

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

LED LCD TV

| Model No. | Brand |
|-----------------|---------|
| 55K25DGW, 55H4G | Hisense |

FCC ID : W9HLCDF0050

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-F14129
Date of Test : Jul 22 – Aug 07, 2014
Date of Report : Aug 12, 2014

TABLE OF CONTENTS

| | Page |
|---|-----------|
| 1 SUMMARY OF STANDARDS AND RESULTS..... | 4 |
| 1.1 Description of Standards and Results..... | 4 |
| 2 GENERAL INFORMATION..... | 5 |
| 2.1 Description of Equipment Under Test..... | 5 |
| 2.2 Peripherals..... | 6 |
| 2.3 Description of Test Facility..... | 8 |
| 2.4 Measurement Uncertainty..... | 8 |
| 3 CONDUCTED EMISSION TEST..... | 9 |
| 3.1 Test Equipment..... | 9 |
| 3.2 Block Diagram of Test Setup..... | 9 |
| 3.3 Conducted Emission Limit [FCC Part 15 Subpart B 15.107(a)]..... | 10 |
| 3.4 Test Configuration..... | 10 |
| 3.5 Operating Condition of EUT..... | 11 |
| 3.6 Test Procedures..... | 11 |
| 3.7 Test Results..... | 12 |
| 4 RADIATED EMISSION TEST..... | 17 |
| 4.1 Test Equipment..... | 17 |
| 4.2 Block Diagram of Test Setup..... | 17 |
| 4.3 Radiated Emission Limit [FCC Part 15 Subpart B 15.109(a)]..... | 18 |
| 4.4 Test Configuration..... | 18 |
| 4.5 Operating Condition of EUT..... | 18 |
| 4.6 Test Procedures..... | 19 |
| 4.7 Test Results..... | 19 |
| 5 DEVIATION TO TEST SPECIFICATIONS..... | 26 |

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.
 EUT Description : LED LCD TV

| Model No. | Brand | Power Supply |
|-----------------|---------|--------------|
| 55K25DGW, 55H4G | Hisense | 120V/60Hz |

Test Procedure Used:

*FCC RULES AND REGULATIONS PART 15 SUBPART B CLASS B OCTOBER 2013
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 Sec.2.1) which was tested in 3m anechoic chamber Jul 22 – Aug 07, 2014 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.

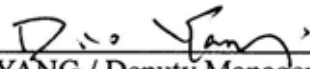

This report contains data that are not covered by the NVLAP accreditation.

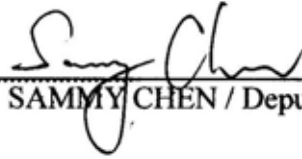
This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government.

The test results for EUT's TV functions are contained in No.F14130, a Verification report.

Date of Test : Jul 22 – Aug 07, 2014 Date of Report : Aug 12, 2014

Producer : 
 EMILY ZHU / Assistant

Review : 
 DIAO YANG / Deputy Manager
 For and on behalf of
 Audix Technology (Shanghai) Co., Ltd.

Signatory : 
 Authorized Signature EMC SAMMY CHEN / Deputy 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 2013 AND ANSI C63.4-2003 | 15.107(a) Class B | Pass |
| Radiated Disturbance | FCC RULES AND REGULATIONS PART 15 SUBPART B OCTOBER 2013 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 | : | <input checked="" type="checkbox"/> Production <input type="checkbox"/> Pre-product <input type="checkbox"/> Pro-type |
| Model No. | : | 55K25DGW, 55H4G |
| Note | : | The above models are all the same except for model name. 55H4G model is tested and recorded in the report. |
| Brand Name | : | Hisense |
| Applicant | : | Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China |
| Manufacturer | : | Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China |
| Factory #1 | : | Hisense Electric Co., Ltd. No.218 Qianwangang Road, Economy & Technology Development Zone, Qingdao, China |
| Factory #2 | : | Tatung Mexico S.A. de C.V. Miguel Catalán 420, Parque Industrial Rio Bravo, Cd. Juarez, Chih., CP 32557 |
| LCD Panel | : | Manufacturer : Hisense M/N : HD550DF-B57\S0 |
| Max Resolution | : | 1920*1080@60Hz |
| HDMI Cable | : | Shielded, Detachable, 1.00m |
| Power Cord | : | Unshielded, Detachable, 1.80m |

Remark:

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

Bottom Port:

- (1) One USB Port : Connected with U-Disk
- (2) One HDMI3 Port : Connected with DVD PLAYER#2
- (3) One HDMI2(ARC) Port : Connected with DVD PLAYER#1

Side Port:

- (4) One HDMI1 Port : Connected with PC
- (5) One Ant/Cable Port : Connected with Antenna or ATSC SG / TV SG
- (6) One Earphone/AUDIO OUT Port : Connected with Earphone
- (7) One DIGITAL AUDIO OUT Port : Connected with DVD PLAYER #2
- (8) One component of AV IN Port : Connected with DVD PLAYER#1

2.2 Peripherals

2.2.1 PC

Manufacturer : HP
 Model Number : dx7200MT
 Serial Number : CNG622017W
 Power Cord : Unshielded, Detachable, 1.8m
 Certificate : FCC DoC; CE/EMC; VCCI; C-Tick; BSMI, 3C, MIC

2.2.2 Printer

Manufacturer : HP
 Model Number : C3990A
 Serial Number : JPZX020487
 Data Cable : Shielded, detachable, 1.5m
 Certificate : GS, CE/EMC, C-Tick, FCC DoC

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

2.2.4 Mouse

Manufacturer : Microsoft
Model Number : RT2300
Serial Number : 6965712071551
Data Cable : Shielded, Undetachable, 1.8m.
Certificate : CE/EMC, FCC DoC, VCCI, MIC, C-Tick,
BSMI

