

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

LED LCD TV

Model No.	Brand
LC-50P5000U, LC-50P5000U+ LC-50P50+0U, LC-50P50+0U1 LC-50P50+0U2, LC-50P5+0U LC-50P5+0U1, LC-50P5+0U2	Sharp

FCC ID : W9HLCDF0118

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

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Report No. : ACI-F17150
Date of Test : Apr 07-09, 2017
Date of Report : Apr 21, 2017

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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
LC-50P5000U, LC-50P5000U+ LC-50P50+0U, LC-50P50+0U1 LC-50P50+0U2, LC-50P5+0U LC-50P5+0U1, LC-50P5+0U2	Sharp	120V/60Hz

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B
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.

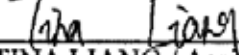
The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report shows that the EUT (M/N: Refer to Sec2.1) which was tested in 3m anechoic chamber Apr 07-09, 2017 is technically compliance with the FCC official limits also.

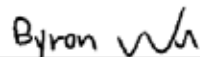
This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology (Shanghai) Co., Ltd.

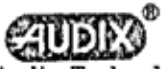
This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

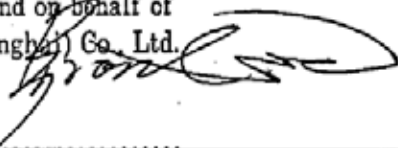
The test results for EUT's TV functions are contained in No.F17151, a Verification report.

Date of Test : Apr 07-09, 2017 Date of Report : Apr 21, 2017

Producer : 
 TINA LIANG / Assistant

Review : 
 BYRON WU / Deputy Assistant Manager

 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 AND ANSI C63.4-2014	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B 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
LC-50P5000U, LC-50P5000U+ LC-50P50+0U, LC-50P50+0U1 LC-50P50+0U2, LC-50P5+0U LC-50P5+0U1, LC-50P5+0U2	Sharp

Note#1 : The above models are all the same except for model number.LC-50P5000U model is tested and recorded in the report.

Note#2 : “+”represents any of the Arabic numeral.

Note #3 : The tuner port comply with the 15.111 requirement.

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 : HD500DF-E02

Tuner : Manufacturer : MAXLINEAR
M/N : MXL661

WIFI Modular : FCC ID:PPQ-WN4640R

HDMI Cable*3 : Shielded, Detachable, 1.80m with two cores
(Lab provide)

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

USB Cable*2 : Shielded, Detachable, 1.00m

(Lab provide)

LAN Cable : Unshielded, Detachable, 1.80m

Data 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 HDMI1 Port

: Connected with PC

(3) One HDMI2 Port

: Connected with PC

(4) One USB1 Port

: Connected with Hard-DISK#1

(5) One USB2 Port

: Connected with Hard-DISK#2

(6) One AUDIO OUT Port

: Connected with Earphone#1

Back Port:

(7) One AV/COMPONENT IN Port

: Connected with DVD Player

(8) One LAN IN Port

: Connected with PC

(9) One DIGITALAUDIO OUT Port

: Connected with Audio Converter to Earphone #2

(10) One HDMI3 Port

: Connected with DVD Player

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 Modem

Manufacturer : TP-LINK

Model Number : TM-EC5658V

Serial Number : 07123301053

Data Cable : Shielded, Detachable, 1.5m

Certificate : 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 : A010022-4860010X
Data Cable : Shielded, Undetachable, 1.8m.
Certificate : CE, FCC DoC

