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

LED LCD TV

Model No.	Brand
LC-55N6000U	Cham
LC-55N6000C	Sharp

FCC ID: W9HLCDF0074

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-F16011

Date of Test: Dec 18, 2015-Jan 04, 2016

Date of Report: Jan 13, 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.

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-55N6000U	Cham	120V/60Hz
LC-55N6000C	Sharp	120 V/60HZ

Test Procedure Used:

Factory #2

FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2014 AND ANSI C63.4-2003

The device described above is tested by Audix Technology (Shanghai) Co., Ltd. To determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart B (Class B) limits both radiated and conducted emissions

The test results are contained in this test report and Audix Technology (Shanghai) Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements. This report shows that the EUT (M/N: Refer to Sec2.1) which was tested in 3m anechoic chamber Dec 18, 2015-Jan 04, 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 contains data that are not covered by the NVLAP accreditation.

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

The test results for EUT's TV functions are contained in No.F16012, a Verification report.

Date of Test:	Dec 18, 2015-Jan 04, 2016	Date of Report:	Jan 13, 2016
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Producer:	Augmin 7aun.		
	HUIMIN YAN / Assistant		
Review:	Sung Chri		
For and	SAMMY CHEN / Manager on behalf of	- 	
Audix Technology (Shang	hai) Co., Ltd.		
,	\mathcal{C}		
Signatory:	Jany bur for		
Authorized Signature EMC	BYRÖN KWO / Assistant General Ma	nager	

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
Conducted Disturbance at the Mains Terminal	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2014 AND ANSI C63.4-2003	15.107(a) Class B	Pass
Radiated Disturbance	FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2014 AND ANSI C63.4-2003	15.109(a) Class B	Pass

2 GENERAL INFORMATION

2.1 Description of Equipment Under Test

Description : LED LCD TV

Type of EUT : \square Production \square Pre-product \square Pro-type

Model No : LC-55N6000U, LC-55N6000C

Note : The above models are all the same except for

model number.LC-55N6000U

model is tested and recorded in the report.

Brand : Sharp

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 : HD550DU-B51

Tuner : Manufacturer : XuGuang Tech. Co., Ltd

M/N : HFT-96S3/W11FJ2H\ROH

Max Resolution : 3840*2160@60Hz

HDMI Cable*4

(Lab provide)

Shielded, Detachable, 1.50m

Power Cord : Unshielded, Detachable, 1.80m

USB Cable*3 : Shi

(Lab provide)

Shielded, Detachable, 1.00m, with one cores

MHL to HDMI Adaptor: Manufacture: CE-Link

with RCP (Lab provide) M/N: 3002

Remark:

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

(1) One ANT Port

: Connected with ATSC / TV SG

(2) One USB #1 Port

: Connected with Hard-Disk #1

(3) One USB #2 Port

: Connected with Hard-Disk #2

(4) One Service Port

: This port does not open to user

(5) One AUDIO OUT Port

: Connected with Earphone

(6) One HDMI1/MHL Port

: Connected with Mobile Phone

(7) One HDMI2 Port

: Connected with PC

(8) One USB #3 Port

: Connected with Hard-Disk #3

Back Port:

(9) One HDMI3 Port

: Connected with DVD PLAYER #1

(10) One HDMI4 Port

: Connected with DVD PLAYER #2

(11) Digital Audio Out

: Connected with DVD PLAYER #1

(12) One COMPONENT in\AV in Port

: Connected with DVD PLAYER #1

(13) LAN Port

: Connected with PC

2.2 Peripherals

2.2.1 PC

Manufacturer: HP

Model Number: dx7400MT Serial Number: CNG8130K89

Power Cord : Unshielded, Detachable, 1.8m

Certificate : FCC DoC; CE/EMC; VCCI; C-Tick;

2.2.2 Earphone

Manufacturer : audio-technica Model Number : ATH-CKL200

2.2.3 Keyboard

Manufacturer : Microsoft Model Number : RT2300

Serial Number: 7668200662248

Data Cable : Shielded, undetachable, 1.8m Certificate : CE/EMC, FCC DoC, VCCI, MIC,

C-Tick, BSMI

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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 Modem

Manufacturer : TP-LINK
Model Number : TM-EC5658V
Serial Number : 07123301053

Data Cable : Shielded, Detachable, 1.8m

Certificate : CCC

2.2.6 TV Signal Generator

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

2.2.7 ATSC Signal Generator

Manufacturer : SENCORE Model Number : ATSC997 Serial Number : 6790071

2.2.8 DVD PLAYER #1

Manufacturer : PHILIPS
Model Number : DVP3986K/93

Serial Number: KX1A0902120108

Certificate : CCC

Mobile

2.2.9 DVD PLAYER #2

Manufacturer : PHILIPS

Model Number: DVP3986K/93 Serial Number: KX1A0902120082

Certificate : CCC

2.2.10 DVD PLAYER #3

Manufacturer : LG

Model Number: DF9921N Serial Number: 507DT00304F

Certificate : BSMI

2.2.11 Hard Disk #1

Manufacturer : Tetasys Model Number : F12

Serial Number : A010022-4860010X

Data Cable : Shielded, Detachable, 1.5m.

