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

LED LCD TV

Model No.	Brand
HU55M5010UW	Hisense
LC-55P8000U LC-55N8002U	Sharp

FCC ID : W9HLCDF0100

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-F17042
Date of Test : Jan 03-11, 2017
Date of Report : Jan 18, 2017

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.

Factory #3 : HISENSE ELECTRONICA MEXICO, S.A. DE C.V.

EUT Description : LED LCD TV

Model No.	Brand	Power Supply
HU55M5010UW	Hisense	120V/60Hz
LC-55P8000U LC-55N8002U	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 Jan 03-11, 2017 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.F17043, a Verification report.

Date of Test : Jan 03-11, 2017 Date of Report : Jan 18, 2017

Producer : TINA LIANG / Assistant

Review : BYRON WU / Deputy Assistant Manager

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

Signatory : Authorized Signature(s) 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
HU55M5010UW	Hisense
LC-55P8000U LC-55N8002U	Sharp

Note : The above models are all the same except for model number and brand name. LC-55P8000U model was 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 : Hisense
M/N :HD550M5U51-TA

Tuner : Manufacturer : SILICON LABS
M/N : Si2151-A10

HDMI Cable*4 (Lab provide) : Shielded, Detachable, 1.80m

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

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

LAN Cable : Unshielded, Detachable, 1.50m

Remark:

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

Side Port:

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

(2) One USB#1 Port
: Connected with Hard-Disk#1

(3) One USB#2Port
: Connected with Hard-Disk#2

(4) One Service Port
: Do not open to customer

(5) One AUDIO OUT Port
: Connected with Earphone#1

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

(7) One HDMI2 Port
: Connected with PC

(8) One USB#3Port
: Connected with Hard-Disk#3

Back Port:

(9) One COMPONENT IN/AV IN Port
: Connected with DVD PLAYER

(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

(13) One HDMI4 Port
: Connected with PC

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, C-Tick

2.2.2 Modem

Manufacturer	:	TP-LINK
Model Number	:	TM-EC5658V
Serial Number	:	07123301053
Data Cable	:	Unshielded, Detachable, 1.5m
Certificate	:	CE/EMC, FCC DoC, VCCI, UL, CCC

