FCC ID:W8U48FS4610R

APPLICATION OF CERTIFICATION For

TTE Technology Inc.

LCD TV

| Brand Name | Model Number |
|------------|--|
| TCL | 48FS4600R; 48FS4610R;48FS4620R; 48FS4630R; 48FS4640R; 48FS4650R; 48FS4660R; 48FS4670R; 48FS4680R; 48FS4690R |

FCC ID: W8U48FS4610R

Prepared for: TTE Technology Inc.

555 S. Promenade Ave., Suite 103, Corona, CA 92879,

U.S.A.

Prepared By: Audix Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park, Nantou, Shenzhen, Guangdong, China

Tel: (0755) 26639496 Fax: (0755) 26632877

Report Number : ACS-F14170

Date of Test : May.09~12, 2014

Date of Report : Jun.09, 2014



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FCC ID: W8U48FS4610R

TEST REPORT CERTIFICATION

Applicant : TTE Technology Inc.

Manufacturer : TCL King Electrical Appliances (Huizhou) Co., Ltd.

EUT Description : LCD TV

FCC ID : W8U48FS4610R

(A) Model No. & : Brand Name Model Number

Brand Name

48FS4600R; 48FS4610R;48FS4620R;
48FS4630R; 48FS4640R; 48FS4650R;
48FS4660R; 48FS4670R; 48FS4680R;

48FS4690R

(B) Power Supply : AC 120V/60Hz (C) Test Voltage : AC 120V/60Hz

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart B Class B 2013

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) 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 conducted and radiated emissions. The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed of full responsibility for the accuracy and completeness of these tests. This report contains data that are not covered by the NVLAP accreditation.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This Report is made under FCC Part 2.1075. No modifications were required during testing to bring this product into compliance.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

The 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.

Date of Test: May.09~ 12, 2014 Report of date: Jun.09, 2014

Prepared by: Ligary Reviewed by: Guleus

Lisa Liang / Assistant Sun Zeng / Assistant Manager

AUDIX (译科技 (深圳) 有限公司
Audix Technology (Shenzhen) Co., Ltd.
EMC 部門報告專用章

Stamp only for EMC Dept Report

David Jin / Manager

Approved & Authorized Signer:



FCC ID: W8U48FS4610R Page 1-1

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.

| EMISSION | | | | | | |
|---------------------------------------|---------------------------------------|---------|---|--|--|--|
| Description of Test Item | Standard | Results | Remarks | | | |
| Power Line Conducted Emission Test | FCC Part 15: 2013 ANSI C63.4: 2009 | PASS | Meets Class B Limit Minimum passing margin is 7.88dB at 0.17800MHz | | | |
| Radiated Emission Test (30-1000MHz) | FCC Part 15: 2013 ANSI C63.4: 2009 | PASS | Meets Class B Limit Minimum passing margin is 4.69dB at 740.04MHz | | | |
| Radiated Emission Test (1-5GHz) | FCC Part 15: 2013 ANSI C63.4: 2009 | PASS | Meets Class B Limit Minimum passing margin is 14.02dB at 1650.32MHz | | | |



FCC ID: W8U48FS4610R Page 2-1

2. GENERAL INFORMATION

2.1.Description of Device (EUT)

Description : LCD TV

Model Number& Brand Name

| | Brand Name | Model Number |
|--|------------|----------------------------------|
| | | 48FS4600R; 48FS4610R;48FS4620R; |
| | TCL | 48FS4630R; 48FS4640R; 48FS4650R; |
| | | 48FS4660R; 48FS4670R; 48FS4680R; |
| | | 48FS4690R |

All 48" models are identical except for different appearance (only for color, silk-screen and decorative parts) and model number for trading purpose.

FCC ID : W8U48FS4610R

:

Test Mode : 48FS4610R

Remote : Manufacturer: TCL

Applicant : TTE Technology Inc.

555 S. Promenade Ave., Suite 103, Corona, CA 92879,

U.S.A.

Manufacturer : TCL King Electrical Appliances (Huizhou) Co., Ltd.