Certificate : CE, FCC DoC

2.2.12 Hard Disk #2

Manufacturer : Tetasys Model Number : F12

Serial Number: A010022-4A60007

Data Cable : Shielded, Detachable, 1.5m.

Certificate : CE, FCC DoC

2.2.13 Hard Disk #3

Manufacturer : Tetasys Model Number : F12

Serial Number: A010022-40F0005

Data Cable : Shielded, Detachable, 1.5m.

Certificate : CE, FCC DoC

2.2.14 Smart Mobile Phone

Manufacturer : SAMSUNG Model Number : GT-I9100G Serial Number : 6935152011519

Certificate : CE/EMC

2.3 Description of Test Facility

Site Description : Sept. 17, 1998 file on (No.3 3m Chamber) : 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 = 4.3 dB (Vertical)

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

U = 4.5 dB (Horizontal)

U = 5.4dB (Vertical)

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

U = 5.1 dB

3 CONDUCTED EMISSION TEST

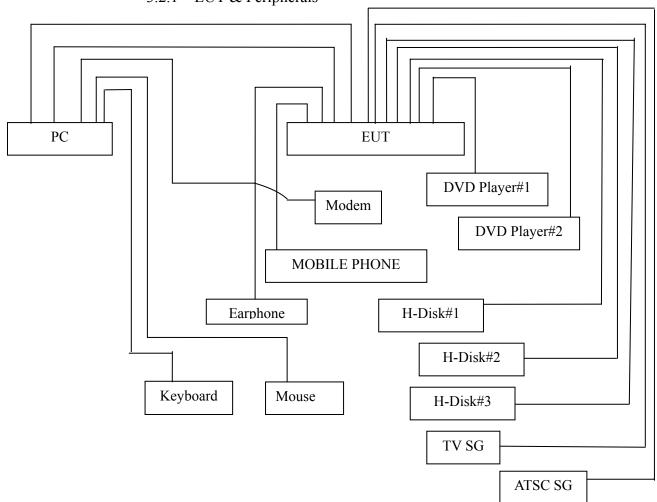
3.1 Test Equipment

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

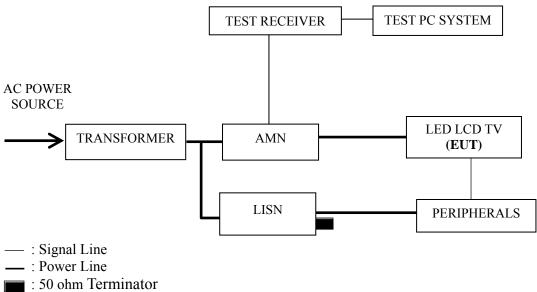
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R&S	ESCI	101302	Jul 03, 2015	Jul 02, 2016
2.	Artificial Mains Network (AMN)	R&S	ENV4200	100125	Jun 27, 2015	Jun 26, 2016
3.	Line Impedance Stabilization Network (LISN)	Kyoritsu	KNW-407	8-1280-5	Mar 20, 2015	Mar 19, 2016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

3.2 Block Diagram of Test Setup

3.2.1 EUT & Peripherals



3.2.2 Conducted Disturbance Test Setup



: 50 onm Terrimator

3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)]

Frequency Range	Limits Db (μV)			
(MHz)	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
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 C63.4:2003 during conducted emission test.

The bandwidth of R&S Test Receiver ESCI was set at 9 kHz.

The frequency range from 150 kHz to 30 MHz was checked.

The test modes were done on conducted disturbance test and all the test results are listed in Sec. 3.7.

3.7 Test Results

< PASS >

The frequency and amplitude of the highest conducted emission relative to the limit is reported. All emissions not reported below are too low against the prescribed limits.

Test Mode	Data Page
HDMI 3840*2160@60Hz & 1kHz playing	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 0.158MHz (QP Value) with corrected signal level of 63.07dB (μ V) (limit is 65.56 dB (μ V)), when the Neutral of the EUT is connected to AMN.

Model No. : LC-55N6000U Humidity : 48%RH

Test Mode : HDMI 3840*2160@60Hz Date of Test : Dec 18, 2015

& 1kHz Playing

Test Line	Frequency (MHz)	Meter Reading dB(µV)	Factor (dB)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)	Remark
	0.156	52.50	10.58	63.08	65.68	2.60	
	0.354	32.80	10.44	43.24	58.88	15.64	
	0.537	30.50	10.39	40.89	56.00	15.11	\bigcirc D
	1.151	26.11	10.38	36.49	56.00	19.51	QP
	4.172	26.30	10.47	36.77	56.00	19.23	
Line	19.920	20.30	10.59	30.89	60.00	29.11	
Line	0.156	41.40	10.58	51.98	55.68	3.70	
	0.354	19.60	10.44	30.04	48.88	18.84	
	0.537	20.90	10.39	31.29	46.00	14.71	AV
	1.151	16.31	10.38	26.69	46.00	19.31	Av
	4.172	18.40	10.47	28.87	46.00	17.13	
	19.920	13.60	10.59	24.19	50.00	25.81	
	0.156	52.59	10.58	63.17	65.70	2.53	
	0.545	30.51	10.36	40.87	56.00	15.13	
	1.068	26.80	10.37	37.17	56.00	18.83	QP
	2.207	25.90	10.42	36.32	56.00	19.68	ŲΓ
	4.163	25.90	10.46	36.36	56.00	19.64	
Neutral	19.880	21.10	10.70	31.80	60.00	28.20	
Neutrai	0.156	41.09	10.58	51.67	55.70	4.03	
	0.545	18.91	10.36	29.27	46.00	16.73	
	1.068	15.60	10.37	25.97	46.00	20.03	AV
	2.207	16.60	10.42	27.02	46.00	18.98	AV
	4.163	18.00	10.46	28.46	46.00	17.54	
	19.880	13.60	10.70	24.30	50.00	25.70	