2.2.3 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

2.2.4 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

2.2.5 Earphone *2

Manufacturer	:	EDIFIER
Model Number	:	H210

2.2.6 DVD PLAYER

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

2.2.7 Hard Disk #1

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

2.2.8 Hard Disk #2

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

2.2.9 Hard Disk #3

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

2.2.10 ATSC Signal Generator

Manufacturer	:	SENCORE
Model Number	:	ATSC997
Serial Number	:	6790071

2.2.11 TV Signal Generator

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

2.2.12 Mobile Phone

Manufacturer : SAMSUNG
Model Number : GT-I9100G
Serial Number : 69351520011519

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

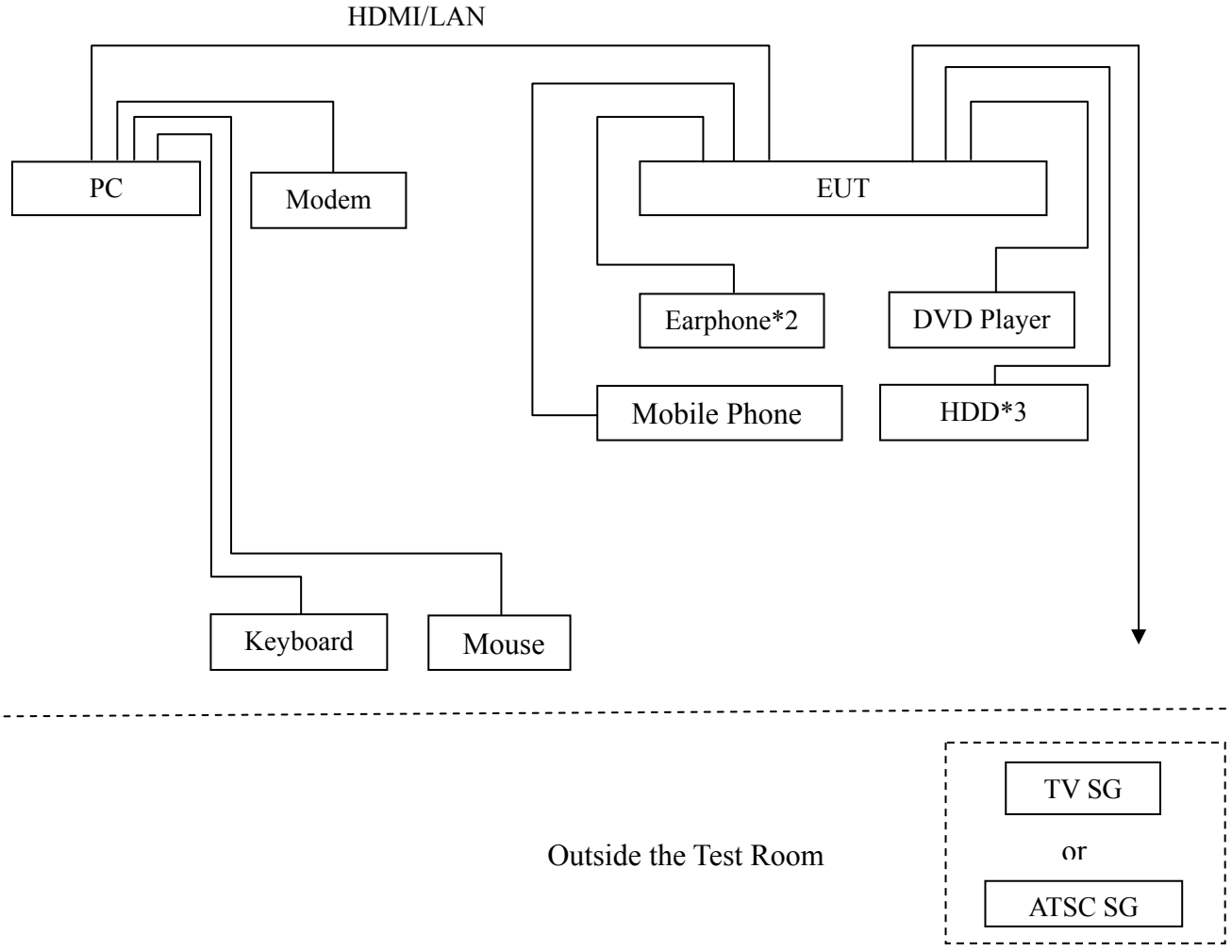
3.1 Test Equipment

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

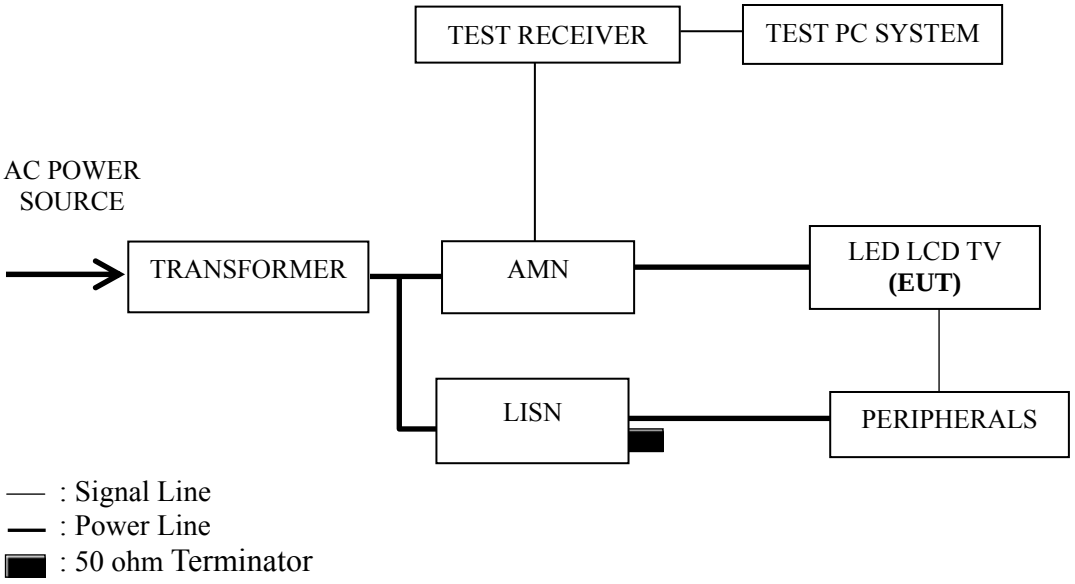
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	101302	Apr 27, 2016	Apr 26, 2017
2.	Artificial Mains Network (AMN)	R&S	ENV4200	100125	Jun 25, 2016	Jun 24, 2017
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2016	Mar 19, 2017
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 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
MHL
HDMI1080P
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 C63.4:2014 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
MHL	P17
HDMI1080P	P18
USB Play	P19
LAN Play	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 MHL test mode. The worst emission is detected at 2.493MHz (Quasi-Peak Value) with corrected signal level of 46.82 dB (μV) (limit is 56.00 dB (μV)), when the Line of the EUT is connected to AMN.