Section 19, Zhongkai Development Zone for New and High Level

TECH Industries, Huizhou, Guangdong 516006, P.R. China.

| FREQUENCIES USED AND GENERATED WITHIN DEVICE | | | | |
|--|---------|--|--|--|
| LVDS (HD) | 75MHZ | | | |
| LVDS (FHD) | 75MHZ | | | |
| IF | 6MHz | | | |
| DDR | 736 MHz | | | |

Internal photos of the EUT shows AC sockets line, FCC WIRE line, debug with the countermeasure scheme, these countermeasures and EUT production together.

Date of Test : May.09~12, 2014

Date of Receipt : May.08, 2014

Sample Type : Prototype production

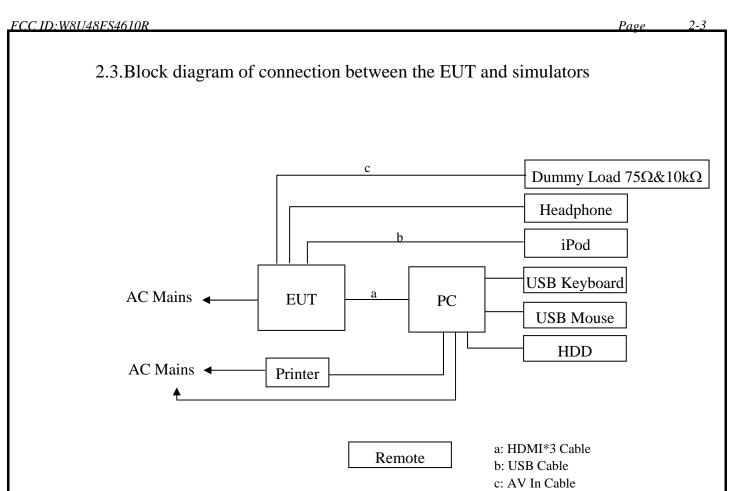


FCC ID: W8U48FS4610R Page 2-2

2.2.Tested Supporting System Details

| | Description | ACS No. | Manufacturer | Model | Serial Number | Approved type | | |
|----|----------------------|--|---------------------------------------|------------|------------------------------|-----------------------------------|--|--|
| 1. | Personal Computer | Test PC S | DELL | Vostro 470 | 2SP05W1 | ☑FCC DoC ☑BSMI ID:R33002 | | |
| | Computer | Power Cord: Unshie Display Card: HD34 | · · · · · · · · · · · · · · · · · · · | | | | | |
| 2. | USB Keyboard | ACS-EMC- K04R | DELL | SK-8115 | CN-ODJ313-71616-6 BB-049J | ☑ FCC DoC ☑BSMI ID: T3A002 | | |
| | | Data Cable: shielded | l, Undetachable, 2 | 2.0m | | | | |
| | | ACS-EMC-PT04 | НР | C9079A | N/A | ☑FCC DoC ☑BSMI ID: R33001 | | |
| 3. | Printer | USB Cable: Shielded, Detachabled, 1.8m Power Cord: Unshielded, Detachabled, 1.8m Power Adapter: HP, M/N: 0957-2119, BSMI ID: R33030, DC Cable: Unshielded, Detachabled, 1.5m | | | | | | |
| 4. | USB Mouse | ACS-EMC-M04R | DELL | M056UO | 512024282 | ☑ FCC DoC ☑BSMI ID: R41108 | | |
| | | Data Cable: shielded, Undetachable, 1.8m | | | | | | |
| 5. | Headphone | ACS-EMC-EP02 | OVANN | OV880V | N/A | □FCC ID □BSMI ID | | |
| | ricadphone | Cable: Shielded, Undetachabled, 4.0m | | | | | | |
| 6. | iPod | ACS-EMC-IP03 | APPLE | A1199 | YM711H3LVQ5 | ☑FCC DoC ☑BSMI ID: R33057 | | |
| | | Data Cable: Shielded, Detachabled, 1.0m | | | | | | |
| 7. | HDD | ACS-EMC-HDD02 | Terasys | F12-UF | A0100215-5390018 | ☑FCC DoC ☑BSMI ID: 4912A022 | | |
| | | USB Cable: Shielded | d, Detachable, 1.8 | 3m | | | | |
| | HDMI Cable: Shi | hielded, Detachable, elded, Detachable, 1. hielded, Detachable, | 8m | | | | | |





(EUT: LCD TV)



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2.4. Test Facility

Site Description

Name of Firm : Audix Technology (Shenzhen) Co., Ltd.