2.2.8 Hard Disk #2

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

2.2.9 ATSC Signal Generator

Manufacturer : SENCORE
Model Number : ATSC997
Serial Number : 6790071

2.2.10 TV Signal Generator

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

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

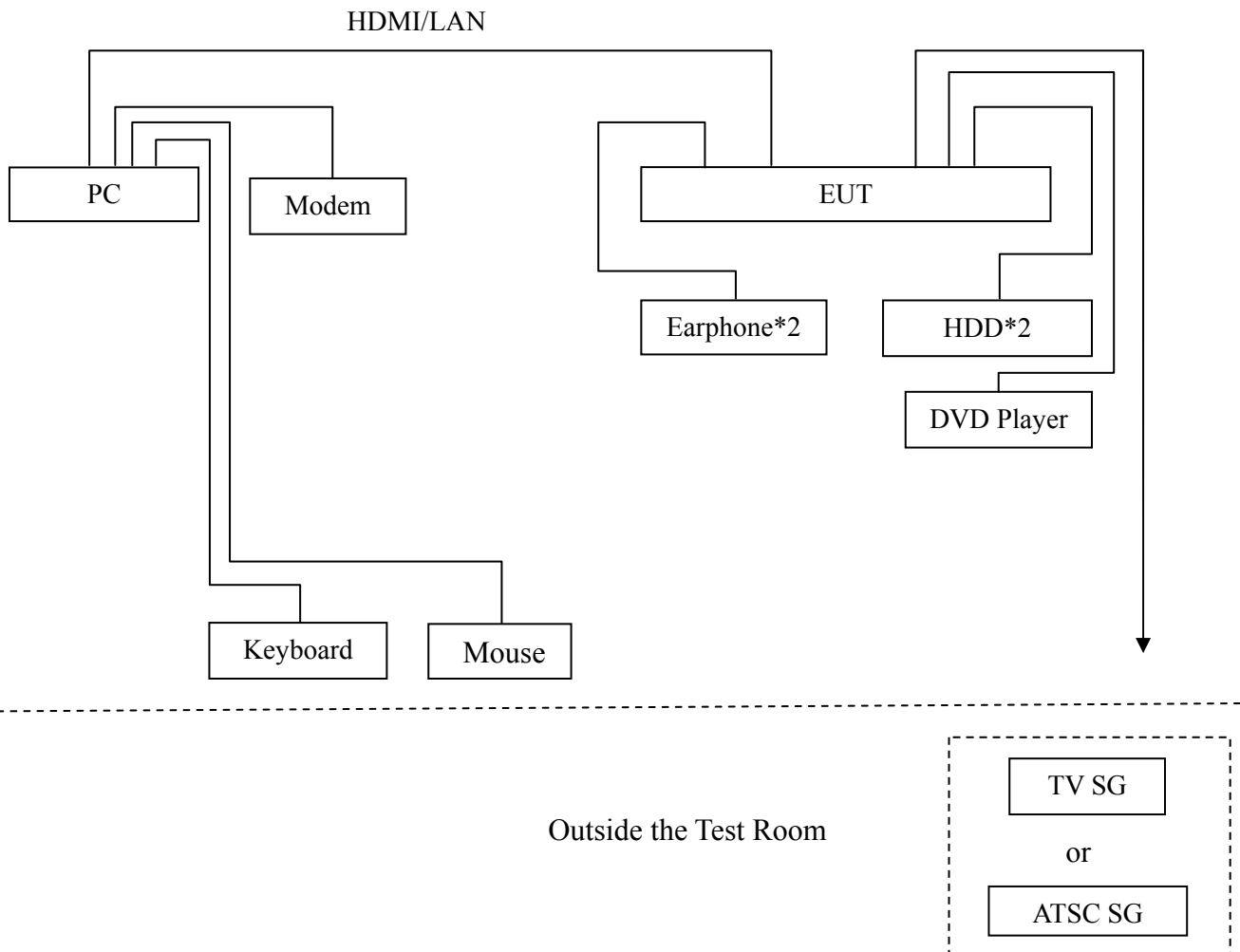
3.1 Test Equipment

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

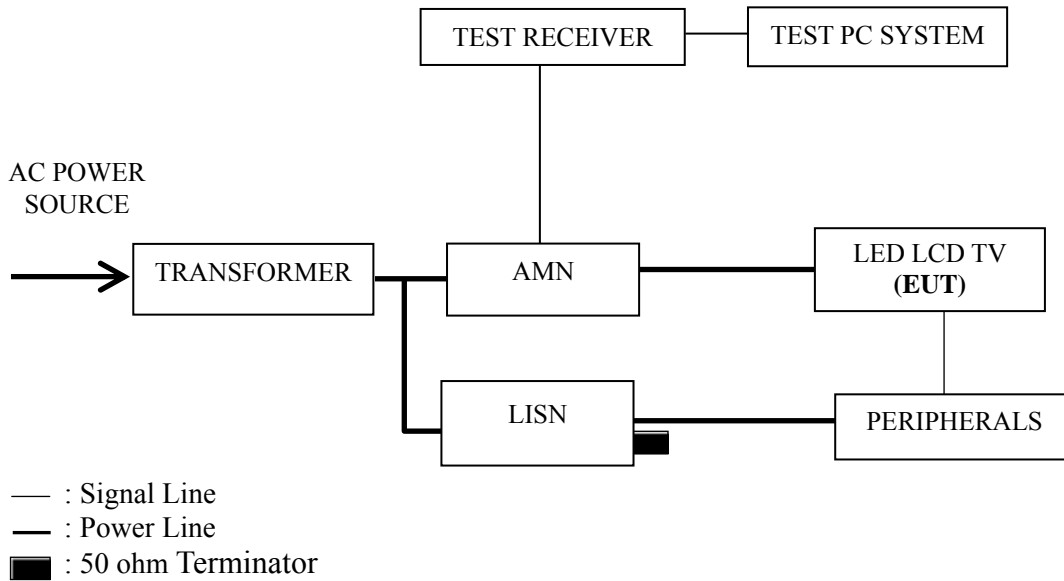
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	101302	Apr 27, 2016	Apr 26, 2017
2.	Artificial Mains Network (AMN)	R&S	ENV4200	100125	Jun 25, 2016	Jun 24, 2017
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-4	Mar 20, 2017	Mar 19, 2018
4.	50Ω Terminator	Anritsu	BNC	001	Mar 20, 2017	Mar 19, 2018
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/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 WIFI mode, set the EUT play digital media through WIFI.
- 3.5.8 In LAN Play mode, set the EUT play digital media through LAN port.
- 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
HDMI1 1920*1080@60Hz & 1kHz Playing
HDMI2 1920*1080@60Hz & 1kHz Playing
HDMI3 1920*1080@60Hz & 1kHz Playing
HDMI1 1280*1024@60Hz & 1kHz playing
HDMI1 640*480@60Hz & 1kHz playing
HDMI1080P
USB Play
Wifi
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
HDMI1 1920*1080@60Hz & 1kHz Playing	P13
HDMI2 1920*1080@60Hz & 1kHz Playing	P14
HDMI3 1920*1080@60Hz & 1kHz Playing	P15
HDMI1 1280*1024@60Hz & 1kHz playing	P16
HDMI1 640*480@60Hz & 1kHz playing	P17
HDMI1080P	P18
USB Play	P19
Wifi	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 HDMI1 1280*1024@60Hz & 1kHz playing test mode. The worst emission is detected at 0.759MHz (Quasi-Peak Value) with corrected signal level of 32.38 dB (μ V) (limit is 46.00 dB (μ V)), when the Line of the EUT is connected to AMN.

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : HDMI1 Date of Test : Apr 07, 2017
1920*1080@60Hz &
1kHz Playing

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.182	36.62	10.55	47.17	64.42	17.25	QP
	0.510	30.04	10.40	40.44	56.00	15.56	
	0.767	28.54	10.40	38.94	56.00	17.06	
	1.519	25.77	10.40	36.17	56.00	19.83	
	3.509	24.08	10.43	34.51	56.00	21.49	
	6.627	26.27	10.47	36.74	60.00	23.26	
	AV	0.182	24.62	10.55	35.17	54.42	19.25
		0.510	19.04	10.40	29.44	46.00	16.56
		0.767	19.54	10.40	29.94	46.00	16.06
		1.519	16.77	10.40	27.17	46.00	18.83
		3.509	15.08	10.43	25.51	46.00	20.49
		6.627	20.27	10.47	30.74	50.00	19.26
Neutral	0.219	35.49	10.51	46.00	62.88	16.88	QP
	0.510	31.02	10.39	41.41	56.00	14.59	
	0.767	30.45	10.39	40.84	56.00	15.16	
	1.262	26.53	10.41	36.94	56.00	19.06	
	2.554	24.96	10.45	35.41	56.00	20.59	
	6.627	26.77	10.53	37.30	60.00	22.70	
	AV	0.219	19.49	10.51	30.00	52.88	22.88
		0.510	20.02	10.39	30.41	46.00	15.59
		0.767	21.45	10.39	31.84	46.00	14.16
		1.262	12.53	10.41	22.94	46.00	23.06
		2.554	15.96	10.45	26.41	46.00	19.59
		6.627	19.77	10.53	30.30	50.00	19.70