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity :	48%RH	
Test Mode	:	HDMI 3840*2160@60Hz & 1kHz Playing	Date of Test :	Dec 09, 2016	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.182	36.30	10.55	46.85	64.42	17.57	QP
	0.435	32.80	10.42	43.22	57.15	13.93	
	0.686	**34.20**	**10.40**	**44.60**	**56.00**	**11.40**	
	1.568	30.21	10.40	40.61	56.00	15.39	
	2.500	32.80	10.42	43.22	56.00	12.78	
	8.729	10.70	10.48	21.18	60.00	38.82	
	0.182	24.90	10.55	35.45	54.42	18.97	AV
	0.435	14.10	10.42	24.52	47.15	22.63	
	0.686	17.90	10.40	28.30	46.00	17.70	
	1.568	15.21	10.40	25.61	46.00	20.39	
	2.500	20.40	10.42	30.82	46.00	15.18	
	8.729	4.50	10.48	14.98	50.00	35.02	
Neutral	0.184	37.30	10.54	47.84	64.28	16.44	QP
	0.461	34.70	10.40	45.10	56.67	11.57	
	0.933	**34.40**	**10.40**	**44.80**	**56.00**	**11.20**	
	1.610	31.70	10.42	42.12	56.00	13.88	
	2.448	32.61	10.44	43.05	56.00	12.95	
	8.916	12.00	10.56	22.56	60.00	37.44	
	0.184	27.00	10.54	37.54	54.28	16.74	AV
	0.461	20.00	10.40	30.40	46.67	16.27	
	0.933	19.80	10.40	30.20	46.00	15.80	
	1.610	15.70	10.42	26.12	46.00	19.88	
	2.448	20.51	10.44	30.95	46.00	15.05	
	8.916	5.90	10.56	16.46	50.00	33.54	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity :	48%RH	
Test Mode	:	HDMI 1920*1080@60Hz & 1kHz Playing	Date of Test :	Dec 09, 2016	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.184	37.20	10.55	47.75	64.28	16.53	QP
	0.461	34.50	10.41	44.91	56.67	11.76	
	0.701	**35.90**	**10.40**	**46.30**	**56.00**	**9.70**	
	1.433	30.11	10.40	40.51	56.00	15.49	
	2.554	33.70	10.42	44.12	56.00	11.88	
	9.011	13.30	10.48	23.78	60.00	36.22	
	0.184	25.60	10.55	36.15	54.28	18.13	AV
	0.461	19.90	10.41	30.31	46.67	16.36	
	0.701	19.10	10.40	29.50	46.00	16.50	
	1.433	14.71	10.40	25.11	46.00	20.89	
	2.554	21.50	10.42	31.92	46.00	14.08	
	9.011	7.50	10.48	17.98	50.00	32.02	
Neutral	0.184	36.90	10.54	47.44	64.28	16.84	QP
	0.456	34.50	10.40	44.90	56.76	11.86	
	0.933	34.20	10.40	44.60	56.00	11.40	
	2.201	**35.40**	**10.44**	**45.84**	**56.00**	**10.16**	
	3.509	26.60	10.47	37.07	56.00	18.93	
	8.916	12.00	10.56	22.56	60.00	37.44	
	0.184	25.20	10.54	35.74	54.28	18.54	AV
	0.456	18.10	10.40	28.50	46.76	18.26	
	0.933	20.30	10.40	30.70	46.00	15.30	
	2.201	21.70	10.44	32.14	46.00	13.86	
	3.509	17.40	10.47	27.87	46.00	18.13	
	8.916	5.80	10.56	16.36	50.00	33.64	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity :	48%RH	
Test Mode	:	HDMI 1280*1024@60Hz & 1kHz playing	Date of Test :	Dec 09, 2016	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.183	36.70	10.55	47.25	64.33	17.08	QP
	0.456	**34.20**	**10.41**	**44.61**	**56.76**	**12.15**	
	0.933	22.50	10.40	32.90	56.00	23.10	
	2.554	31.50	10.42	41.92	56.00	14.08	
	4.070	18.60	10.44	29.04	56.00	26.96	
	9.011	14.30	10.48	24.78	60.00	35.22	
	0.183	26.50	10.55	37.05	54.33	17.28	AV
	0.456	17.90	10.41	28.31	46.76	18.45	
	0.933	12.50	10.40	22.90	46.00	23.10	
	2.554	20.80	10.42	31.22	46.00	14.78	
	4.070	9.90	10.44	20.34	46.00	25.66	
	9.011	7.80	10.48	18.28	50.00	31.72	
Neutral	0.183	36.60	10.54	47.14	64.33	17.19	QP
	0.456	**34.60**	**10.40**	**45.00**	**56.76**	**11.76**	
	0.933	22.20	10.40	32.60	56.00	23.40	
	2.554	31.20	10.45	41.65	56.00	14.35	
	3.720	24.51	10.47	34.98	56.00	21.02	
	9.011	13.40	10.56	23.96	60.00	36.04	
	0.183	26.30	10.54	36.84	54.33	17.49	AV
	0.456	18.50	10.40	28.90	46.76	17.86	
	0.933	11.40	10.40	21.80	46.00	24.20	
	2.554	20.60	10.45	31.05	46.00	14.95	
	3.720	11.81	10.47	22.28	46.00	23.72	
	9.011	7.30	10.56	17.86	50.00	32.14	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity :	48%RH	
Test Mode	:	HDMI 640*480@60Hz & 1kHz playing	Date of Test :	Jun 16, 2016	

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.178	37.99	10.56	48.55	64.59	16.04	QP
	0.421	33.29	10.43	43.72	57.42	13.70	
	0.679	**35.00**	**10.40**	**45.40**	**56.00**	**10.60**	
	1.388	30.09	10.41	40.50	56.00	15.50	
	2.474	32.30	10.42	42.72	56.00	13.28	
	9.107	15.00	10.48	25.48	60.00	34.52	
	0.178	25.09	10.56	35.65	54.59	18.94	AV
	0.421	13.49	10.43	23.92	47.42	23.50	
	0.679	19.90	10.40	30.30	46.00	15.70	
	1.388	14.39	10.41	24.80	46.00	21.20	
	2.474	21.40	10.42	31.82	46.00	14.18	
	9.107	9.60	10.48	20.08	50.00	29.92	
Neutral	0.178	38.09	10.55	48.64	64.59	15.95	QP
	0.178	24.79	10.55	35.34	54.59	19.25	
	0.444	34.30	10.41	44.71	56.98	12.27	
	0.444	17.60	10.41	28.01	46.98	18.97	
	0.679	**35.00**	**10.39**	**45.39**	**56.00**	**10.61**	
	0.679	20.10	10.39	30.49	46.00	15.51	
	1.552	30.70	10.42	41.12	56.00	14.88	AV
	1.552	16.30	10.42	26.72	46.00	19.28	
	2.474	31.01	10.44	41.45	56.00	14.55	
	2.474	21.31	10.44	31.75	46.00	14.25	
	8.916	12.80	10.56	23.36	60.00	36.64	
	8.916	6.70	10.56	17.26	50.00	32.74	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity	:	48%RH
Test Mode	:	MHL	Date of Test	:	Jun 16, 2016