2.2.5 Modem

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

2.2.6 TV Signal Generator

Manufacturer : FLUKE
Model Number : 54200m01
Serial Number : 814008
Data Cable : Shielded, detachable, 2.0m
Power Cord : Unshielded, detachable, 2.0m
Certificate : CE/EMC, FCC DoC, CCC

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 : FCC DoC, CE/EMC, CCC

2.2.9 DVD PLAYER#2

Manufacturer : PHILIPS
Model Number : DVP3986K/93
Serial Number : KX1A0902120082
Certificate : FCC DoC, CE/EMC, CCC

2.2.10 Earphone

Manufacturer : Skullcandy
Model Number : FMJ

2.2.11 U-DISK

Manufacturer : LG
Model Number : 1GB

2.3 Description of Test Facility

| | | |
|---------------------------------------|---|---|
| Site Description (No.3 3m Chamber) | : | Sept. 17, 1998 file on Mar 16, 2012 Renewed Federal Communications Commission FCC Engineering Laboratory 7435 Oakland Mills Road Columbia, MD 21046, USA |
| Name of Firm | : | Audix Technology (Shanghai) Co., Ltd. |
| Site Location | : | 3F 34Bldg 680 Guiping Rd, Caohejing Hi-Tech Park, Shanghai 200233, China |
| NVLAP Lab Code | : | 200371-0 |

2.4 Measurement Uncertainty

| | |
|--|--|
| Conducted Emission Expanded Uncertainty: | U = 2.77 dB |
| Radiated Emission Expanded Uncertainty (30-200MHz): | U = 4.17 dB (Horizontal) U = 4.02 dB (Vertical) |
| Radiated Emission Expanded Uncertainty (200M-1GHz): | U = 3.38 dB (Horizontal) U = 3.28 dB (Vertical) |
| Radiated Emission Expanded Uncertainty (Above 1GHz): | U = 4.68 dB (Horizontal) U = 4.87 dB (Vertical) |

3 CONDUCTED EMISSION TEST

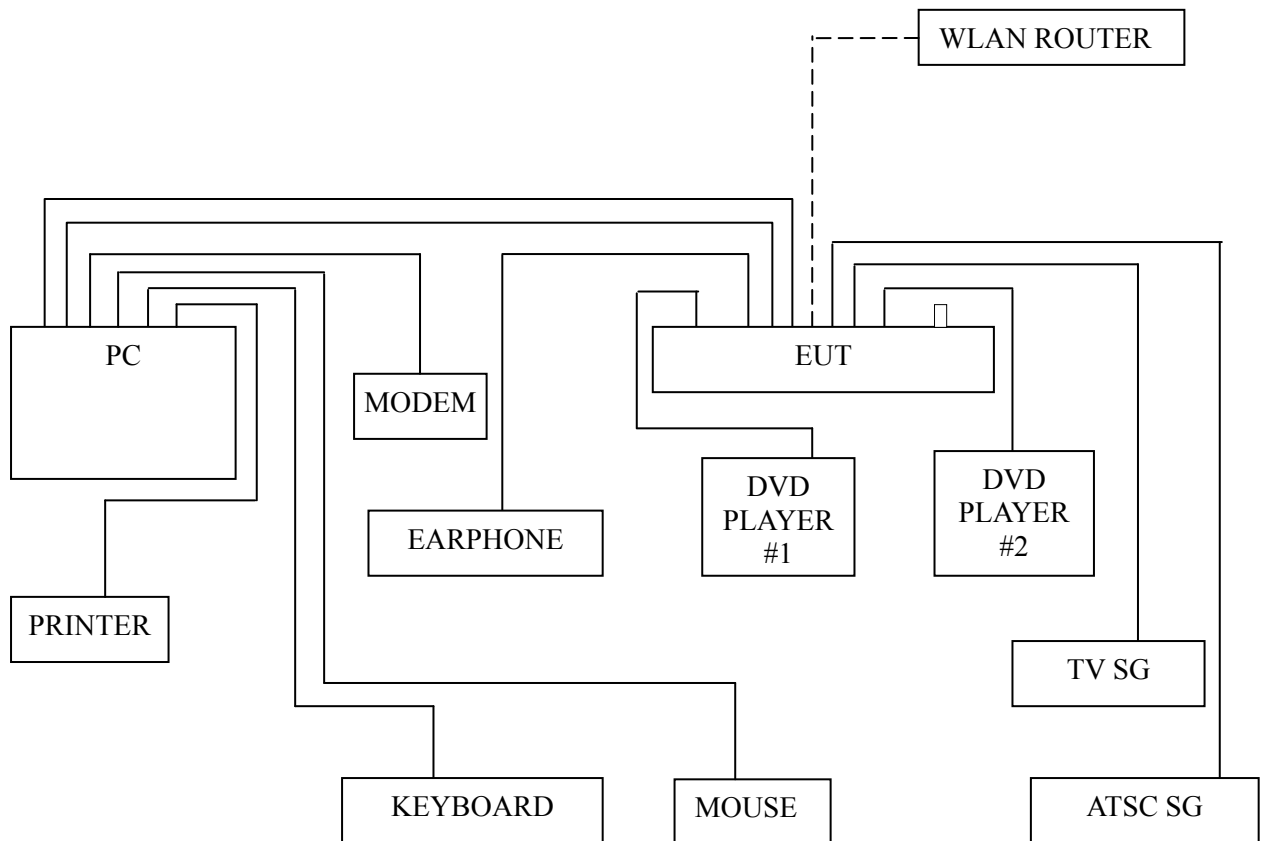
3.1 Test Equipment

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 | 100841 | Mar 20, 2014 | Mar 19, 2015 |
| 2. | Artificial Mains Network (AMN) | R&S | ENV4200 | 100125 | Jun 27, 2014 | Jun 26, 2015 |
| 3. | Line Impedance Stabilization Network (LISN) | Kyoritsu | KNW-407 | 8-1280-4 | Mar 20, 2014 | Mar 19, 2015 |
| 4. | 50 Ω Coaxial Switch | Anritsu | MP59B | 6200426389 | Mar 18, 2014 | Sep 17, 2014 |
| 5. | 50 Ω Terminator | Anritsu | BNC | 001 | Mar 20, 2014 | Mar 19, 2015 |
| 6. | Software | Audix | E3 | 6.111206 | -- | -- |