TEST ENGINEER: BYRON WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : HDMI2 Date of Test : Apr 07, 2017
1920*1080@60Hz &
1kHz Playing

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.219	33.38	10.52	43.90	62.88	18.98	QP
	0.510	29.48	10.40	39.88	56.00	16.12	
	0.767	27.38	10.40	37.78	56.00	18.22	
	1.519	24.42	10.40	34.82	56.00	21.18	
	2.500	23.95	10.42	34.37	56.00	21.63	
	6.627	25.69	10.47	36.16	60.00	23.84	
	AV	0.219	23.38	10.52	33.90	52.88	18.98
		0.510	18.48	10.40	28.88	46.00	17.12
		0.767	18.38	10.40	28.78	46.00	17.22
		1.519	15.42	10.40	25.82	46.00	20.18
		2.500	14.95	10.42	25.37	46.00	20.63
		6.627	19.69	10.47	30.16	50.00	19.84
Neutral	0.219	33.02	10.51	43.53	62.88	19.35	QP
	0.510	29.10	10.39	39.49	56.00	16.51	
	0.767	29.95	10.39	40.34	56.00	15.66	
	1.262	25.02	10.41	35.43	56.00	20.57	
	2.422	24.20	10.44	34.64	56.00	21.36	
	6.878	26.71	10.53	37.24	60.00	22.76	
	AV	0.219	20.02	10.51	30.53	52.88	22.35
		0.510	20.10	10.39	30.49	46.00	15.51
		0.767	18.95	10.39	29.34	46.00	16.66
		1.262	13.02	10.41	23.43	46.00	22.57
		2.422	15.20	10.44	25.64	46.00	20.36
		6.878	18.71	10.53	29.24	50.00	20.76

TEST ENGINEER: BYRON WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : HDMI3 Date of Test : Apr 07, 2017
1920*1080@60Hz &
1kHz Playing

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.223	33.72	10.51	44.23	62.70	18.47	QP
	0.510	29.43	10.40	39.83	56.00	16.17	
	0.767	27.17	10.40	37.57	56.00	18.43	
	1.374	24.34	10.41	34.75	56.00	21.25	
	2.201	24.06	10.42	34.48	56.00	21.52	
	6.627	26.42	10.47	36.89	60.00	23.11	
	AV	0.223	22.72	10.51	33.23	52.70	19.47
		0.510	18.43	10.40	28.83	46.00	17.17
		0.767	18.17	10.40	28.57	46.00	17.43
		1.374	15.34	10.41	25.75	46.00	20.25
		2.201	16.06	10.42	26.48	46.00	19.52
		6.627	19.42	10.47	29.89	50.00	20.11
Neutral	0.221	33.93	10.50	44.43	62.79	18.36	QP
	0.510	29.90	10.39	40.29	56.00	15.71	
	0.759	29.73	10.39	40.12	56.00	15.88	
	1.519	25.28	10.42	35.70	56.00	20.30	
	2.422	23.63	10.44	34.07	56.00	21.93	
	6.627	25.65	10.53	36.18	60.00	23.82	
	AV	0.221	20.93	10.50	31.43	52.79	21.36
		0.510	18.90	10.39	29.29	46.00	16.71
		0.759	18.73	10.39	29.12	46.00	16.88
		1.519	11.28	10.42	21.70	46.00	24.30
		2.422	15.63	10.44	26.07	46.00	19.93
		6.627	18.65	10.53	29.18	50.00	20.82

TEST ENGINEER: BYRON WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : HDMI1 Date of Test : Apr 07, 2017
1280*1024@60Hz &
1kHz playing

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(μV)	Limits dB(μV)	Margin (dB)	Remark
Line	0.221	36.89	10.51	47.40	62.79	15.39	QP
	0.505	30.56	10.40	40.96	56.00	15.04	
	0.759	28.98	10.40	39.38	56.00	16.62	
	1.519	26.76	10.40	37.16	56.00	18.84	
	2.396	24.51	10.42	34.93	56.00	21.07	
	6.698	28.49	10.47	38.96	60.00	21.04	
	0.221	23.89	10.51	34.40	52.79	18.39	AV
	0.505	19.56	10.40	29.96	46.00	16.04	
	0.759	21.98	10.40	32.38	46.00	13.62	
	1.519	15.76	10.40	26.16	46.00	19.84	
	2.396	15.51	10.42	25.93	46.00	20.07	
	6.698	21.49	10.47	31.96	50.00	18.04	
Neutral	0.219	35.91	10.51	46.42	62.88	16.46	QP
	0.510	31.41	10.39	41.80	56.00	14.20	
	0.759	30.05	10.39	40.44	56.00	15.56	
	1.519	26.51	10.42	36.93	56.00	19.07	
	2.261	24.33	10.44	34.77	56.00	21.23	
	6.878	26.02	10.53	36.55	60.00	23.45	
	0.219	20.91	10.51	31.42	52.88	21.46	AV
	0.510	20.41	10.39	30.80	46.00	15.20	
	0.759	21.05	10.39	31.44	46.00	14.56	
	1.519	13.51	10.42	23.93	46.00	22.07	
	2.261	15.33	10.44	25.77	46.00	20.23	
	6.878	20.02	10.53	30.55	50.00	19.45	

TEST ENGINEER: BYRON WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : HDMI 640*480@60Hz & 1kHz playing Date of Test : Apr 07, 2017