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.180	38.29	10.56	48.85	64.50	15.65	QP
	0.421	33.89	10.43	44.32	57.42	13.10	
	0.672	34.40	10.40	44.80	56.00	11.20	
	1.585	32.11	10.40	42.51	56.00	13.49	
	2.493	**36.40**	**10.42**	**46.82**	**56.00**	**9.18**	
	9.235	18.61	10.48	29.09	60.00	30.91	
	0.180	26.89	10.56	37.45	54.50	17.05	AV
	0.421	13.99	10.43	24.42	47.42	23.00	
	0.672	18.50	10.40	28.90	46.00	17.10	
	1.585	17.41	10.40	27.81	46.00	18.19	
	2.493	24.40	10.42	34.82	46.00	11.18	
	9.235	12.61	10.48	23.09	50.00	26.91	
Neutral	0.180	38.39	10.55	48.94	64.49	15.55	QP
	0.447	34.90	10.41	45.31	56.93	11.62	
	0.679	**35.70**	**10.39**	**46.09**	**56.00**	**9.91**	
	1.418	34.00	10.42	44.42	56.00	11.58	
	2.384	32.70	10.44	43.14	56.00	12.86	
	9.011	14.30	10.56	24.86	60.00	35.14	
	0.180	26.69	10.55	37.24	54.49	17.25	AV
	0.447	19.00	10.41	29.41	46.93	17.52	
	0.679	20.80	10.39	31.19	46.00	14.81	
	1.418	19.00	10.42	29.42	46.00	16.58	
	2.384	20.90	10.44	31.34	46.00	14.66	
	9.011	8.00	10.56	18.56	50.00	31.44	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity	:	48%RH
Test Mode	:	HDMI1080P	Date of Test	:	Dec 09, 2016

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.180	37.59	10.56	48.15	64.50	16.35	QP
	0.447	34.20	10.42	44.62	56.93	12.31	
	0.679	**35.00**	**10.40**	**45.40**	**56.00**	**10.60**	
	1.418	33.31	10.40	43.71	56.00	12.29	
	2.474	32.10	10.42	42.52	56.00	13.48	
	9.011	13.60	10.48	24.08	60.00	35.92	
	0.180	26.29	10.56	36.85	54.50	17.65	AV
	0.447	18.20	10.42	28.62	46.93	18.31	
	0.679	20.00	10.40	30.40	46.00	15.60	
	1.418	18.51	10.40	28.91	46.00	17.09	
	2.474	21.30	10.42	31.72	46.00	14.28	
	9.011	7.80	10.48	18.28	50.00	31.72	
Neutral	0.178	38.19	10.55	48.74	64.59	15.85	QP
	0.452	34.39	10.41	44.80	56.85	12.05	
	0.909	**34.20**	**10.40**	**44.60**	**56.00**	**11.40**	
	1.449	31.40	10.42	41.82	56.00	14.18	
	2.396	32.10	10.44	42.54	56.00	13.46	
	9.011	13.70	10.56	24.26	60.00	35.74	
	0.178	24.69	10.55	35.24	54.59	19.35	AV
	0.452	19.79	10.41	30.20	46.85	16.65	
	0.909	21.00	10.40	31.40	46.00	14.60	
	1.449	16.50	10.42	26.92	46.00	19.08	
	2.396	21.30	10.44	31.74	46.00	14.26	
	9.011	7.50	10.56	18.06	50.00	31.94	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity	:	48%RH
Test Mode	:	USB Play	Date of Test	:	Aug 16, 2016

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.180	37.59	10.56	48.15	64.50	16.35	QP
	0.447	34.20	10.42	44.62	56.93	12.31	
	0.909	**34.30**	**10.40**	**44.70**	**56.00**	**11.30**	
	1.418	33.51	10.40	43.91	56.00	12.09	
	2.474	32.40	10.42	42.82	56.00	13.18	
	9.011	13.70	10.48	24.18	60.00	35.82	
	0.180	26.39	10.56	36.95	54.50	17.55	AV
	0.447	18.20	10.42	28.62	46.93	18.31	
	0.909	20.96	10.40	31.36	46.00	14.64	
	1.418	18.71	10.40	29.11	46.00	16.89	
	2.474	21.40	10.42	31.82	46.00	14.18	
	9.011	7.70	10.48	18.18	50.00	31.82	
Neutral	0.178	38.19	10.55	48.74	64.59	15.85	QP
	0.447	34.40	10.41	44.81	56.93	12.12	
	0.909	**34.40**	**10.40**	**44.80**	**56.00**	**11.20**	
	2.044	32.50	10.43	42.93	56.00	13.07	
	3.364	28.00	10.47	38.47	56.00	17.53	
	9.107	3.74	10.56	14.30	60.00	45.70	
	0.178	24.79	10.55	35.34	54.59	19.25	AV
	0.447	18.30	10.41	28.71	46.93	18.22	
	0.909	21.20	10.40	31.60	46.00	14.40	
	2.044	19.70	10.43	30.13	46.00	15.87	
	3.364	14.90	10.47	25.37	46.00	20.63	
	9.107	9.10	10.56	19.66	50.00	30.34	