3.2 Block Diagram of Test Setup

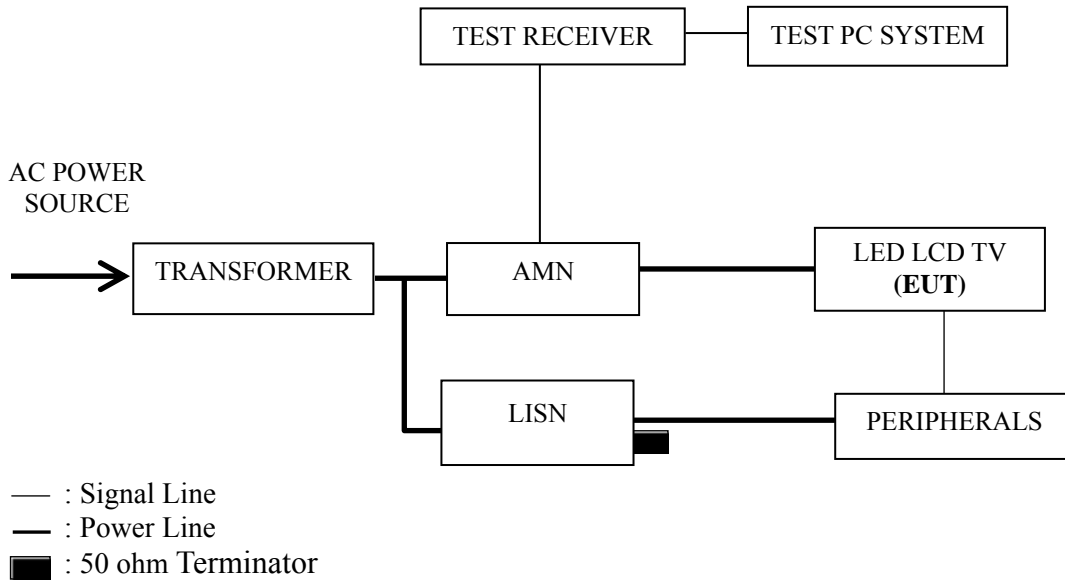
3.2.1 EUT & Peripherals



--- : WLAN signal

□ : U-Disk

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 U-Disk.
- 3.5.7 The WLAN function is operating to communicate with WLAN router / the BT function is operating to communicate with the remote controller.
- 3.5.8 The other peripherals devices were driven and operated during the test.
- 3.5.9 The test modes are as follows:

| Test Mode |
|------------------------------------|
| HDMI 1920*1080@60Hz & 1kHz Playing |
| HDMI 1280*1024@60Hz & 1kHz Playing |
| HDMI 640*480@60Hz & 1kHz Playing |
| USB Play |

3.6 Test Procedures

The EUT and peripherals were connected to the power mains through an Artificial Mains Network (AMN). This provided a 50 ohm coupling impedance for the measuring equipment.

Both sides of AC line (Line & Neutral) were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed or manipulated according to ANSI C63.4:2003 during conducted emission test.

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

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

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

3.7 Test Results

< **PASS** >

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

| Test Mode | Data Page |
|------------------------------------|-----------|
| HDMI 1920*1080@60Hz & 1kHz Playing | P13 |
| HDMI 1280*1024@60Hz & 1kHz Playing | P14 |
| HDMI 640*480@60Hz & 1kHz Playing | P15 |
| USB Play | P16 |

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 1920*1080@60Hz & 1kHz Playing test mode. The worst emission is detected at 7.021 MHz (Average Value) with corrected signal level of 37.55 dB (μ V) (limit is 50.00 dB (μ V)), when the Line of the EUT is connected to AMN.

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 48%RH

Test Mode : HDMI 1920*1080@60Hz Date of Test : Jul 22, 2014
& 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 | 0.241 | 30.20 | 10.52 | 40.72 | 62.06 | 21.34 | QP |
| | 0.599 | 28.00 | 10.43 | 38.43 | 56.00 | 17.57 | |
| | 1.126 | 28.50 | 10.40 | 38.90 | 56.00 | 17.10 | |
| | 2.821 | 25.99 | 10.45 | 36.44 | 56.00 | 19.56 | |
| | 7.021 | 31.50 | 10.45 | 41.95 | 60.00 | 18.05 | |
| | 19.100 | 26.09 | 10.60 | 36.69 | 60.00 | 23.31 | AV |
| | 0.241 | 15.30 | 10.52 | 25.82 | 52.06 | 26.24 | |
| | 0.599 | 17.40 | 10.43 | 27.83 | 46.00 | 18.17 | |
| | 1.126 | 20.00 | 10.40 | 30.40 | 46.00 | 15.60 | |
| | 2.821 | 17.09 | 10.45 | 27.54 | 46.00 | 18.46 | |
| | 7.021 | 27.10 | 10.45 | 37.55 | 50.00 | 12.45 | |
| | 19.100 | 20.79 | 10.60 | 31.39 | 50.00 | 18.61 | |
| Neutral | 0.184 | 27.80 | 10.54 | 38.34 | 64.30 | 25.96 | QP |
| | 0.606 | 27.50 | 10.42 | 37.92 | 56.00 | 18.08 | |
| | 1.123 | 28.20 | 10.41 | 38.61 | 56.00 | 17.39 | |
| | 1.929 | 26.30 | 10.45 | 36.75 | 56.00 | 19.25 | |
| | 7.125 | 28.60 | 10.53 | 39.13 | 60.00 | 20.87 | |
| | 19.100 | 26.09 | 10.71 | 36.80 | 60.00 | 23.20 | AV |
| | 0.184 | 16.90 | 10.54 | 27.44 | 54.30 | 26.86 | |
| | 0.606 | 17.70 | 10.42 | 28.12 | 46.00 | 17.88 | |
| | 1.123 | 20.00 | 10.41 | 30.41 | 46.00 | 15.59 | |
| | 1.929 | 16.80 | 10.45 | 27.25 | 46.00 | 18.75 | |
| | 7.125 | 23.70 | 10.53 | 34.23 | 50.00 | 15.77 | |
| | 19.100 | 20.59 | 10.71 | 31.30 | 50.00 | 18.70 | |