LC-55N6000U Humidity Model No. 48%RH

HDMI 1920*1080@60Hz & 1kHz Playing Date of Test: Test Mode Dec 18, 2015

Test Line	Frequency (MHz)	Meter Reading dB(µV)	Factor (dB)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)	Remark
	0.159	52.09	10.58	62.67	65.54	2.87	
	0.369	33.19	10.44	43.63	58.53	14.90	
	0.556	31.91	10.38	42.29	56.00	13.71	ΩD
	1.106	27.70	10.38	38.08	56.00	17.92	QP
	3.994	24.09	10.47	34.56	56.00	21.44	
Lina	21.710	20.91	10.65	31.56	60.00	28.44	
Line	0.159	39.79	10.58	50.37	55.54	5.17	
	0.369	21.09	10.44	31.53	48.53	17.00	
	0.556	21.31	10.38	31.69	46.00	14.31	A 3 7
	1.106	15.80	10.38	26.18	46.00	19.82	AV
	3.994	16.39	10.47	26.86	46.00	19.14	
	21.710	13.21	10.65	23.86	50.00	26.14	
	0.159	52.00	10.57	62.57	65.53	2.96	
	0.560	31.40	10.36	41.76	56.00	14.24	OD
	1.112	26.31	10.37	36.68	56.00	19.32	
	2.410	25.00	10.42	35.42	56.00	20.58	QP
	5.228	23.31	10.47	33.78	60.00	26.22	
Neutral	21.500	21.90	10.75	32.65	60.00	27.35	
Neutrai	0.159	39.30	10.57	49.87	55.53	5.66	
	0.560	20.10	10.36	30.46	46.00	15.54	
	1.112	15.51	10.37	25.88	46.00	20.12	AV
	2.410	16.20	10.42	26.62	46.00	19.38	AV
	5.228	15.41	10.47	25.88	50.00	24.12	
	21.500	13.60	10.75	24.35	50.00	25.65	

Model No. : LC-55N6000U Humidity : 48%RH

Test Mode : HDMI 1280*1024@60Hz Date of Test : Dec 18, 2015

& 1kHz Playing

Test Line	Frequency (MHz)	Meter Reading dB(µV)	Factor (dB)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)	Remark
	0.159	52.19	10.58	62.77	65.51	2.74	
	0.359	32.50	10.44	42.94	58.76	15.82	
	0.562	31.70	10.38	42.08	56.00	13.92	OD
	1.109	27.80	10.38	38.18	56.00	17.82	QP
	2.396	24.80	10.42	35.22	56.00	20.78	
Line	21.510	21.10	10.65	31.75	60.00	28.25	
Line	0.159	39.79	10.58	50.37	55.51	5.14	
	0.359	18.60	10.44	29.04	48.76	19.72	
	0.562	19.80	10.38	30.18	46.00	15.82	AV
	1.109	16.30	10.38	26.68	46.00	19.32	
	2.396	15.90	10.42	26.32	46.00	19.68	
	21.510	13.30	10.65	23.95	50.00	26.05	
	0.158	52.30	10.57	62.87	65.57	2.70	
	0.358	28.60	10.42	39.02	58.78	19.76	
	0.559	31.40	10.36	41.76	56.00	14.24	OD
	1.675	26.11	10.39	36.50	56.00	19.50	QP
	3.871	25.79	10.46	36.25	56.00	19.75	
Neutral	22.200	20.69	10.78	31.47	60.00	28.53	
Neutrai	0.158	39.40	10.57	49.97	55.57	5.60	
	0.358	14.30	10.42	24.72	48.78	24.06	
	0.559	20.30	10.36	30.66	46.00	15.34	AV
	1.675	16.21	10.39	26.60	46.00	19.40	
	3.871	17.39	10.46	27.85	46.00	18.15	
	22.200	12.89	10.78	23.67	50.00	26.33	