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.178	35.51	10.56	46.07	64.59	18.52	QP
	0.510	30.20	10.40	40.60	56.00	15.40	
	0.767	30.01	10.40	40.41	56.00	15.59	
	1.503	26.26	10.40	36.66	56.00	19.34	
	2.133	22.90	10.41	33.31	56.00	22.69	
	6.698	32.24	10.47	42.71	60.00	17.29	
	0.178	23.51	10.56	34.07	54.59	20.52	AV
	0.510	19.20	10.40	29.60	46.00	16.40	
	0.767	19.01	10.40	29.41	46.00	16.59	
	1.503	17.26	10.40	27.66	46.00	18.34	
	2.133	11.90	10.41	22.31	46.00	23.69	
	6.698	21.24	10.47	31.71	50.00	18.29	
Neutral	0.219	34.47	10.51	44.98	62.88	17.90	QP
	0.510	30.00	10.39	40.39	56.00	15.61	
	0.759	23.34	10.39	33.73	56.00	22.27	
	1.519	26.25	10.42	36.67	56.00	19.33	
	3.509	23.78	10.47	34.25	56.00	21.75	
	6.698	30.70	10.53	41.23	60.00	18.77	
	0.219	19.47	10.51	29.98	52.88	22.90	AV
	0.510	21.00	10.39	31.39	46.00	14.61	
	0.759	14.34	10.39	24.73	46.00	21.27	
	1.519	17.25	10.42	27.67	46.00	18.33	
	3.509	15.78	10.47	26.25	46.00	19.75	
	6.698	21.70	10.53	32.23	50.00	17.77	

TEST ENGINEER: BYRON WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : HDMI1080P Date of Test : Apr 07, 2017

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.219	33.61	10.52	44.13	62.88	18.75	QP
	0.510	29.14	10.40	39.54	56.00	16.46	
	0.759	27.91	10.40	38.31	56.00	17.69	
	1.367	26.67	10.41	37.08	56.00	18.92	
	2.554	24.84	10.42	35.26	56.00	20.74	
	6.698	31.90	10.47	42.37	60.00	17.63	
	0.219	17.61	10.52	28.13	52.88	24.75	AV
	0.510	20.14	10.40	30.54	46.00	15.46	
	0.759	16.91	10.40	27.31	46.00	18.69	
	1.367	17.67	10.41	28.08	46.00	17.92	
	2.554	16.84	10.42	27.26	46.00	18.74	
	6.698	20.90	10.47	31.37	50.00	18.63	
Neutral	0.221	37.78	10.50	48.28	62.79	14.51	QP
	0.510	31.49	10.39	41.88	56.00	14.12	
	0.767	29.58	10.39	39.97	56.00	16.03	
	1.519	25.74	10.42	36.16	56.00	19.84	
	2.285	23.90	10.44	34.34	56.00	21.66	
	6.698	29.97	10.53	40.50	60.00	19.50	
	0.221	22.78	10.50	33.28	52.79	19.51	AV
	0.510	20.49	10.39	30.88	46.00	15.12	
	0.767	20.58	10.39	30.97	46.00	15.03	
	1.519	16.74	10.42	27.16	46.00	18.84	
	2.285	15.90	10.44	26.34	46.00	19.66	
	6.698	21.97	10.53	32.50	50.00	17.50	

TEST ENGINEER: BYRON WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : USB Play Date of Test : Apr 07, 2017

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark	
Line	0.178	35.77	10.56	46.33	64.59	18.26	QP	
	0.510	30.10	10.40	40.50	56.00	15.50		
	0.759	28.77	10.40	39.17	56.00	16.83		
	1.249	25.61	10.41	36.02	56.00	19.98		
	2.396	25.44	10.42	35.86	56.00	20.14		
	6.698	26.10	10.47	36.57	60.00	23.43		
	0.178	24.77	10.56	35.33	54.59	19.26	AV	
	0.510	21.10	10.40	31.50	46.00	14.50		
	0.759	19.77	10.40	30.17	46.00	15.83		
	1.249	12.61	10.41	23.02	46.00	22.98		
	2.396	14.44	10.42	24.86	46.00	21.14		
	6.698	21.10	10.47	31.57	50.00	18.43		
	Neutral	0.180	35.94	10.55	46.49	64.50	18.01	QP
		0.505	30.19	10.39	40.58	56.00	15.42	
0.767		29.46	10.39	39.85	56.00	16.15		
1.519		27.17	10.42	37.59	56.00	18.41		
2.622		23.93	10.45	34.38	56.00	21.62		
6.698		31.21	10.53	41.74	60.00	18.26		
0.180		24.94	10.55	35.49	54.50	19.01	AV	
0.505		16.19	10.39	26.58	46.00	19.42		
0.767		18.46	10.39	28.85	46.00	17.15		
1.519		16.17	10.42	26.59	46.00	19.41		
2.622		15.93	10.45	26.38	46.00	19.62		
6.698		19.21	10.53	29.74	50.00	20.26		

TEST ENGINEER: BYRON WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : Wifi Date of Test : Apr 07, 2017

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.176	37.22	10.56	47.78	64.68	16.90	QP
	0.505	30.00	10.40	40.40	56.00	15.60	
	0.759	28.20	10.40	38.60	56.00	17.40	
	1.338	25.08	10.41	35.49	56.00	20.51	
	2.554	23.64	10.42	34.06	56.00	21.94	
	6.698	30.42	10.47	40.89	60.00	19.11	
	AV	0.176	24.22	10.56	34.78	54.68	19.90
		0.505	19.00	10.40	29.40	46.00	16.60
		0.759	19.20	10.40	29.60	46.00	16.40
		1.338	17.08	10.41	27.49	46.00	18.51
		2.554	15.64	10.42	26.06	46.00	19.94
		6.698	21.42	10.47	31.89	50.00	18.11
Neutral	0.219	35.90	10.51	46.41	62.88	16.47	QP
	0.510	30.15	10.39	40.54	56.00	15.46	
	0.767	29.70	10.39	40.09	56.00	15.91	
	1.374	27.20	10.41	37.61	56.00	18.39	
	2.554	24.81	10.45	35.26	56.00	20.74	
	6.951	24.99	10.53	35.52	60.00	24.48	
	AV	0.219	19.90	10.51	30.41	52.88	22.47
		0.510	19.15	10.39	29.54	46.00	16.46
		0.767	20.70	10.39	31.09	46.00	14.91
		1.374	16.20	10.41	26.61	46.00	19.39
		2.554	16.81	10.45	27.26	46.00	18.74
		6.951	16.99	10.53	27.52	50.00	22.48