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 48%RH

Test Mode : HDMI 1280*1024@60Hz Date of Test : Jul 22, 2014
& 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 | 0.236 | 30.10 | 10.52 | 40.62 | 62.25 | 21.63 | QP |
| | 0.596 | 28.20 | 10.43 | 38.63 | 56.00 | 17.37 | |
| | 1.138 | 28.80 | 10.40 | 39.20 | 56.00 | 16.80 | |
| | 1.943 | 27.60 | 10.44 | 38.04 | 56.00 | 17.96 | |
| | 6.887 | 30.81 | 10.44 | 41.25 | 60.00 | 18.75 | |
| | 19.200 | 26.59 | 10.60 | 37.19 | 60.00 | 22.81 | |
| | AV | 0.236 | 13.00 | 10.52 | 23.52 | 52.25 | 28.73 |
| | | 0.596 | 17.50 | 10.43 | 27.93 | 46.00 | 18.07 |
| | | 1.138 | 20.20 | 10.40 | 30.60 | 46.00 | 15.40 |
| | | 1.943 | 19.30 | 10.44 | 29.74 | 46.00 | 16.26 |
| | | 6.887 | 25.41 | 10.44 | 35.85 | 50.00 | 14.15 |
| | | 19.200 | 21.29 | 10.60 | 31.89 | 50.00 | 18.11 |
| Neutral | 0.206 | 30.10 | 10.53 | 40.63 | 63.38 | 22.75 | QP |
| | 0.609 | 28.90 | 10.42 | 39.32 | 56.00 | 16.68 | |
| | 1.739 | 28.50 | 10.44 | 38.94 | 56.00 | 17.06 | |
| | 3.238 | 24.50 | 10.49 | 34.99 | 56.00 | 21.01 | |
| | 6.792 | 28.50 | 10.52 | 39.02 | 60.00 | 20.98 | |
| | 19.040 | 26.49 | 10.71 | 37.20 | 60.00 | 22.80 | |
| | AV | 0.206 | 20.60 | 10.53 | 31.13 | 53.38 | 22.25 |
| | | 0.609 | 20.20 | 10.42 | 30.62 | 46.00 | 15.38 |
| | | 1.739 | 20.20 | 10.44 | 30.64 | 46.00 | 15.36 |
| | | 3.238 | 16.40 | 10.49 | 26.89 | 46.00 | 19.11 |
| | | 6.792 | 22.40 | 10.52 | 32.92 | 50.00 | 17.08 |
| | | 19.040 | 21.29 | 10.71 | 32.00 | 50.00 | 18.00 |

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 48%RH

Test Mode : HDMI 640*480@60Hz & 1kHz Playing Date of Test : Jul 22, 2014

| Test Line | Frequency (MHz) | Meter Reading dB(μ V) | Factor (dB) | Emission Level dB(μ V) | Limits dB(μ V) | Margin (dB) | Remark |
|-----------|-----------------|----------------------------|--------------|-----------------------------|---------------------|--------------|--------|
| Line | 0.241 | 30.10 | 10.52 | 40.62 | 62.08 | 21.46 | QP |
| | 0.597 | 28.50 | 10.43 | 38.93 | 56.00 | 17.07 | |
| | 1.128 | 29.60 | 10.40 | 40.00 | 56.00 | 16.00 | |
| | 2.605 | 27.59 | 10.45 | 38.04 | 56.00 | 17.96 | |
| | 6.886 | 21.41 | 10.44 | 31.85 | 60.00 | 28.15 | |
| | 19.220 | 27.19 | 10.60 | 37.79 | 60.00 | 22.21 | AV |
| | 0.241 | 15.30 | 10.52 | 25.82 | 52.08 | 26.26 | |
| | 0.597 | 18.00 | 10.43 | 28.43 | 46.00 | 17.57 | |
| | 1.128 | 21.10 | 10.40 | 31.50 | 46.00 | 14.50 | |
| | 2.605 | 18.89 | 10.45 | 29.34 | 46.00 | 16.66 | |
| | 6.886 | 25.91 | 10.44 | 36.35 | 50.00 | 13.65 | |
| | 19.220 | 21.79 | 10.60 | 32.39 | 50.00 | 17.61 | |
| Neutral | 0.204 | 30.60 | 10.53 | 41.13 | 63.45 | 22.32 | QP |
| | 0.581 | 28.00 | 10.43 | 38.43 | 56.00 | 17.57 | |
| | 1.137 | 28.20 | 10.41 | 38.61 | 56.00 | 17.39 | |
| | 2.557 | 27.59 | 10.48 | 38.07 | 56.00 | 17.93 | |
| | 6.884 | 30.60 | 10.52 | 41.12 | 60.00 | 18.88 | |
| | 19.090 | 26.89 | 10.71 | 37.60 | 60.00 | 22.40 | AV |
| | 0.204 | 21.40 | 10.53 | 31.93 | 53.45 | 21.52 | |
| | 0.581 | 18.20 | 10.43 | 28.63 | 46.00 | 17.37 | |
| | 1.137 | 19.90 | 10.41 | 30.31 | 46.00 | 15.69 | |
| | 2.557 | 19.39 | 10.48 | 29.87 | 46.00 | 16.13 | |
| | 6.884 | 25.30 | 10.52 | 35.82 | 50.00 | 14.18 | |
| | 19.090 | 21.59 | 10.71 | 32.30 | 50.00 | 17.70 | |