Model No. : LC-55N6000U Humidity : 48%RH

Test Mode : HDMI 640*480@60Hz & Date of Test : Dec 18, 2015

1kHz Playing

Test Line	Frequency (MHz)	Meter Reading dB(µV)	Factor (dB)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)	Remark	
	0.159	52.29	10.58	62.87	65.52	2.65		
	0.372	33.10	10.43	43.53	58.45	14.92		
	0.563	30.50	10.38	40.88	56.00	15.12	OD	
	1.682	27.50	10.40	37.90	56.00	18.10	QP	
	3.869	25.50	10.46	35.96	56.00	20.04		
Line	21.740	20.61	10.65	31.26	60.00	28.74	4	
Line	0.159	39.79	10.58	50.37	55.52	5.15		
	0.372	21.20	10.43	31.63	48.45	16.82	$\frac{2}{0}$ AV	
	0.563	18.90	10.38	29.28	46.00	16.72		
	1.682	16.30	10.40	26.70	46.00	19.30		
	3.869	17.70	10.46	28.16	46.00	17.84		
	21.740	12.51	10.65	23.16	50.00	26.84		
	0.158	52.50	10.57	63.07	65.56	2.49		
	0.366	29.29	10.42	39.71	58.59	18.88		
	0.557	30.90	10.36	41.26	56.00	14.74	QP	
	1.100	26.61	10.37	36.98	56.00	19.02	Qr	
	3.601	21.70	10.45	32.15	56.00	23.85		
Neutral	20.950	20.59	10.74	31.33	60.00	28.67		
Neutrai	0.158	38.70	10.57	49.27	55.56	6.29		
	0.366	17.19	10.42	27.61	48.59	20.98		
	0.557	20.50	10.36	30.86	46.00	15.14	AV	
	1.100	13.91	10.37	24.28	46.00	21.72		
	3.601	14.30	10.45	24.75	46.00	21.25		
	20.950	13.69	10.74	24.43	50.00	25.57		

Test Mode : HDMI 1080P Date of Test : Dec 18, 2015

Test Line	Frequency (MHz)	Meter Reading dB(µV)	Factor (dB)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)	Remark		
	0.159	51.59	10.58	62.17	65.50	3.33			
	0.374	32.70	10.43	43.13	58.40	15.27			
	0.559	32.40	10.38	42.78	56.00	13.22	ΩD		
	1.677	27.50	10.40	37.90	56.00	18.10	QP		
	3.947	24.50	10.46	34.96	56.00	21.04			
Time	22.220	19.59	10.68	30.27	60.00	29.73	-		
Line	0.159	40.09	10.58	50.67	55.50	4.83	7 2 0 AV		
	0.374	19.40	10.43	29.83	48.40	18.57			
	0.559	21.50	10.38	31.88	46.00	14.12			
	1.677	16.30	10.40	26.70	46.00	19.30			
	3.947	16.30	10.46	26.76	46.00	19.24			
	22.220	12.49	10.68	23.17	50.00	26.83			
	0.158	52.00	10.57	62.57	65.56	2.99			
	0.560	31.40	10.36	41.76	56.00	14.24			
	1.116	26.81	10.37	37.18	56.00	18.82	ΩD		
	2.232	24.50	10.42	34.92	56.00	21.08	QP		
	3.957	24.19	10.46	34.65	56.00	21.35			
Neutral	21.060	21.30	10.74	32.04	60.00	27.96			
Neutrai	0.158	39.40	10.57	49.97	55.56	5.59			
	0.560	20.50	10.36	30.86	46.00	15.14			
	1.116	15.91	10.37	26.28	46.00	19.72	AV		
	2.232	15.70	10.42	26.12	46.00	19.88			
	3.957	16.49	10.46	26.95	46.00	19.05			
	21.060	13.40	10.74	24.14	50.00	25.86			

Model No. : LC-55N6000U Humidity : 48%RH

Test Mode : USB Play Date of Test : Dec 18, 2015

Test Line	Frequency (MHz)	Meter Reading dB(µV)	Factor (dB)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)	Remark	
	0.159	51.89	10.58	62.47	65.54	3.07		
	0.369	33.09	10.44	43.53	58.53	15.00		
	0.563	31.50	10.38	41.88	56.00	14.12	OD	
Line	1.495	28.20	10.40	38.60	56.00	17.40	QP	
	3.799	26.71	10.45	37.16	56.00	18.84		
	19.860	19.30	10.59	29.89	60.00	30.11		
	0.159	39.39	10.58	49.97	55.54	5.57		
	0.369	21.19	10.44	31.63	48.53	16.90	AV	
	0.563	20.00	10.38	30.38	46.00	15.62		
	1.495	15.70	10.40	26.10	46.00	19.90		
	3.799	17.91	10.45	28.36	46.00	17.64		
	19.860	11.50	10.59	22.09	50.00	27.91		
	0.159	52.00	10.57	62.57	65.54	2.97		
	0.553	30.41	10.36	40.77	56.00	15.23		
	1.109	26.91	10.37	37.28	56.00	18.72	OD	
	2.228	24.20	10.42	34.62	56.00	21.38	QP	
	4.204	22.60	10.46	33.06	56.00	22.94		
Neutral	21.460	21.50	10.75	32.25	60.00	27.75		
Neutrai	0.159	39.10	10.57	49.67	55.54	5.87		
	0.553	19.31	10.36	29.67	46.00	16.33		
	1.109	15.71	10.37	26.08	46.00	19.92	AV	
	2.228	15.50	10.42	25.92	46.00	20.08		
	4.204	14.40	10.46	24.86	46.00	21.14		
	21.460	13.60	10.75	24.35	50.00	25.65		

