	4.61
	578.670	21.35	2.46	18.30	42.11	46.00	3.89
	848.056	19.03	2.98	20.50	42.51	46.00	3.49

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature	:	22℃
Model No.	:	LC-75N8000U	Humidity	:	60%RH
Test Mode	:	HDMI 1280*1024@60Hz & 1kHz Playing	Date of Test	:	Sep 20, 2016

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	32.979	18.75	0.59	16.67	36.01	40.00	3.99
	55.805	25.01	0.75	7.44	33.20	40.00	6.80
	181.920	25.47	1.41	10.27	37.15	43.50	6.35
	278.067	24.42	1.71	13.35	39.48	46.00	6.52
	578.670	20.93	2.46	18.30	41.69	46.00	4.31
	742.259	19.06	2.79	19.57	41.42	46.00	4.58
Vertical	**32.634**	**19.43**	**0.58**	**16.83**	**36.84**	**40.00**	**3.16**
	53.882	25.84	0.73	7.83	34.40	40.00	5.60
	85.298	20.26	0.92	10.15	31.33	40.00	8.67
	309.998	22.32	1.79	13.90	38.01	46.00	7.99
	530.101	21.81	2.34	17.80	41.95	46.00	4.05
	836.244	18.98	2.96	20.30	42.24	46.00	3.76

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity :	60%RH	
Test Mode	:	HDMI 640*480@60Hz & 1kHz Playing	Date of Test :	Sep 20, 2016	

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	55.805	25.02	0.75	7.44	33.21	40.00	6.79
	162.041	24.96	1.33	11.21	37.50	43.50	6.00
	222.950	25.97	1.55	11.20	38.72	46.00	7.28
	370.702	20.62	1.96	15.63	38.21	46.00	7.79
	539.478	17.40	2.36	17.60	37.36	46.00	8.64
	815.968	18.23	2.94	20.30	41.47	46.00	4.53
Vertical	46.016	22.04	0.68	9.60	32.32	40.00	7.68
	103.806	23.05	1.03	12.32	36.40	43.50	7.10
	217.544	23.31	1.54	10.96	35.81	46.00	10.19
	327.887	22.35	1.85	14.39	38.59	46.00	7.41
	425.028	**23.03**	**2.10**	**16.35**	**41.48**	**46.00**	**4.52**
	696.857	19.07	2.71	19.17	40.95	46.00	5.05

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-75N8000U	Humidity :	60%RH
Test Mode	:	HDMI1080P	Date of Test :	Sep 20, 2016

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	72.592	26.22	0.85	7.85	34.92	40.00	5.08
	90.220	25.03	0.95	10.80	36.78	43.50	6.72
	209.313	22.33	1.51	10.60	34.44	43.50	9.06
	423.420	23.61	2.10	16.33	42.04	46.00	3.96
	706.700	19.52	2.73	19.17	41.42	46.00	4.58
	851.035	**19.41**	**3.00**	**20.57**	**42.98**	**46.00**	**3.02**
Vertical	30.745	16.57	0.57	17.88	35.02	40.00	4.98
	61.132	25.61	0.78	6.66	33.05	40.00	6.95
	104.170	22.30	1.03	12.32	35.65	43.50	7.85
	262.896	26.39	1.67	13.22	41.28	46.00	4.72
	625.078	19.65	2.56	18.95	41.16	46.00	4.84
	863.056	17.90	3.03	20.77	41.70	46.00	4.30

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity :	60%RH	
Test Mode	:	USB Play	Date of Test :	Sep 20, 2016	

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	83.816	20.86	0.91	9.84	31.61	40.00	8.39
	101.289	23.17	1.01	12.37	36.55	43.50	6.95
	215.268	22.45	1.53	10.90	34.88	43.50	8.62
	385.281	19.71	2.00	15.95	37.66	46.00	8.34
	562.662	15.50	2.42	18.12	36.04	46.00	9.96
	798.980	14.44	2.89	20.40	37.73	46.00	8.27
Vertical	**31.731**	**15.59**	**0.58**	**17.27**	**33.44**	**40.00**	**6.56**
	104.536	22.84	1.03	12.31	36.18	43.50	7.32
	229.293	22.12	1.57	11.46	35.15	46.00	10.85
	365.539	19.57	1.95	15.50	37.02	46.00	8.98
	501.179	17.87	2.26	17.50	37.63	46.00	8.37
	704.226	17.26	2.73	19.13	39.12	46.00	6.88

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-75N8000U	Humidity :	60%RH
Test Mode	:	LAN Play	Date of Test :	Sep 20, 2016

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	78.413	21.85	0.88	8.71	31.44	40.00	8.56
	157.007	22.62	1.31	11.43	35.36	43.50	8.14
	234.991	22.66	1.59	11.80	36.05	46.00	9.95
	350.477	19.85	1.92	15.10	36.87	46.00	9.13
	603.539	15.34	2.52	18.50	36.36	46.00	9.64
	798.980	15.78	2.89	20.40	39.07	46.00	6.93
Vertical	**31.180**	**15.65**	**0.57**	**17.62**	**33.84**	**40.00**	**6.16**
	118.186	21.38	1.12	12.22	34.72	43.50	8.78
	219.075	24.64	1.54	10.98	37.16	46.00	8.84
	403.250	17.80	2.05	16.27	36.12	46.00	9.88
	620.710	15.87	2.56	18.80	37.23	46.00	8.77
	875.247	15.43	3.05	20.93	39.41	46.00	6.59

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-75N8000U	Humidity :	60%RH	
Test Mode	:	MHL	Date of Test :	Sep 20, 2016	

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	60.069	24.20	0.77	6.60	31.57	40.00	8.43
	94.098	22.33	0.97	11.47	34.77	43.50	8.73
	178.133	24.12	1.40	10.43	35.95	43.50	7.55
	366.823	20.22	1.96	15.53	37.71	46.00	8.29
	601.427	15.98	2.52	18.45	36.95	46.00	9.05
	801.786	**15.84**	**2.91**	**20.40**	**39.15**	**46.00**	**6.85**
Vertical	31.180	14.91	0.57	17.62	33.10	40.00	6.90
	61.346	24.80	0.78	6.68	32.26	40.00	7.74
	108.647	21.33	1.06	12.15	34.54	43.50	8.96
	200.688	23.60	1.48	10.13	35.21	43.50	8.29
	517.248	17.66	2.30	17.52	37.48	46.00	8.52
	758.041	15.86	2.83	19.65	38.34	46.00	7.66

TEST ENGINEER: CAESAR WU

5 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Manufacturer	Location
SMcontact	SMR-TSL-4-3.5-5R	Qingdao Joinset Co., Ltd	See Appendix Figure 26

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: 

(BYRON WU)

6 DEVIATION TO TEST SPECIFICATIONS

None

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