TEST ENGINEER: BYRON WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 48%RH

Test Mode : LAN Play Date of Test : Apr 07, 2017

Test Line	Frequency (MHz)	Meter Reading dB(μ V)	Factor (dB)	Emission Level dB(μ V)	Limits dB(μ V)	Margin (dB)	Remark
Line	0.178	36.77	10.56	47.33	64.59	17.26	QP
	0.499	29.32	10.40	39.72	56.01	16.29	
	0.767	28.96	10.40	39.36	56.00	16.64	
	1.367	26.43	10.41	36.84	56.00	19.16	
	2.422	24.88	10.42	35.30	56.00	20.70	
	6.698	27.41	10.47	37.88	60.00	22.12	
	0.178	25.77	10.56	36.33	54.59	18.26	AV
	0.499	19.32	10.40	29.72	46.01	16.29	
	0.767	19.96	10.40	30.36	46.00	15.64	
	1.367	15.43	10.41	25.84	46.00	20.16	
	2.422	16.88	10.42	27.30	46.00	18.70	
	6.698	21.41	10.47	31.88	50.00	18.12	
Neutral	0.174	36.55	10.55	47.10	64.77	17.67	QP
	0.510	30.29	10.39	40.68	56.00	15.32	
	0.661	24.18	10.39	34.57	56.00	21.43	
	1.262	26.81	10.41	37.22	56.00	18.78	
	2.396	24.27	10.44	34.71	56.00	21.29	
	6.698	31.38	10.53	41.91	60.00	18.09	
	0.174	22.55	10.55	33.10	54.77	21.67	AV
	0.510	21.29	10.39	31.68	46.00	14.32	
	0.661	13.18	10.39	23.57	46.00	22.43	
	1.262	12.81	10.41	23.22	46.00	22.78	
	2.396	15.27	10.44	25.71	46.00	20.29	
	6.698	20.38	10.53	30.91	50.00	19.09	

TEST ENGINEER: BYRON WU

4 RADIATED EMISSION TEST

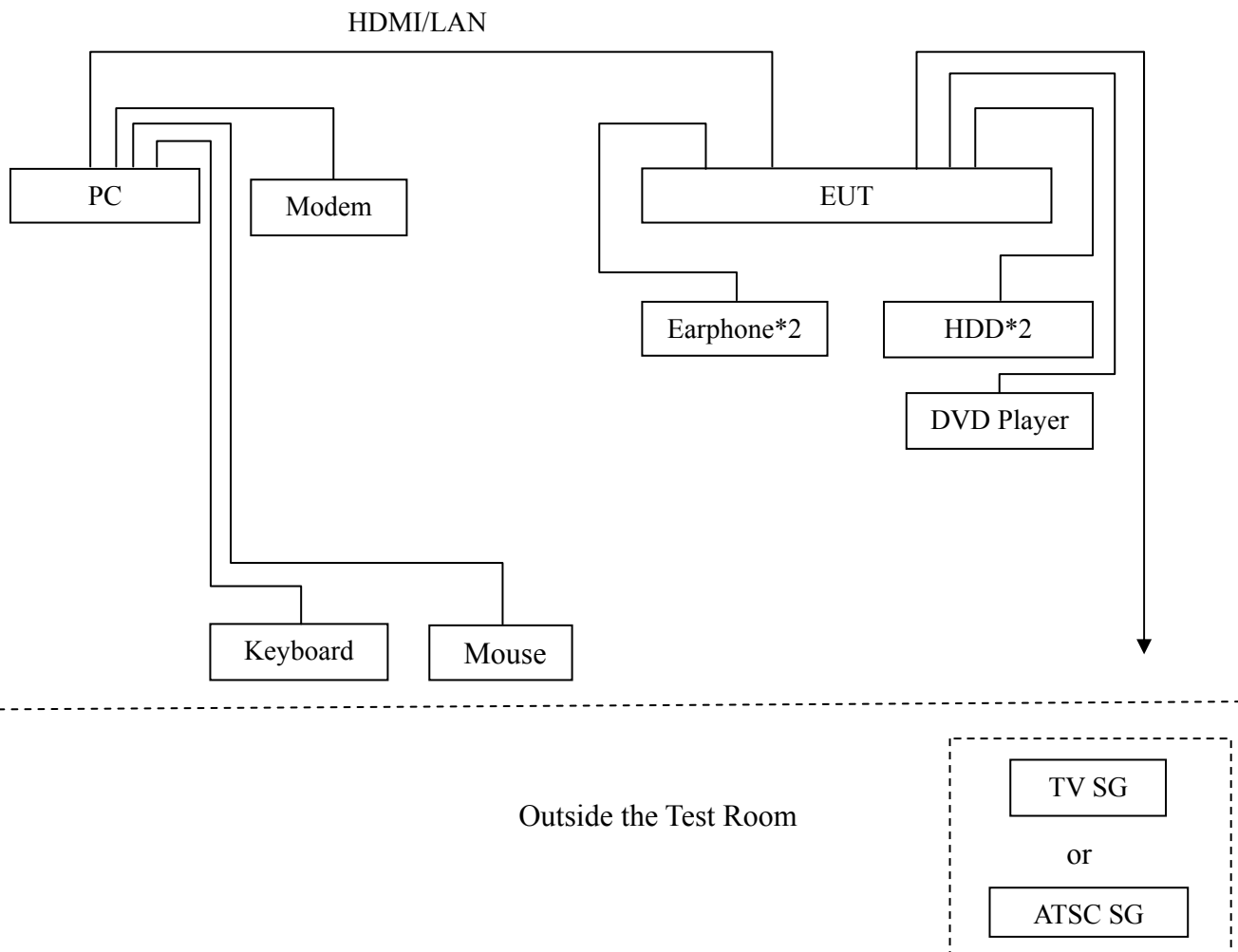
4.1 Test Equipment

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, 2017	Mar 19, 2018
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	--	--