TEST ENGINEER: WENCY YANG

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 48%RH

Test Mode : USB Play Date of Test : Jul 22, 2014

| Test Line | Frequency (MHz) | Meter Reading dB(μ V) | Factor (dB) | Emission Level dB(μ V) | Limits dB(μ V) | Margin (dB) | Remark |
|-----------|-----------------|----------------------------|--------------|-----------------------------|---------------------|--------------|--------|
| Line | 0.205 | 29.30 | 10.54 | 39.84 | 63.39 | 23.55 | QP |
| | 0.610 | 29.20 | 10.43 | 39.63 | 56.00 | 16.37 | |
| | 1.150 | 29.90 | 10.40 | 40.30 | 56.00 | 15.70 | |
| | 3.370 | 25.80 | 10.44 | 36.24 | 56.00 | 19.76 | |
| | 6.813 | 29.00 | 10.44 | 39.44 | 60.00 | 20.56 | |
| | 19.130 | 27.59 | 10.60 | 38.19 | 60.00 | 21.81 | |
| | 0.205 | 19.70 | 10.54 | 30.24 | 53.39 | 23.15 | AV |
| | 0.610 | 20.70 | 10.43 | 31.13 | 46.00 | 14.87 | |
| | 1.150 | 21.30 | 10.40 | 31.70 | 46.00 | 14.30 | |
| | 3.370 | 17.90 | 10.44 | 28.34 | 46.00 | 17.66 | |
| | 6.813 | 23.10 | 10.44 | 33.54 | 50.00 | 16.46 | |
| | 19.130 | 22.19 | 10.60 | 32.79 | 50.00 | 17.21 | |
| Neutral | 0.203 | 30.20 | 10.53 | 40.73 | 63.48 | 22.75 | QP |
| | 0.610 | 29.40 | 10.42 | 39.82 | 56.00 | 16.18 | |
| | 1.741 | 29.20 | 10.44 | 39.64 | 56.00 | 16.36 | |
| | 3.370 | 25.90 | 10.49 | 36.39 | 56.00 | 19.61 | |
| | 6.887 | 31.10 | 10.52 | 41.62 | 60.00 | 18.38 | |
| | 19.130 | 27.19 | 10.71 | 37.90 | 60.00 | 22.10 | |
| | 0.203 | 21.30 | 10.53 | 31.83 | 53.48 | 21.65 | AV |
| | 0.610 | 20.80 | 10.42 | 31.22 | 46.00 | 14.78 | |
| | 1.741 | 20.80 | 10.44 | 31.24 | 46.00 | 14.76 | |
| | 3.370 | 18.00 | 10.49 | 28.49 | 46.00 | 17.51 | |
| | 6.887 | 25.70 | 10.52 | 36.22 | 50.00 | 13.78 | |
| | 19.130 | 21.99 | 10.71 | 32.70 | 50.00 | 17.30 | |