Model No. : LC-55N6000U Humidity : 48%RH

Test Mode : LAN Play Date of Test : Dec 18, 2015

Test Line	Frequency (MHz)	Meter Reading dB(µV)	Factor (dB)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)	Remark		
	0.158	52.19	10.58	62.77	65.55	2.78			
	0.367	33.09	10.44	43.53	58.58	15.05			
	0.558	32.60	10.38	42.98	56.00	13.02	ΟD		
	1.098	27.90	10.38	38.28	56.00	17.72	QP		
	2.401	25.90	10.42	36.32	56.00	19.68			
Time	21.180	21.60	10.64	32.24	60.00	27.76	6		
Line	0.158	39.49	10.58	50.07	55.55	5.48	3		
	0.367	20.79	10.44	31.23	48.58	17.35	AV		
	0.558	21.80	10.38	32.18	46.00	13.82			
	1.098	15.70	10.38	26.08	46.00	19.92			
	2.401	15.80	10.42	26.22	46.00	19.78			
	21.180	13.10	10.64	23.74	50.00	26.26			
	0.158	51.79	10.58	62.37	65.58	3.21			
	0.553	30.31	10.36	40.67	56.00	15.33			
	1.102	26.91	10.37	37.28	56.00	18.72	\bigcirc D		
	1.789	26.29	10.41	36.70	56.00	19.30	QP		
	3.959	24.09	10.46	34.55	56.00	21.45			
Nautus 1	21.540	21.80	10.75	32.55	60.00	27.45			
Neutral	0.158	39.29	10.58	49.87	55.58	5.71			
	0.553	19.21	10.36	29.57	46.00	16.43			
	1.102	15.71	10.37	26.08	46.00	19.92	AV		
	1.789	16.59	10.41	27.00	46.00	19.00			
	3.959	16.29	10.46	26.75	46.00	19.25			
	21.540	13.50	10.75	24.25	50.00	25.75			

Model No. : LC-55N6000U Humidity : 48%RH

Test Mode : MHL Date of Test : Dec 18, 2015

Test Line	Frequency (MHz)	Meter Reading dB(μV)	Factor (dB)	Emission Level dB(µV)	Limits dB(µV)	Margin (dB)	Remark	
	0.159	51.69	10.58	62.27	65.50	3.23		
	0.365	32.89	10.44	43.33	58.61	15.28		
	0.560	32.80	10.38	43.18	56.00	12.82	\cap D	
	1.104	27.80	10.38	38.18	56.00	17.82	_	
	3.728	25.51	10.45	35.96	56.00	20.04		
Line	21.500	21.30	10.65	31.95	60.00	28.05		
Line	0.159	39.79	10.58	50.37	55.50	5.13		
	0.365	20.29	10.44	30.73	48.61	17.88	-	
	0.560	21.60	10.38	31.98	46.00	14.02	AV	
	1.104	15.70	10.38	26.08	46.00	19.92	714	
	3.728	17.21	10.45	27.66	46.00	18.34		
	21.500	12.90	10.65	23.55	50.00	26.45		
	0.159	52.00	10.57	62.57	65.53	2.96		
	0.562	31.10	10.36	41.46	56.00	14.54		
	0.915	26.90	10.37	37.27	56.00	18.73	QP	
	1.674	25.91	10.39	36.30	56.00	19.70	γr	
	3.915	24.89	10.46	35.35	56.00	20.65		
Neutral	20.020	20.60	10.70	31.30	60.00	28.70		
Neutrai	0.159	39.20	10.57	49.77	55.53	5.76		
	0.562	19.70	10.36	30.06	46.00	15.94		
	0.915	15.20	10.37	25.57	46.00	20.43	AV	
	1.674	15.61	10.39	26.00	46.00	20.00		
	3.915	17.09	10.46	27.55	46.00	18.45		
	20.020	12.70	10.70	23.40	50.00	26.60		