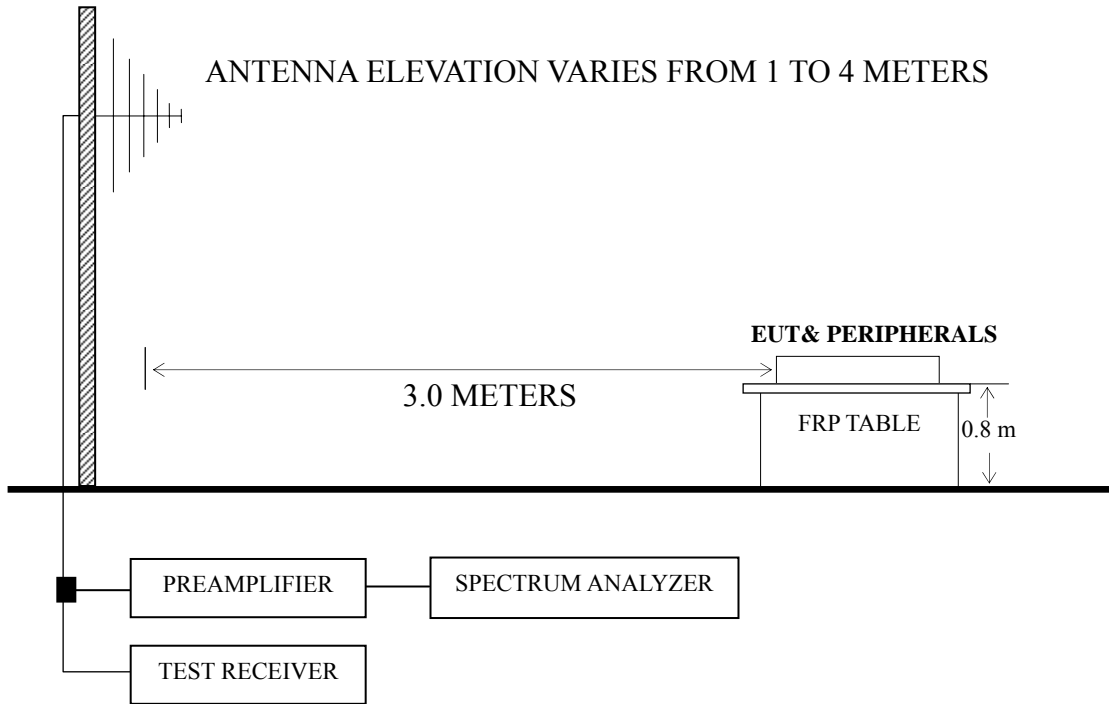
4.2 Block Diagram of Test Setup

4.2.1 EUT & Peripherals



4.2.2 Radiated emission test setup

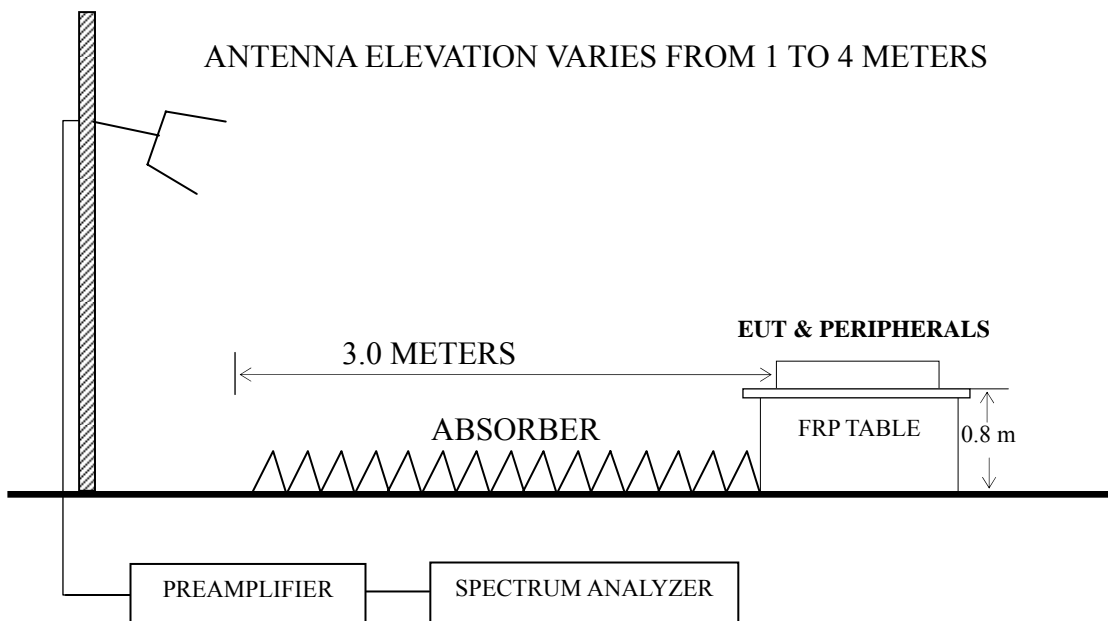
4.2.2.1 Below 1GHz



■ : 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	
		($\mu\text{V/m}$)	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 requirements during radiated emission test.

The I.F. bandwidth of Test Receiver R&S ESCI was set at 120 kHz.

The frequency range from 30 MHz to 1000MHz was checked for all test modes.

The frequency range from 1 GHz to 2 GHz was checked for the maximum resolution test mode

The test modes were done on radiated disturbance test and all the test results are listed in Sec.4.7.

4.7 Test Results

<PASS>

The frequency and amplitude of the highest radiated emission relative the limit is reported. All the emissions not reported below are too low against the FCC limit.