TEST ENGINEER: WENCY YANG

4 RADIATED EMISSION TEST

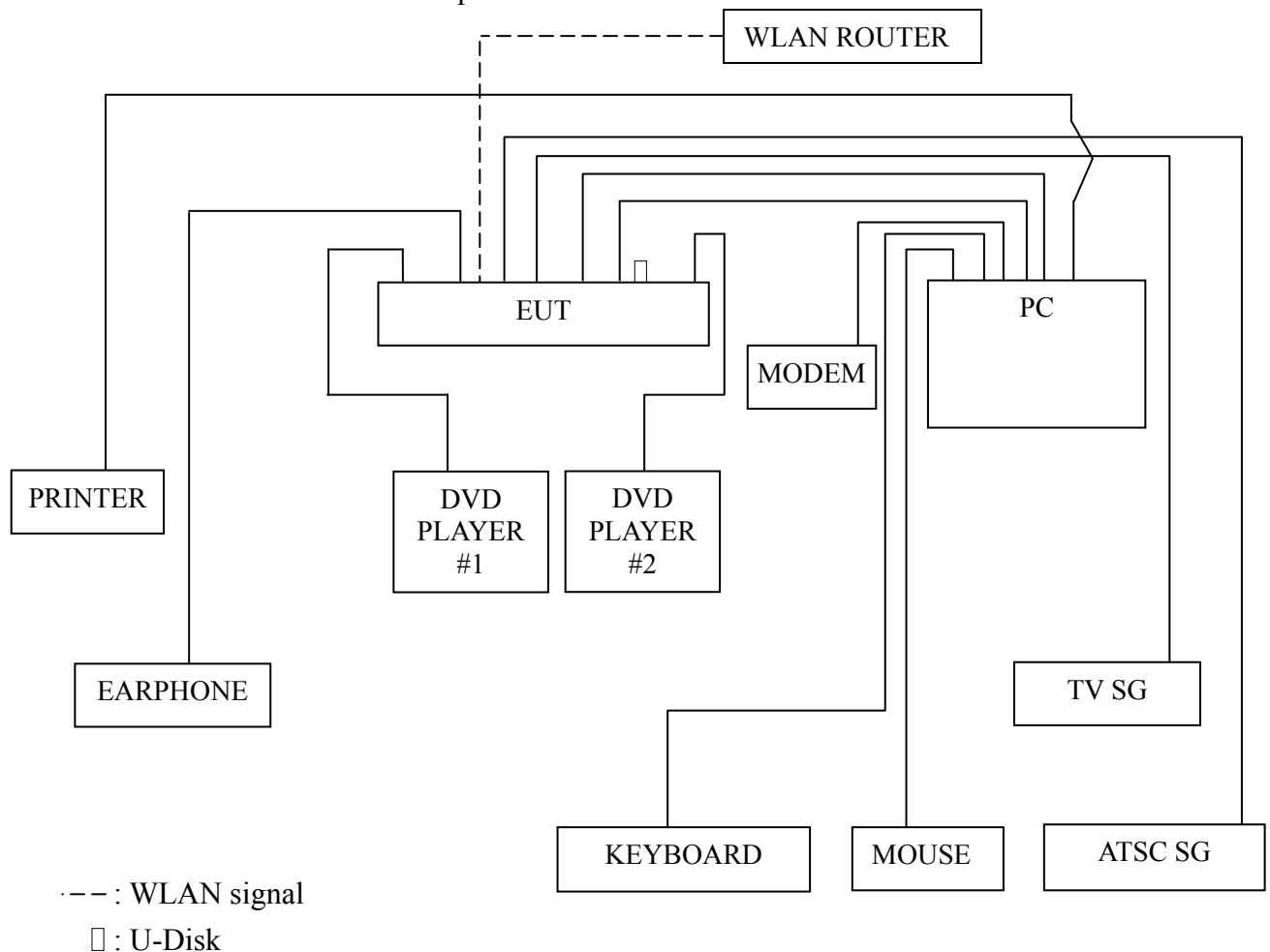
4.1 Test Equipment

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

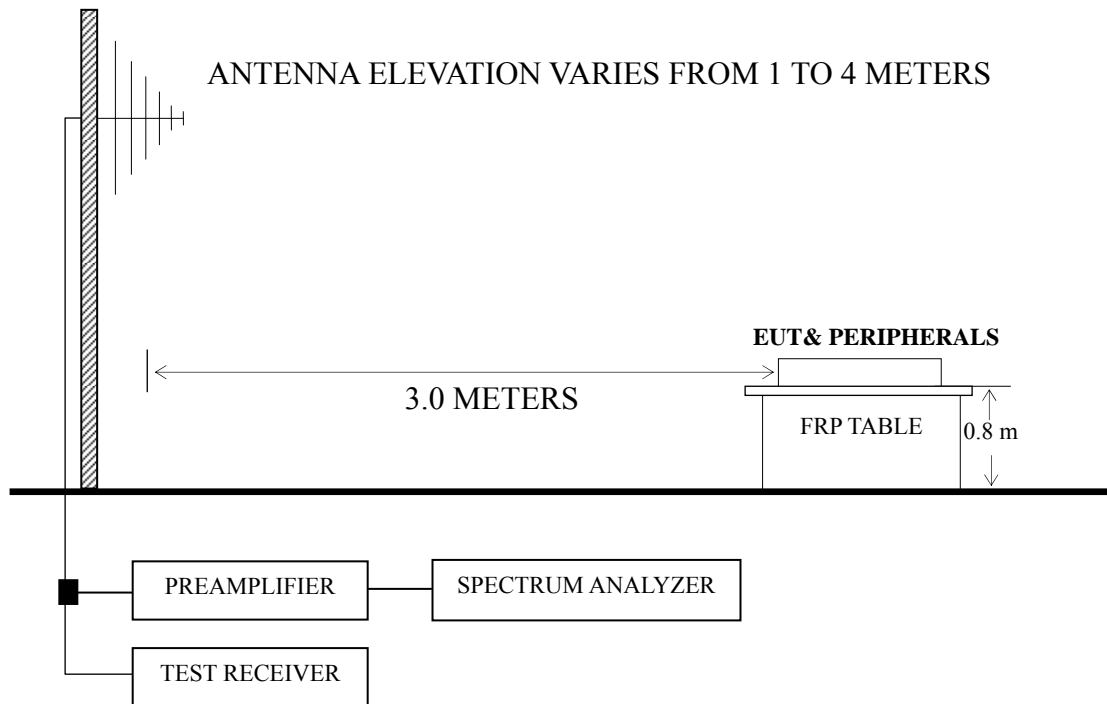
| Item | Type | Manufacturer | Model No. | Serial No. | Last Cal. | Next Cal. |
|------|-------------------|--------------|-----------|-------------|--------------|--------------|
| 1. | Test Receiver | R&S | ESCI | 101302 | Sep 03, 2013 | Sep 02, 2014 |
| 2. | Preamplifier | Agilent | 8447D | 2944A10548 | Mar 18, 2014 | Sep 17, 2014 |
| 3. | Preamplifier | HP | 8449B | 3008A00864 | Mar 20, 2014 | Mar 19, 2015 |
| 4. | Bi-log Antenna | TESEQ | CBL6112D | 23193 | May 03, 2014 | May 02, 2015 |
| 5. | Horn Antenna | EMCO | 3115 | 9607-4878 | May 11, 2014 | May 10, 2015 |
| 6. | Spectrum | Agilent | E7405A | MY45106600 | Nov 11, 2013 | Nov 10, 2014 |
| 7. | 50 Coaxial Switch | Anritsu | MP59B | 6200426390 | Mar 18, 2014 | Sep 17, 2014 |
| 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