TEST ENGINEER: BYRON WU

EUT	:	LED LCD TV	Temperature	:	22℃
Model No.	:	LC-55P8000U	Humidity	:	48%RH
Test Mode	:	LAN Play	Date of Test	:	Jun 16, 2016

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.180	37.59	10.56	48.15	64.50	16.35	QP
	0.452	34.19	10.42	44.61	56.85	12.24	
	0.909	**34.20**	**10.40**	**44.60**	**56.00**	**11.40**	
	1.418	33.61	10.40	44.01	56.00	11.99	
	2.474	33.20	10.42	43.62	56.00	12.38	
	9.011	13.90	10.48	24.38	60.00	35.62	
	0.180	26.39	10.56	36.95	54.50	17.55	AV
	0.452	18.99	10.42	29.41	46.85	17.44	
	0.909	20.90	10.40	31.30	46.00	14.70	
	1.418	18.51	10.40	28.91	46.00	17.09	
	2.474	21.50	10.42	31.92	46.00	14.08	
	9.011	8.40	10.48	18.88	50.00	31.12	
Neutral	0.182	37.20	10.54	47.74	64.42	16.68	QP
	0.447	34.40	10.41	44.81	56.93	12.12	
	0.909	**34.30**	**10.40**	**44.70**	**56.00**	**11.30**	
	1.698	30.09	10.43	40.52	56.00	15.48	
	2.474	33.41	10.44	43.85	56.00	12.15	
	8.729	12.19	10.56	22.75	60.00	37.25	
	0.182	26.40	10.54	36.94	54.42	17.48	AV
	0.447	18.30	10.41	28.71	46.93	18.22	
	0.909	21.00	10.40	31.40	46.00	14.60	
	1.698	18.99	10.43	29.42	46.00	16.58	
	2.474	21.31	10.44	31.75	46.00	14.25	
	8.729	5.59	10.56	16.15	50.00	33.85	