4 RADIATED EMISSION TEST

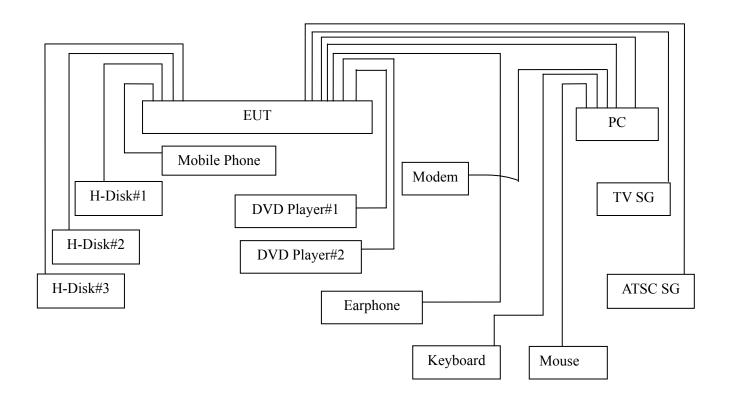
4.1 Test Equipment

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

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

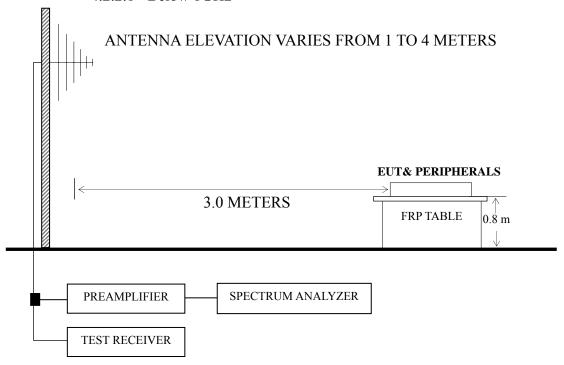
4.2 Block Diagram of Test Setup

4.2.1 EUT & Peripherals



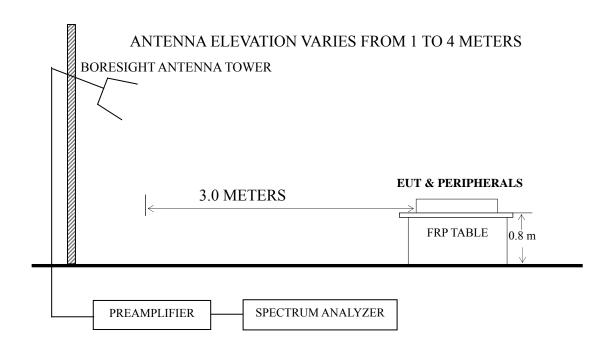
4.2.2 Radiated emission test setup

4.2.2.1 Below 1GHz



: 50 ohm Coaxial Switch

4.2.2.2 Above 1GHz



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

Frequency	Distance	Field strength limits				
(MHz)	(m)	(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 (μ V/m) = 20 log Emission Level (μ V/m)
- NOTE 2 The tighter limit applies at the band edges.
- NOTE 3 Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- NOTE 4 The limits shown are based on Quasi-peak value detector.
- NOTE 5 Above 1 GHz, the limit on peak emission is 20 dB above the maximum permitted average emission limit applicable to the EUT.

4.4 Test Configuration

The configuration of the EUT and peripherals are same as those used in conducted emission test.

Please refer to Sec.3.4.

4.5 Operating Condition of EUT

Same as conducted emission test which is listed in Sec.3.5, except for the test setup replaced by Sec.4.2.

4.6 Test Procedures

The EUT and peripherals were placed on a FRP turntable that is 0.8 meter above ground. The FRP turntable rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna, which was mounted on an antenna tower. Broadband antenna (Calibrated Bilog Antenna) was used as receiving antenna. The antenna moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna were set on measurement. In order to find the maximum emission, all of the interference cables were manipulated according to ANSI C63.4:2003 requirements during radiated emission test.

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

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

The frequency range from 1 GHz to 6 GHz was checked for the maximum resolution test mode.

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

4.7 Test Results

<PASS>

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

Test Mode	Data Page
HDMI 3840*2160@60Hz & 1kHz playing	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

- NOTE 1 Emission Level = Antenna Factor + Cable Loss + Meter Reading. (< 1GHz); Emission Level = Antenna Factor + Cable Loss – Preamp Factor + Meter Reading. (> 1GHz)
- NOTE 2 All readings are Quasi-Peak values below or equal to 1GHz, Peak and Average values above 1GHz.
- NOTE $3-0^{\circ}$ 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 & 1 kHz playing test mode. The worst emission at horizontal polarization was detected at 730.34 MHz with corrected signal level of 44.79 dB (μ V/m) (limit is 46.00 dB (μ V/m)), when the antenna was 1.90 m height and the turntable was at 255°. The worst emission at vertical polarization was detected at 170.65 MHz with corrected signal level of 41.79 dB (μ V/m) (limit is 43.50 dB (μ V/m)), when the antenna was 1.70 m height and the turntable was at 150°.

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : HDMI 3840*2160@60Hz Date

& 1kHz Playing

Date of Test: Jan 04, 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	
	195.87	29.80	10.03	1.94		41.77	43.50	1.73		
	300.63	27.93	13.84	2.59		44.36	46.00	1.64		
	426.73	21.61	16.80	2.78		41.19	46.00	4.81	QP	
	602.30	21.64	19.10	2.26		43.00	46.00	3.00	Qr	
	730.34	21.10	20.10	3.59		44.79	46.00	1.21		
	850.30	18.10	20.70	4.17		42.97	46.00	3.03		
	1213.502	57.07	3.54	24.51	36.11	49.01	74.00	24.99		
	1499.209	52.33	3.89	25.60	35.68	46.14	74.00	27.86		
Horizontal	2547.974	60.45	4.96	28.63	35.16	58.88	74.00	15.12	PK	
Tiorizontai	2967.138	64.22	5.76	30.37	35.20	65.15	74.00	8.85	ГK	
	3375.707	57.10	6.10	31.27	34.83	59.64	74.00	14.36		
	4238.283	54.53	6.31	33.20	34.19	59.85	74.00	14.15		
	1213.502	43.20	3.54	24.51	36.11	35.14	54.00	18.86		
	1499.209	34.20	3.89	25.60	35.68	28.01	54.00	25.99		
	2547.974	44.00	4.96	28.63	35.16	42.43	54.00	11.57	A 3.7	
	2967.138	47.02	5.76	30.37	35.20	47.95	54.00	6.05	AV	
	3375.707	40.21	6.10	31.27	34.83	42.75	54.00	11.25		
	4238.283	36.29	6.31	33.20	34.19	41.61	54.00	12.39		