■ : 50 ohm Coaxial Switch

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

| Frequency (MHz) | Distance (m) | Field strength limits | |
|-----------------|--------------|----------------------------|-------------------------------|
| | | ($\mu\text{V}/\text{m}$) | dB ($\mu\text{V}/\text{m}$) |
| 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 ($\mu\text{V}/\text{m}$) = 20 log Emission Level ($\mu\text{V}/\text{m}$)

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 24 GHz (10th harmonic of the 2.4GHz RF function) 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 1920*1080@60Hz & 1kHz Playing | P20 – P21 |
| HDMI 1280*1024@60Hz & 1kHz Playing | P22 |
| HDMI 640*480@60Hz & 1kHz Playing | P23 |
| USB Play | P24 |

NOTE 1 – Emission Level = Antenna Factor + Cable Loss + Meter Reading. (< 1GHz);

Emission Level = Antenna Factor + Cable Loss – Preamp Factor + Meter Reading. (> 1GHz)

NOTE 2 – All readings are Quasi-Peak values below or equal to 1GHz, Peak and Average values above 1GHz.

NOTE 3 – 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

NOTE 4 – The worst case is for HDMI 640*480@60Hz & 1kHz Playing test mode. The worst emission at horizontal polarization was detected at 596.880 MHz with corrected signal level of 45.99 dB ($\mu\text{V/m}$) (limit is 46.00 dB ($\mu\text{V/m}$)), when the antenna was 1.30 m height and the turntable was at 73°. The worst emission at vertical polarization was detected at 600.920 MHz with corrected signal level of 44.59 dB ($\mu\text{V/m}$) (limit is 46.00 dB ($\mu\text{V/m}$)), when the antenna was 1.00 m height and the turntable was at 242°.

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 60%RH

Test Mode : HDMI 1920*1080@60Hz & 1kHz Playing Date of Test : Aug 07, 2014

| 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 | 32.930 | 1.86 | 16.91 | 0.67 | -- | 19.44 | 40.00 | 20.56 | QP |
| | 76.579 | 25.48 | 7.15 | 1.00 | -- | 33.63 | 40.00 | 6.37 | |
| | 151.268 | 22.78 | 10.30 | 1.53 | -- | 34.61 | 43.50 | 8.89 | |
| | 222.120 | 26.60 | 8.15 | 1.96 | -- | 36.71 | 46.00 | 9.29 | |
| | 596.488 | 22.79 | 19.15 | 3.21 | -- | 45.15 | 46.00 | 0.85 | |
| | 826.374 | 15.32 | 21.13 | 3.88 | -- | 40.33 | 46.00 | 5.67 | |
| | 1122.000 | 50.26 | 24.18 | 5.03 | 37.93 | 41.54 | 74.00 | 32.46 | PK |
| | 1235.000 | 47.59 | 24.70 | 5.20 | 37.65 | 39.84 | 74.00 | 34.16 | |
| | 1327.000 | 48.54 | 25.09 | 5.43 | 37.40 | 41.66 | 74.00 | 32.34 | |
| | 1487.000 | 47.59 | 25.57 | 5.63 | 36.94 | 41.85 | 74.00 | 32.15 | |
| | 1574.000 | 48.53 | 26.40 | 5.66 | 36.74 | 43.85 | 74.00 | 30.15 | |
| | 1723.000 | 49.54 | 28.17 | 6.01 | 36.46 | 47.26 | 74.00 | 26.74 | AV |
| | 1122.000 | 39.78 | 24.18 | 5.03 | 37.93 | 31.06 | 54.00 | 22.94 | |
| | 1235.000 | 38.56 | 24.70 | 5.20 | 37.65 | 30.81 | 54.00 | 23.19 | |
| | 1327.000 | 36.69 | 25.09 | 5.43 | 37.40 | 29.81 | 54.00 | 24.19 | |
| | 1487.000 | 37.50 | 25.57 | 5.63 | 36.94 | 31.76 | 54.00 | 22.24 | |
| 1574.000 | 37.46 | 26.40 | 5.66 | 36.74 | 32.78 | 54.00 | 21.22 | | |
| 1723.000 | 37.26 | 28.17 | 6.01 | 36.46 | 34.98 | 54.00 | 19.02 | | |

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 60%RH

Test Mode : HDMI 1920*1080@60Hz & 1kHz Playing Date of Test : Aug 07, 2014

| 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 | 34.870 | 18.06 | 16.47 | 0.69 | -- | 35.22 | 40.00 | 4.78 | QP |
| | 51.360 | 22.15 | 7.17 | 0.85 | -- | 30.17 | 40.00 | 9.83 | |
| | 89.189 | 18.18 | 8.31 | 1.13 | -- | 27.62 | 43.50 | 15.88 | |
| | 213.346 | 25.24 | 8.03 | 1.89 | -- | 35.16 | 43.50 | 8.34 | |
| | 596.040 | 21.13 | 19.15 | 3.21 | -- | 43.49 | 46.00 | 2.51 | |
| | 814.734 | 18.04 | 20.60 | 3.79 | -- | 42.43 | 46.00 | 3.57 | |
| | 1089.000 | 49.57 | 24.03 | 4.99 | 38.00 | 40.59 | 74.00 | 33.41 | PK |
| | 1204.000 | 48.58 | 24.55 | 5.15 | 37.73 | 40.55 | 74.00 | 33.45 | |
| | 1287.000 | 50.13 | 24.93 | 5.35 | 37.52 | 42.89 | 74.00 | 31.11 | |
| | 1419.000 | 47.69 | 25.39 | 5.60 | 37.14 | 41.54 | 74.00 | 32.46 | |
| | 1552.000 | 47.23 | 26.16 | 5.65 | 36.78 | 42.26 | 74.00 | 31.74 | |
| | 1776.000 | 46.55 | 28.87 | 6.11 | 36.38 | 45.15 | 74.00 | 28.85 | |
| | 1089.000 | 37.82 | 24.03 | 4.99 | 38.00 | 28.84 | 54.00 | 25.16 | AV |
| | 1204.000 | 37.95 | 24.55 | 5.15 | 37.73 | 29.92 | 54.00 | 24.08 | |
| | 1287.000 | 39.28 | 24.93 | 5.35 | 37.52 | 32.04 | 54.00 | 21.96 | |
| | 1419.000 | 36.54 | 25.39 | 5.60 | 37.14 | 30.39 | 54.00 | 23.61 | |
| | 1552.000 | 36.57 | 26.16 | 5.65 | 36.78 | 31.60 | 54.00 | 22.40 | |
| | 1776.000 | 37.20 | 28.87 | 6.11 | 36.38 | 35.80 | 54.00 | 18.20 | |