TEST ENGINEER: BYRON WU

4 RADIATED EMISSION TEST

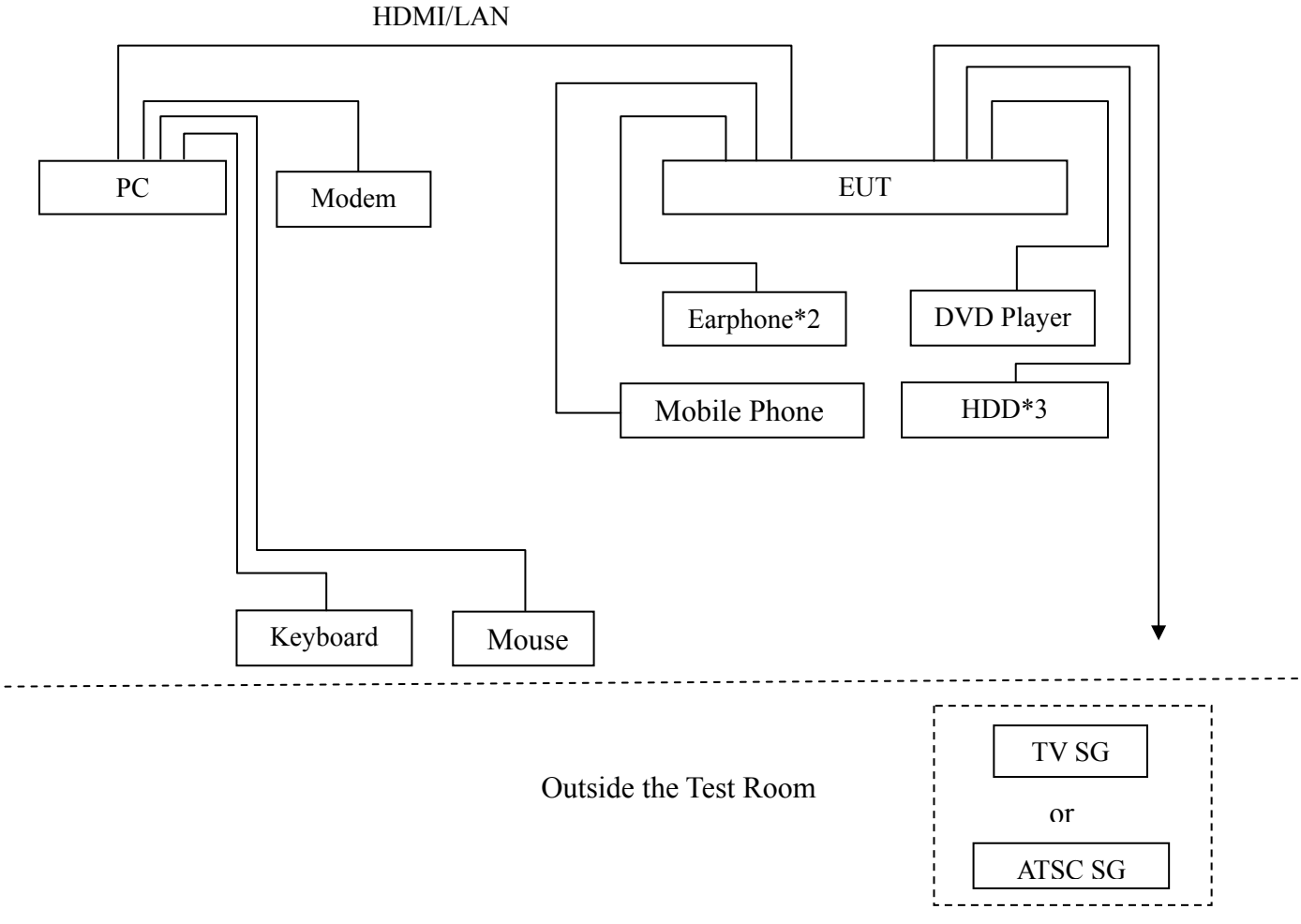
4.1 Test Equipment

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	--	--

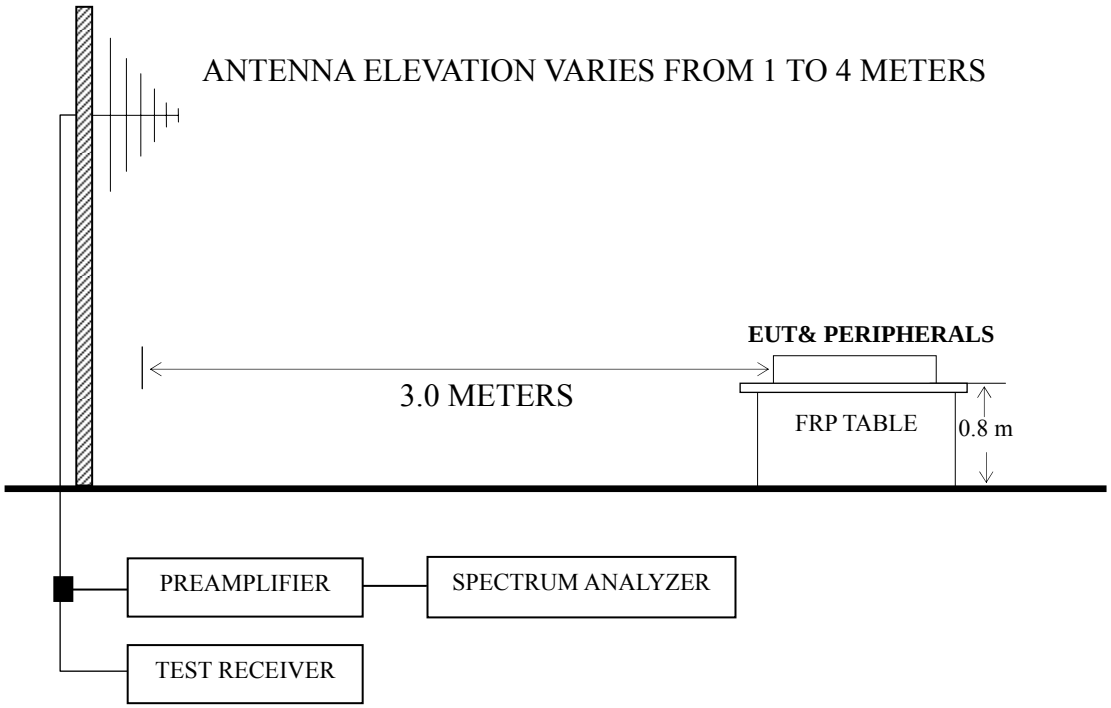
4.2 Block Diagram of Test Setup

4.2.1 EUT & Peripherals



4.2.2 Radiated emission test setup

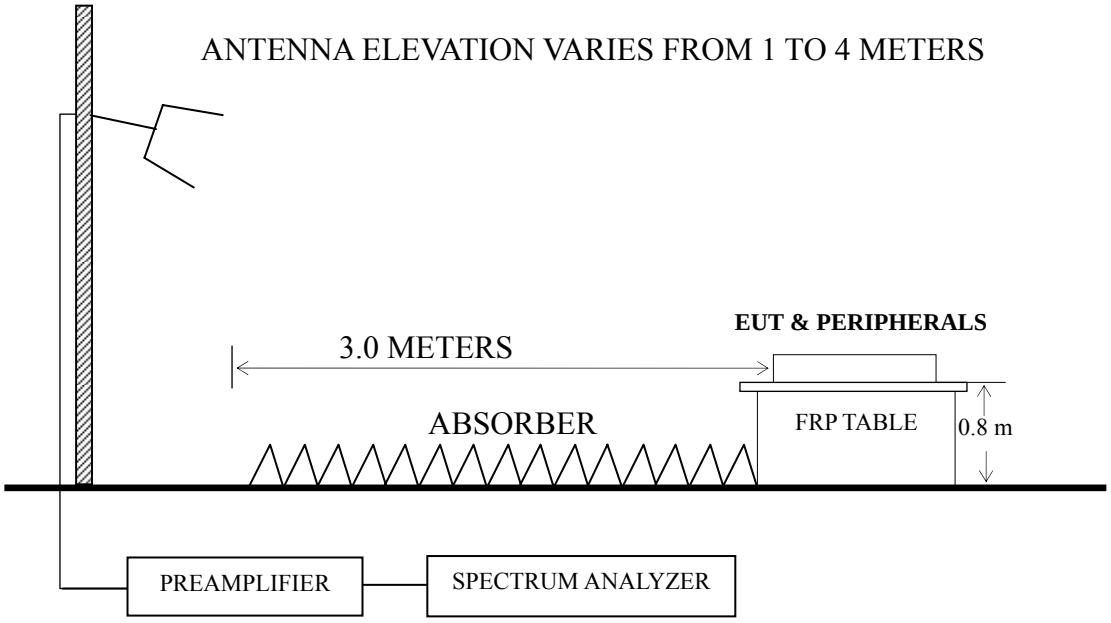
4.2.2.1 Below 1GHz



■ : 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 to2 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
	MHL	P30
	HDMI1080P	P31
	USB Play	P32
	LAN Play	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 890.728MHz with corrected signal level of 42.15dB (μV/m) (limit is 46.00 dB (μV/m)), when the antenna was 2.00 m height and the turntable was at 40°. The worst emission at vertical polarization was detected at 65.530MHz with corrected signal level of 36.96dB (μV/m) (limit is 40.00dB (μV/m)), when the antenna was 1 m height and the turntable was at 230°.