Frequency	Test Mode	Data Page
Below 1GHz	HDMI1 1920*1080@60Hz & 1kHz Playing	P26
	HDMI2 1920*1080@60Hz & 1kHz Playing	P27-P28
	HDMI3 1920*1080@60Hz & 1kHz Playing	P29
	HDMI2 1280*1024@60Hz & 1kHz playing	P30
	HDMI2 640*480@60Hz & 1kHz playing	P31
	HDMI1080P	P32
	USB Play	P33
	Wifi	P34
	LAN Play	P35
Above 1GHz	HDMI2 1920*1080@60Hz & 1kHz Playing	P27-P28

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 HDMI2 1920*1080@60Hz & 1kHz Playing test mode. The worst emission at horizontal polarization was detected at 742.259 MHz with corrected signal level of 42.06dB ($\mu\text{V/m}$) (limit is 46.00 dB ($\mu\text{V/m}$)), when the antenna was 2.1 m height and the turntable was at 250°. The worst emission at vertical polarization was detected at 593.050 MHz with corrected signal level of 42.92dB ($\mu\text{V/m}$) (limit is 46.00 dB ($\mu\text{V/m}$)), when the antenna was 1.5 m height and the turntable was at 35°.

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : HDMI1 1920*1080@60Hz Date of Test : Apr 09, 2017
& 1kHz Playing

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	77.865	24.88	8.79	0.88	34.55	40.00	5.45
	87.112	24.30	10.41	0.93	35.64	40.00	4.36
	148.963	25.81	11.88	1.28	38.97	43.50	4.53
	593.050	19.63	18.75	2.50	40.88	46.00	5.12
	742.259	19.99	19.73	2.79	42.51	46.00	3.49
	890.728	18.27	21.30	3.07	42.64	46.00	3.36
Vertical	60.918	26.74	6.64	0.78	34.16	40.00	5.84
	87.112	24.42	10.41	0.93	35.76	40.00	4.24
	125.886	22.25	12.69	1.16	36.10	43.50	7.40
	593.050	21.43	18.75	2.50	42.68	46.00	3.32
	742.259	19.59	19.73	2.79	42.11	46.00	3.89
	890.728	17.92	21.30	3.07	42.29	46.00	3.71

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : HDMI2 1920*1080@60Hz & 1kHz Playing Date of Test : Apr 09, 2017

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)	Remark
Horizontal	87.112	23.00	10.41	0.93	--	34.34	40.00	5.66	QP
	148.963	24.75	11.88	1.28	--	37.91	43.50	5.59	
	344.386	20.22	15.03	1.89	--	37.14	46.00	8.86	
	446.414	22.35	16.77	2.15	--	41.27	46.00	4.73	
	742.259	19.54	19.73	2.79	--	42.06	46.00	3.94	
	890.728	17.10	21.30	3.07	--	41.47	46.00	4.53	PK
	1324.859	56.31	24.95	3.82	35.97	49.11	74.00	24.89	
	1472.586	52.88	25.51	4.02	35.78	46.63	74.00	27.37	
	1755.252	55.92	26.65	4.41	35.45	51.53	74.00	22.47	AV
	1324.859	40.88	24.95	3.82	35.97	33.68	54.00	20.32	
1472.586	37.64	25.51	4.02	35.78	31.39	54.00	22.61		
	1755.252	39.61	26.65	4.41	35.45	35.22	54.00	18.78	

TEST ENGINEER: CAESAR WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : HDMI2 1920*1080@60Hz & 1kHz Playing Date of Test : Apr 09, 2017

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)	Remark
Vertical	66.034	26.79	6.93	0.81	--	34.53	40.00	5.47	QP
	87.112	23.97	10.41	0.93	--	35.31	40.00	4.69	
	446.414	22.64	16.77	2.15	--	41.56	46.00	4.44	
	593.050	21.67	18.75	2.50	--	42.92	46.00	3.08	
	742.259	20.02	19.73	2.79	--	42.54	46.00	3.46	
	890.728	18.06	21.30	3.07	--	42.43	46.00	3.57	PK
	1179.207	51.32	24.35	3.58	36.19	43.06	74.00	30.94	
	1303.666	65.62	24.88	3.79	36.00	58.29	74.00	15.71	
	1755.252	60.16	26.65	4.41	35.45	55.77	74.00	18.23	AV
	1179.207	35.78	24.35	3.58	36.19	27.52	54.00	26.48	
	1303.666	49.22	24.88	3.79	36.00	41.89	54.00	12.11	
	1755.252	43.24	26.65	4.41	35.45	38.85	54.00	15.15	

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : HDMI3 1920*1080@60Hz & 1kHz Playing Date of Test : Apr 09, 2017

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	80.644	24.94	9.18	0.89	35.01	40.00	4.99
	160.909	21.99	11.29	1.33	34.61	43.50	8.89
	213.015	24.03	10.50	1.52	36.05	43.50	7.45
	601.427	20.10	19.25	2.52	41.87	46.00	4.13
	801.786	18.97	20.30	2.91	42.18	46.00	3.82
	887.610	17.69	21.30	3.07	42.06	46.00	3.94
Vertical	63.313	24.84	6.74	0.80	32.38	40.00	7.62
	81.783	23.62	9.49	0.90	34.01	40.00	5.99
	143.830	23.52	12.57	1.25	37.34	43.50	6.16
	340.782	22.02	14.94	1.89	38.85	46.00	7.15
	533.832	21.17	17.73	2.36	41.26	46.00	4.74
	893.857	17.88	21.23	3.07	42.18	46.00	3.82

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : HDMI2 1280*1024@60Hz Date of Test : Apr 09, 2017
& 1kHz Playing

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	87.112	24.22	10.41	0.93	35.56	40.00	4.44
	151.067	23.92	11.77	1.29	36.98	43.50	6.52
	324.456	25.16	14.29	1.83	41.28	46.00	4.72
	432.546	22.80	16.42	2.12	41.34	46.00	4.66
	539.478	21.63	18.10	2.36	42.09	46.00	3.91
	790.619	17.28	20.10	2.89	40.27	46.00	5.73
Vertical	87.112	24.16	10.41	0.93	35.50	40.00	4.50
	107.888	24.71	12.45	1.05	38.21	43.50	5.29
	432.546	23.16	16.42	2.12	41.70	46.00	4.30
	539.478	21.47	18.10	2.36	41.93	46.00	4.07
	647.386	20.01	19.63	2.61	42.25	46.00	3.75
	755.387	19.19	19.75	2.81	41.75	46.00	4.25