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 60%RH

Test Mode : HDMI 1280*1024@60Hz Date of Test : Aug 07, 2014
& 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 | 67.849 | 25.87 | 5.48 | 0.91 | 32.26 | 40.00 | 7.74 |
| | 134.778 | 15.68 | 11.20 | 1.45 | 28.33 | 43.50 | 15.17 |
| | 222.120 | 25.80 | 8.15 | 1.96 | 35.91 | 46.00 | 10.09 |
| | 599.160 | 22.90 | 19.40 | 3.21 | 45.51 | 46.00 | 0.49 |
| | 811.824 | 18.00 | 20.60 | 3.70 | 42.30 | 46.00 | 3.70 |
| | 888.452 | 12.41 | 19.80 | 4.42 | 36.63 | 46.00 | 9.37 |
| Vertical | 36.810 | 13.83 | 15.74 | 0.72 | 30.29 | 40.00 | 9.71 |
| | 65.909 | 25.37 | 5.28 | 0.91 | 31.56 | 40.00 | 8.44 |
| | 158.057 | 18.90 | 9.10 | 1.58 | 29.58 | 43.50 | 13.92 |
| | 266.695 | 16.47 | 12.23 | 2.27 | 30.97 | 46.00 | 15.03 |
| | 520.830 | 11.91 | 18.20 | 2.97 | 33.08 | 46.00 | 12.92 |
| | 794.364 | 14.65 | 19.63 | 3.61 | 37.89 | 46.00 | 8.11 |

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 60%RH

Test Mode : HDMI 640*480@60Hz & 1kHz Playing Date of Test : Aug 07, 2014

| 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 | 33.900 | 6.61 | 16.73 | 0.69 | 24.03 | 40.00 | 15.97 |
| | 76.579 | 25.72 | 7.15 | 1.00 | 33.87 | 40.00 | 6.13 |
| | 145.448 | 23.86 | 10.44 | 1.50 | 35.80 | 43.50 | 7.70 |
| | 245.356 | 20.06 | 10.30 | 2.13 | 32.49 | 46.00 | 13.51 |
| | 467.481 | 16.17 | 16.82 | 2.83 | 35.82 | 46.00 | 10.18 |
| | 596.880 | 23.63 | 19.15 | 3.21 | 45.99 | 46.00 | 0.01 |
| Vertical | 33.900 | 16.27 | 16.73 | 0.69 | 33.69 | 40.00 | 6.31 |
| | 74.639 | 22.46 | 7.29 | 0.98 | 30.73 | 40.00 | 9.27 |
| | 192.007 | 19.62 | 8.13 | 1.77 | 29.52 | 43.50 | 13.98 |
| | 344.294 | 9.58 | 14.33 | 2.59 | 26.50 | 46.00 | 19.50 |
| | 600.920 | 22.05 | 19.30 | 3.24 | 44.59 | 46.00 | 1.41 |
| | 817.644 | 17.89 | 20.60 | 3.79 | 42.28 | 46.00 | 3.72 |

TEST ENGINEER: NEAL WANG

EUT : LED LCD TV Temperature : 22

Model No. : 55H4G Humidity : 60%RH

Test Mode : USB Play Date of Test : Aug 07, 2014

| 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 | 30.990 | 1.76 | 18.27 | 0.64 | 20.67 | 40.00 | 19.33 |
| | 58.149 | 23.88 | 5.56 | 0.88 | 30.32 | 40.00 | 9.68 |
| | 96.949 | 14.16 | 10.16 | 1.21 | 25.53 | 43.50 | 17.97 |
| | 280.275 | 15.45 | 11.90 | 2.35 | 29.70 | 46.00 | 16.30 |
| | 624.618 | 11.78 | 18.80 | 3.29 | 33.87 | 46.00 | 12.13 |
| | 850.623 | 10.90 | 21.60 | 4.07 | 36.57 | 46.00 | 9.43 |
| Vertical | 32.930 | 16.97 | 16.91 | 0.67 | 34.55 | 40.00 | 5.45 |
| | 62.999 | 23.41 | 5.24 | 0.90 | 29.55 | 40.00 | 10.45 |
| | 171.637 | 22.77 | 8.54 | 1.65 | 32.96 | 43.50 | 10.54 |
| | 380.183 | 18.10 | 14.70 | 2.65 | 35.45 | 46.00 | 10.55 |
| | 634.318 | 17.35 | 18.60 | 3.31 | 39.26 | 46.00 | 6.74 |
| | 838.983 | 15.82 | 21.40 | 3.98 | 41.20 | 46.00 | 4.80 |

TEST ENGINEER: NEAL WANG

5 DEVIATION TO TEST SPECIFICATIONS

None.