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : HDMI 3840*2160@60Hz & Date of Test : Jan 04, 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
	73.32	27.41	8.12	0.99		36.52	40.00	3.48	
	170.65	29.14	10.87	1.78		41.79	43.50	1.71	
	228.85	27.44	11.12	2.08		40.64	46.00	5.36	QP
	298.69	24.84	13.75	2.56		41.15	46.00	4.85	2
	602.00	22.90	19.10	2.26		44.26	46.00	1.74	
	655.65	21.51	19.70	3.03		44.24	46.00	1.76	
	1213.502	58.85	3.54	24.51	36.11	50.79	74.00	23.21	
	1499.209	58.15	3.89	25.60	35.68	51.96	74.00	22.04	PK
Vertical	2547.974	64.02	4.96	28.63	35.16	62.45	74.00	11.55	
Vertical	2956.525	65.34	5.69	30.33	35.20	66.16	74.00	7.84	1 1
	3369.664	56.04	6.10	31.25	34.83	58.56	74.00	15.44	
	5914.609	49.46	8.31	35.07	34.08	58.76	74.00	15.24	
	1213.502	43.29	3.54	24.51	36.11	35.23	54.00	18.77	
	1499.209	43.21	3.89	25.60	35.68	37.02	54.00	16.98	
	2547.974	46.21	4.96	28.63	35.16	44.64	54.00	9.36	AV
	2956.525	46.21	5.69	30.33	35.20	47.03	54.00	6.97	AV
	3369.664	38.01	6.10	31.25	34.83	40.53	54.00	13.47	
	5914.609	31.11	8.31	35.07	34.08	40.41	54.00	13.59	

EUT : LED LCD TV Temperature : 22

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Jan 04, 2016

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)		Emission Level dB (µV/m)	Limits dB ($\mu V/m$)	Margin (dB)
	76.56	22.73	8.78	1.04	32.55	40.00	7.45
	294.81	24.21	13.60	2.56	40.37	46.00	5.63
Horizontal	428.67	17.89	16.80	2.78	37.47	46.00	8.53
попиона	607.15	19.92	19.10	2.26	41.28	46.00	4.72
	736.16	16.98	19.97	3.60	40.55	46.00	5.45
	850.62	16.75	20.70	4.17	41.62	46.00	4.38
	74.62	24.87	8.43	1.01	34.31	40.00	5.69
	172.59	24.96	10.79	1.80	37.55	43.50	5.95
Vartical	224.97	22.77	10.80	2.07	35.64	46.00	10.36
Vertical	295.78	24.00	13.65	2.56	40.21	46.00	5.79
	603.80	19.00	19.10	2.26	40.36	46.00	5.64
	659.53	18.27	19.60	3.03	40.90	46.00	5.10

EUT : LED LCD TV Temperature : 22

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : HDMI 1280*1024@60Hz Date of Test : Jan 04, 2016

Polarization	Frequency (MHz)	Meter Reading dB (μV)	Antenna Factor (dB/m)		Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)
	76.56	22.54	8.78	1.04	32.36	40.00	7.64
	197.81	25.89	9.90	1.95	37.74	43.50	5.76
Horizontal	236.61	23.83	11.56	2.10	37.49	46.00	8.51
Попідопіаї	296.75	24.30	13.70	2.56	40.56	46.00	5.44
	605.21	19.40	19.10	2.26	40.76	46.00	5.24
	848.80	16.10	20.70	4.07	40.87	46.00	5.13
	41.64	20.25	12.41	0.75	33.41	40.00	6.59
	172.59	24.52	10.79	1.80	37.11	43.50	6.39
Vertical	233.70	25.30	11.36	2.10	38.76	46.00	7.24
vertical	295.78	24.05	13.65	2.56	40.26	46.00	5.74
	605.00	18.70	19.10	2.26	40.06	46.00	5.94
	659.53	18.63	19.60	3.03	41.26	46.00	4.74

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : HDMI 640*480@60Hz & Date of Test : Jan 04, 2016

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)		Emission Level dB (µV/m)	Limits dB ($\mu V/m$)	Margin (dB)
	198.78	24.11	9.83	1.95	35.89	43.50	7.61
	239.52	21.19	11.80	2.11	35.10	46.00	10.90
Horizontal	296.75	24.44	13.70	2.56	40.70	46.00	5.30
попідопіаї	428.67	17.53	16.80	2.78	37.11	46.00	8.89
	612.00	19.14	19.15	2.39	40.68	46.00	5.32
	844.80	16.06	20.73	4.07	40.86	46.00	5.14
	44.55	21.27	11.20	0.77	33.24	40.00	6.76
Vertical	68.80	26.70	7.12	0.92	34.74	40.00	5.26
	231.76	23.25	11.28	2.09	36.62	46.00	9.38
	297.72	22.26	13.70	2.56	38.52	46.00	7.48
	598.42	18.61	19.10	2.31	40.02	46.00	5.98
	662.44	17.32	19.60	3.03	39.95	46.00	6.05