No. 6, Ke Feng Rd., 52 Block, Shenzhen

Science & Industrial Park, Nantou, Shenzhen, Guangdong, China

3m Anechoic Chamber : Certificated by FCC, USA

Registration Number: 90454 Valid Date: Feb.22, 2015

3m & 10m Anechoic Chamber : Certificated by FCC, USA

Registration Number: 794232

Valid Date: Oct.31, 2015

EMC Lab. : Accredited by DAkkS, Germany

Registration No: D-PL-12151-01-00

Valid Date: Dec.15, 2016

: Accredited by NVLAP, USA

NVLAP Code: 200372-0 Valid Date: Mar.31, 2015

2.5. Measurement Uncertainty (95% confidence levels, k=2)

| Test Item | Uncertainty |
|--|---------------------------------|
| Uncertainty for Conduction emission test in No. 1 Conduction | 3.1 dB(150KHz to 30MHz) |
| | 3.22 dB(30~200MHz, Polarize: H) |
| Uncertainty for Radiation Emission test | 3.23 dB(30~200MHz, Polarize: V) |
| in 3m chamber | 3.49 dB(200M~1GHz, Polarize: H) |
| | 3.39 dB(200M~1GHz, Polarize: V) |
| Uncertainty for Radiation Emission test in | 4.97 dB(1~6GHz, Distance: 3m) |
| 3m chamber (1GHz-18GHz) | 4.99 dB(6~18GHz, Distance: 3m) |
| Uncertainty for test site temperature | 3% |
| and humidity | 0.6℃ |

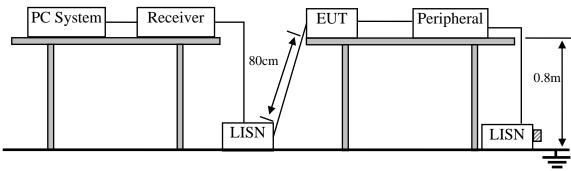


3. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1.Test Equipment

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------|-----------------------------------|-------------------|------------|---------------|------------|---------------|
| 1. | 1# Shielding Room | AUDIX | N/A | N/A | Apr.17,14 | 1 Year |
| 2. | Test Receiver | Rohde & Schwarz | ESHS10 | 838693/001 | Oct.31, 13 | 1 Year |
| 3. | L.I.S.N.#1 | Rohde & Schwarz | ESH2-Z5 | 100429 | Jan.22, 14 | 1 Year |
| 4. | L.I.S.N.#3 | Kyoritsu | KNW-242C | 8-1920-1 | Apr. 28,14 | 1 Year |
| 5. | Terminator | Hubersuhner | 50Ω | No. 1 | Apr. 28,14 | 1 Year |
| 6. | Terminator | Hubersuhner | 50Ω | No. 2 | Apr. 28,14 | 1 Year |
| 7. | RF Cable | Hubersuhner | RG58 | 0100.6954.20# | Jan.22, 14 | 1 Year |
| 8. | Coaxial Switch | Anritsu | MP59B | M50564 | Apr. 28,14 | 1 Year |
| 9. | Pulse Limiter | Rohde & Schwarz | ESH3-Z2 | 101838 | Jan.22, 14 | 1 Year |
| 10. | Oscilloscope | Tektronix | TDS3052B | B026036 | May.09, 14 | 1 Year |
| 11. | MPEG2 Measurement Generator | ROHDE&SCHW ARZ | DVG | 100319 | Dec.11, 13 | 1 Year |
| 12. | TV Transmitter | ROHDE&SCHW ARZ | SFQ | 100521 | Apr. 28,14 | 1 Year |
| 13. | Signal Generator | HP | 8648A | 3625U00573 | Apr. 28,14 | 1 Year |
| 14. | Pattern Generator | Philips | PM5418 | LO625020 | Apr. 28,14 | 1 Year |