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-55P8000U	Humidity :	60%RH
Test Mode	:	HDMI 3840*2160@60Hz & 1kHz Playing	Date of Test :	Jan 11, 2017

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	71.080	27.60	7.57	0.84	--	36.01	40.00	3.99	QP
	89.905	20.87	10.75	0.95	--	32.57	43.50	10.93	
	155.910	19.85	11.48	1.31	--	32.64	43.50	10.86	
	588.905	15.75	18.10	2.48	--	36.33	46.00	9.67	
	709.182	16.08	19.20	2.73	--	38.01	46.00	7.99	
	890.728	**17.98**	**21.10**	**3.07**	--	**42.15**	**46.00**	**3.85**	
	1317.757	59.14	24.92	3.82	35.98	51.90	74.00	22.10	PK
	2972.460	57.26	30.40	5.82	35.20	58.28	74.00	15.72	
	4416.593	47.14	33.48	7.31	34.07	53.86	74.00	20.14	
	1317.757	38.20	24.92	3.82	35.98	30.96	54.00	23.04	AV
	2972.460	38.20	30.40	5.82	35.20	39.22	54.00	14.78	
	4416.593	30.13	33.48	7.31	34.07	36.85	54.00	17.15	

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-55P8000U	Humidity :	60%RH
Test Mode	:	HDMI 3840*2160@60Hz & 1kHz Playing	Date of Test :	Jan 11, 2017

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	15.74	17.19	0.58	--	33.51	40.00	6.49	QP
	65.530	**29.19**	**6.96**	**0.81**	**--**	**36.96**	**40.00**	**3.04**	
	135.982	22.09	12.89	1.21	--	36.19	43.50	7.31	
	297.224	16.75	13.60	1.75	--	32.10	46.00	13.90	
	670.489	17.65	19.40	2.65	--	39.70	46.00	6.30	
	890.728	18.44	21.10	3.07	--	42.61	46.00	3.39	
	1475.227	57.80	25.52	4.05	35.77	51.60	74.00	22.40	PK
	1767.877	56.74	26.68	4.41	35.43	52.40	74.00	21.60	
	2945.949	58.98	30.30	5.78	35.20	59.86	74.00	14.14	
	1475.227	37.67	25.52	4.05	35.77	31.47	54.00	22.53	AV
	1767.877	37.03	26.68	4.41	35.43	32.69	54.00	21.31	
	2945.949	39.10	30.30	5.78	35.20	39.98	54.00	14.02	

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-55P8000U	Humidity :	60%RH
Test Mode	:	HDMI 1920*1080@60Hz & 1kHz Playing	Date of Test :	Jan 11, 2017

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	70.680	25.20	7.51	0.84	33.55	40.00	6.45
	157.007	20.27	11.43	1.31	33.01	43.50	10.49
	446.414	20.81	16.73	2.15	39.69	46.00	6.31
	670.489	16.36	19.40	2.65	38.41	46.00	7.59
	742.259	16.97	19.57	2.79	39.33	46.00	6.67
	890.728	**16.58**	**21.10**	**3.07**	**40.75**	**46.00**	**5.25**
Vertical	**30.962**	**16.33**	**17.71**	**0.57**	**34.61**	**40.00**	**5.39**
	84.160	22.90	9.93	0.91	33.74	40.00	6.26
	148.963	17.62	12.16	1.28	31.06	43.50	12.44
	446.414	17.68	16.73	2.15	36.56	46.00	9.44
	670.489	16.89	19.40	2.65	38.94	46.00	7.06
	742.259	13.97	19.57	2.79	36.33	46.00	9.67

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-55P8000U	Humidity :	60%RH
Test Mode	:	HDMI 1280*1024@60Hz & 1kHz Playing	Date of Test :	Jan 11, 2017

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	70.560	25.00	7.51	0.84	33.35	40.00	6.65
	85.898	21.06	10.20	0.93	32.19	40.00	7.81
	137.903	17.16	13.02	1.22	31.40	43.50	12.10
	432.546	19.05	16.44	2.12	37.61	46.00	8.39
	668.142	14.52	19.35	2.65	36.52	46.00	9.48
	900.147	**15.44**	**21.20**	**3.09**	**39.73**	**46.00**	**6.27**
Vertical	**31.955**	**15.38**	**17.10**	**0.58**	**33.06**	**40.00**	**6.94**
	84.960	21.31	10.10	0.92	32.33	40.00	7.67
	136.939	16.74	12.98	1.22	30.94	43.50	12.56
	280.024	15.79	13.50	1.71	31.00	46.00	15.00
	324.456	15.52	14.27	1.83	31.62	46.00	14.38
	670.489	16.56	19.40	2.65	38.61	46.00	7.39

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃
Model No.	:	LC-55P8000U	Humidity :	60%RH
Test Mode	:	HDMI 640*480@60Hz & 1kHz Playing	Date of Test :	Jan 11, 2017