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : HDMI1080P Date of Test : Jan 04, 2016

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)		Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)
	74.62	23.32	8.43	1.01	32.76	40.00	7.24
	195.87	25.80	10.03	1.94	37.77	43.50	5.73
Horizontal	300.63	24.93	13.84	2.59	41.36	46.00	4.64
Tiorizontai	598.42	20.00	19.10	2.31	41.41	46.00	4.59
	725.49	18.90	20.03	3.59	42.52	46.00	3.48
	850.30	18.10	20.70	4.17	42.97	46.00	3.03
	73.32	27.41	8.12	0.99	36.52	40.00	3.48
	170.65	25.14	10.87	1.78	37.79	43.50	5.71
Vertical	298.69	24.84	13.75	2.56	41.15	46.00	4.85
	423.82	18.10	16.80	2.78	37.68	46.00	8.32
	602.00	19.90	19.10	2.26	41.26	46.00	4.74
	717.73	18.00	19.88	3.57	41.45	46.00	4.55

EUT : LED LCD TV Temperature : 22

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : USB Play Date of Test : Jan 04, 2016

Polarization	Frequency (MHz)	Meter			Emission	Limits	Margin
		Reading	Factor	Loss	Level dB	dB	_
	(WITIZ)	$dB (\mu V)$	(dB/m)	(dB)	$(\mu V/m)$	$(\mu V/m)$	(dB)
	78.50	21.94	9.12	1.05	32.11	40.00	7.89
	189.08	22.34	10.36	1.90	34.60	43.50	8.90
Horizontal	306.45	21.23	13.99	2.60	37.82	46.00	8.18
попідопіаї	607.15	18.92	19.10	2.26	40.28	46.00	5.72
	662.44	17.22	19.60	3.03	39.85	46.00	6.15
	808.91	14.46	20.60	3.78	38.84	46.00	7.16
	74.62	24.87	8.43	1.01	34.31	40.00	5.69
	165.80	22.81	11.24	1.75	35.80	43.50	7.70
Vertical	224.97	22.77	10.80	2.07	35.64	46.00	10.36
	298.69	21.26	13.75	2.56	37.57	46.00	8.43
	603.80	19.00	19.10	2.26	40.36	46.00	5.64
	921.43	11.91	21.50	4.61	38.02	46.00	7.98

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EUT : LED LCD TV Temperature : 22

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : LAN Play Date of Test : Jan 04, 2016

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)		Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)
	30.97	12.89	18.15	0.64	31.68	40.00	8.32
	182.29	21.30	10.50	1.85	33.65	43.50	9.85
Horizontal	236.61	22.83	11.56	2.10	36.49	46.00	9.51
Попідопіаї	369.50	14.19	16.30	2.68	33.17	46.00	12.83
	717.73	13.71	19.88	3.57	37.16	46.00	8.84
	848.80	14.10	20.70	4.07	38.87	46.00	7.13
	42.61	20.39	12.12	0.75	33.26	40.00	6.74
	66.86	26.49	6.81	0.91	34.21	40.00	5.79
Vertical	172.59	24.52	10.79	1.80	37.11	43.50	6.39
	246.31	18.46	12.34	2.14	32.94	46.00	13.06
	714.82	13.22	19.85	3.57	36.64	46.00	9.36
	885.54	9.83	21.20	4.36	35.39	46.00	10.61

Model No. : LC-55N6000U Humidity : 60%RH

Test Mode : MHL Date of Test : Jan 04, 2016

Polarization	Frequency (MHz)	Meter Reading dB (µV)	Antenna Factor (dB/m)		Emission Level dB (µV/m)	Limits dB (µV/m)	Margin (dB)
	195.87	23.73	10.03	1.94	35.70	43.50	7.80
	237.58	21.07	11.64	2.11	34.82	46.00	11.18
Horizontal	272.50	17.89	13.26	2.35	33.50	46.00	12.50
Попідопіаї	399.57	12.31	16.60	2.72	31.63	46.00	14.37
	674.08	11.85	19.70	3.28	34.83	46.00	11.17
	806.00	15.88	20.60	3.78	40.26	46.00	5.74
	44.55	21.27	11.20	0.77	33.24	40.00	6.76
	65.89	27.69	6.63	0.91	35.23	40.00	4.77
Vertical	156.10	19.27	11.18	1.68	32.13	43.50	11.37
	237.58	22.56	11.64	2.11	36.31	46.00	9.69
	672.14	12.45	19.60	3.16	35.21	46.00	10.79
	902.03	8.15	21.30	4.56	34.01	46.00	11.99

5 DEBUG DESCRIPTION

The following components are used during the countermeasure procedures:

Name	M/N	Manufacturer	Location
Ferrite Core	ZCAT1519-0830	Jiangsu Ruifeng Electronics Co., Ltd	See Internal Photo Figure 24
SMcontact	SMR-TSL-4-3.5-5R	Qingdao Joinset Co., Ltd	See Internal Photo Figure 23

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:

(WENCY YANG)

Hisense Electric Co., Ltd. FCC ID: W9HLCDF0074 Page 35 of 35

6 DEVIATION TO TEST SPECIFICATIONS

None.