TEST ENGINEER: CAESAR WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : HDMI2 640*480@60Hz & 1kHz Playing Date of Test : Apr 09, 2017

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	87.112	23.93	10.41	0.93	35.27	40.00	4.73
	159.784	25.83	11.35	1.32	38.50	43.50	5.00
	199.986	26.67	9.60	1.48	37.75	43.50	5.75
	397.633	19.14	16.37	2.03	37.54	46.00	8.46
	599.321	18.79	19.20	2.50	40.49	46.00	5.51
Vertical	793.396	17.38	20.17	2.89	40.44	46.00	5.56
	66.034	26.30	6.93	0.81	34.04	40.00	5.96
	87.112	24.70	10.41	0.93	36.04	40.00	3.96
	159.784	25.14	11.35	1.32	37.81	43.50	5.69
	199.986	27.99	9.60	1.48	39.07	43.50	4.43
	396.242	18.35	16.37	2.03	36.75	46.00	9.25
	599.321	18.12	19.20	2.50	39.82	46.00	6.18

TEST ENGINEER: CAESAR WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : HDMI1080P Date of Test : Apr 09, 2017

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	89.276	26.77	10.63	0.94	38.34	43.50	5.16
	168.414	23.75	10.84	1.36	35.95	43.50	7.55
	274.194	21.42	13.62	1.70	36.74	46.00	9.26
	480.528	17.32	17.40	2.22	36.94	46.00	9.06
	629.477	14.34	19.80	2.58	36.72	46.00	9.28
	893.857	13.84	21.23	3.07	38.14	46.00	7.86
Vertical	60.492	27.74	6.62	0.77	35.13	40.00	4.87
	137.420	22.63	12.66	1.22	36.51	43.50	6.99
	193.773	23.67	10.00	1.46	35.13	43.50	8.37
	340.782	21.80	14.94	1.89	38.63	46.00	7.37
	497.677	18.21	17.36	2.26	37.83	46.00	8.17
	903.309	14.49	21.10	3.09	38.68	46.00	7.32

TEST ENGINEER: CAESAR WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : USB Play Date of Test : Apr 09, 2017

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	100.934	22.38	12.62	1.01	36.01	43.50	7.49
	151.597	24.79	11.76	1.29	37.84	43.50	5.66
	188.413	22.69	10.23	1.44	34.36	43.50	9.14
	285.978	21.70	13.82	1.73	37.25	46.00	8.75
	614.214	12.22	19.50	2.54	34.26	46.00	11.74
	965.542	10.62	21.93	3.18	35.73	54.00	18.27
Vertical	60.280	27.64	6.61	0.77	35.02	40.00	4.98
	74.657	25.42	8.34	0.86	34.62	40.00	5.38
	138.874	21.43	12.92	1.23	35.58	43.50	7.92
	285.978	21.64	13.82	1.73	37.19	46.00	8.81
	478.846	18.76	17.40	2.22	38.38	46.00	7.62
	744.866	13.11	19.77	2.79	35.67	46.00	10.33

TEST ENGINEER: CAESAR WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : Wifi Date of Test : Apr 09, 2017

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	80.927	24.73	9.26	0.89	34.88	40.00	5.12
	136.939	23.42	12.66	1.22	37.30	43.50	6.20
	219.845	25.14	10.90	1.54	37.58	46.00	8.42
	331.355	21.35	14.47	1.86	37.68	46.00	8.32
	504.706	15.45	17.44	2.28	35.17	46.00	10.83
	827.493	11.97	20.60	2.96	35.53	46.00	10.47
Vertical	63.536	26.96	6.75	0.80	34.51	40.00	5.49
	99.180	20.77	12.42	1.00	34.19	43.50	9.31
	152.664	23.37	11.75	1.29	36.41	43.50	7.09
	205.675	24.08	9.70	1.50	35.28	43.50	8.22
	499.425	18.41	17.40	2.26	38.07	46.00	7.93
	807.429	13.10	20.57	2.91	36.58	46.00	9.42

TEST ENGINEER: CAESAR WU

EUT : LED LCD TV Temperature : 22

Model No. : LC-50P5000U Humidity : 60%RH

Test Mode : LAN Play Date of Test : Apr 09, 2017

Polarization	Frequency (MHz)	Meter Reading dB (μ V)	Antenna Factor (dB/m)	Cable Loss (dB)	Emission Level dB (μ V/m)	Limits dB (μ V/m)	Margin (dB)
Horizontal	78.413	25.08	8.88	0.88	34.84	40.00	5.16
	128.113	22.32	12.63	1.17	36.12	43.50	7.38
	226.894	26.57	11.40	1.57	39.54	46.00	6.46
	312.179	20.19	13.97	1.80	35.96	46.00	10.04
	399.030	19.20	16.38	2.03	37.61	46.00	8.39
Vertical	633.907	15.70	19.77	2.58	38.05	46.00	7.95
	64.887	27.06	6.80	0.80	34.66	40.00	5.34
	89.905	23.49	10.66	0.95	35.10	43.50	8.40
	145.351	20.98	12.32	1.26	34.56	43.50	8.94
	239.147	22.38	11.98	1.60	35.96	46.00	10.04
	447.982	16.35	16.83	2.15	35.33	46.00	10.67
	866.088	12.00	20.70	3.03	35.73	46.00	10.27

TEST ENGINEER: CAESAR WU

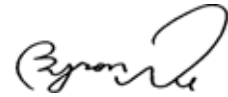
5 DEBUG DESCRIPTION

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 21
Conductive Tape	DCF40	SHENZHEN TAT ELECTRONICS TECH CO.,LTD	See Appendix Figure 22
Conductive Tape	JCT-RF-40-20000	SHENZHEN TAT ELECTRONICS TECH CO.,LTD	See Appendix Figure 22

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