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	70.720	24.00	7.51	0.84	32.35	40.00	7.65
	157.007	19.19	11.43	1.31	31.93	43.50	11.57
	239.987	16.65	12.10	1.60	30.35	46.00	15.65
	393.472	14.58	16.17	2.02	32.77	46.00	13.23
	668.142	13.98	19.35	2.65	35.98	46.00	10.02
	896.997	**15.62**	**21.17**	**3.07**	**39.86**	**46.00**	**6.14**
Vertical	39.994	15.92	13.65	0.64	30.21	40.00	9.79
	69.114	24.02	7.32	0.83	32.17	40.00	7.83
	84.180	**22.90**	**9.93**	**0.91**	**33.74**	**40.00**	**6.26**
	153.200	18.55	11.73	1.29	31.57	43.50	11.93
	378.584	13.38	15.77	1.99	31.14	46.00	14.86
	670.489	16.61	19.40	2.65	38.66	46.00	7.34

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity :	60%RH	
Test Mode	:	MHL	Date of Test :	Jan 11, 2017	

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	**76.512**	**25.53**	**8.49**	**0.87**	**34.89**	**40.00**	**5.11**
	113.714	19.07	12.32	1.09	32.48	43.50	11.02
	167.237	21.40	11.01	1.36	33.77	43.50	9.73
	198.588	21.91	10.03	1.47	33.41	43.50	10.09
	245.090	19.04	12.40	1.62	33.06	46.00	12.94
	440.196	15.58	16.63	2.13	34.34	46.00	11.66
Vertical	34.517	17.75	16.02	0.60	34.37	40.00	5.63
	63.536	**27.02**	**6.82**	**0.80**	**34.64**	**40.00**	**5.36**
	128.113	20.12	12.70	1.17	33.99	43.50	9.51
	245.090	19.19	12.40	1.62	33.21	46.00	12.79
	446.414	16.07	16.73	2.15	34.95	46.00	11.05
	711.674	13.45	19.23	2.73	35.41	46.00	10.59

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity :	60%RH	
Test Mode	:	HDMI1080P	Date of Test :	Jan 11, 2017	

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	74.919	24.69	8.30	0.86	33.85	40.00	6.15
	153.739	19.16	11.65	1.30	32.11	43.50	11.39
	222.170	20.05	11.15	1.55	32.75	46.00	13.25
	668.142	14.20	19.35	2.65	36.20	46.00	9.80
	739.661	15.07	19.60	2.79	37.46	46.00	8.54
	899.710	**17.70**	**21.20**	**3.07**	**41.97**	**46.00**	**4.03**
Vertical	**30.962**	**16.21**	**17.71**	**0.57**	**34.49**	**40.00**	**5.51**
	85.640	22.60	10.20	0.92	33.72	40.00	6.28
	145.861	17.23	12.48	1.26	30.97	43.50	12.53
	670.489	16.71	19.40	2.65	38.76	46.00	7.24
	739.661	14.47	19.60	2.79	36.86	46.00	9.14
	890.728	13.08	21.10	3.07	37.25	46.00	8.75

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity :	60%RH	
Test Mode	:	USB Play	Date of Test :	Jan 11, 2017	

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	**84.405**	**23.27**	**9.93**	**0.91**	**34.11**	**40.00**	**5.89**
	114.114	20.92	12.35	1.09	34.36	43.50	9.14
	132.685	18.30	12.84	1.20	32.34	43.50	11.16
	337.216	18.08	14.71	1.87	34.66	46.00	11.34
	654.232	11.74	19.25	2.63	33.62	46.00	12.38
	827.493	11.32	20.37	2.96	34.65	46.00	11.35
Vertical	32.864	16.77	16.73	0.58	34.08	40.00	5.92
	87.112	**23.36**	**10.40**	**0.93**	**34.69**	**40.00**	**5.31**
	171.393	23.11	10.81	1.37	35.29	43.50	8.21
	257.422	17.19	13.25	1.65	32.09	46.00	13.91
	379.914	15.45	15.80	1.99	33.24	46.00	12.76
	588.905	14.67	18.10	2.48	35.25	46.00	10.75

TEST ENGINEER: CAESAR WU

EUT	:	LED LCD TV	Temperature :	22℃	
Model No.	:	LC-55P8000U	Humidity :	60%RH	
Test Mode	:	LAN Play	Date of Test :	Jan 11, 2017	

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**	**23.42**	**9.84**	**0.91**	**34.17**	**40.00**	**5.83**
	132.221	17.38	12.86	1.19	31.43	43.50	12.07
	178.133	19.72	10.43	1.40	31.55	43.50	11.95
	242.525	17.62	12.28	1.61	31.51	46.00	14.49
	490.745	12.38	17.30	2.25	31.93	46.00	14.07
	609.922	13.13	18.60	2.54	34.27	46.00	11.73
Vertical	**32.864**	**17.06**	**16.73**	**0.58**	**34.37**	**40.00**	**5.63**
	56.593	23.48	7.32	0.75	31.55	40.00	8.45
	99.528	19.58	12.34	1.00	32.92	43.50	10.58
	284.977	16.22	13.40	1.72	31.34	46.00	14.66
	513.633	14.18	17.58	2.30	34.06	46.00	11.94
	651.942	11.50	19.27	2.61	33.38	46.00	12.62

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 Internal Photos Figure 20

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