3.2.Block Diagram of Test Setup



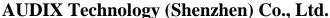
 \square :50 Ω Terminator

3.3. Power Line Conducted Emission Test Limits

| | Maximum RF Line Voltage | | | |
|-----------------|-------------------------|---------------|--|--|
| Frequency | Quasi-Peak Level | Average Level | | |
| | $dB(\mu V)$ | $dB(\mu V)$ | | |
| 150kHz ~ 500kHz | 66 ~ 56* | 56 ~ 46* | | |
| 500kHz ~ 5MHz | 56 | 46 | | |
| 5MHz ~ 30MHz | 60 | 50 | | |

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.





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3.4.Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4.1.LCD TV (EUT)

Model Number : 48FS4610R

Serial Number : N/A

3.4.2. Support Equipment: As Tested Supporting System Detail, in Section 2.2.

3.5. Operating Condition of EUT

- 3.5.1. Setup the EUT and simulator as shown as Section 3.2.
- 3.5.2. Turn on the power of all equipment.
- 3.5.3. PC system ran the Self-test program "EMC Test. exe" by windows XP and sent "H" Character to LCD TV (EUT), the Screen of EUT displayed and filled with "H" pattern, use white letters on a black ground, set the contrast control to maximum, set the brightness control to maximum and measure it.
- 3.5.4. The other peripheral devices were driven and operated in turn during all testing.

3.6.Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.# 3). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4: 2009 on conducted Emission test.

The bandwidth of test receiver (R&S TEST RECEIVER ESHS10) is set at 9kHz.

The frequency range from 150kHz to 30MHz is checked. The test result are reported on Section 3.7.

3.7. Conducted Emission at Mains Terminals Test Results

PASS. (All emissions not reported below are too low against the prescribed limits.)

The EUT with the following test modes were tested and selected to read Q.P values and average values, all the test results are listed in next pages.



Page 3-3

EUT: LCD TV Model No.: 48FS4610R

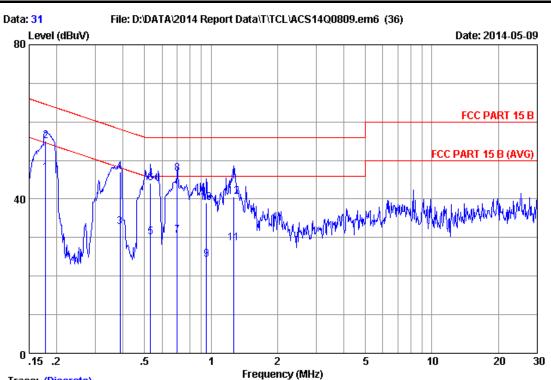
Test Date: May.09, 2014 Temperature: 24.1°C Humidity: 51%

The details of test modes are as follows:

| No. | Test Mede | Input Dort | Resolution & | Reference Test Data No. | | |
|------|----------------------|------------|----------------|-------------------------|-----|--|
| NO. | Test Mode Input Port | Frequency | Line | Neutral | | |
| 1. 💥 | | HDMI 1 | 1920*1080/60Hz | #31 | #32 | |
| 2. | PC Mode | HDMI 2 | 1920*1080/60Hz | #34 | #33 | |
| 3. | | HDMI 3 | 1920*1080/60Hz | #35 | #36 | |

(* Worst test mode)





Site no :1#conduction Data No :31

Dis./Ant. :2014 ESH2-Z5 LINE Limit :FCC PART 15 B

Env./Ins. :24.1*C/51% Engineer :Danny_Liu

EUT :LCD TV M/N:48FS4610R

Power Rating :AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

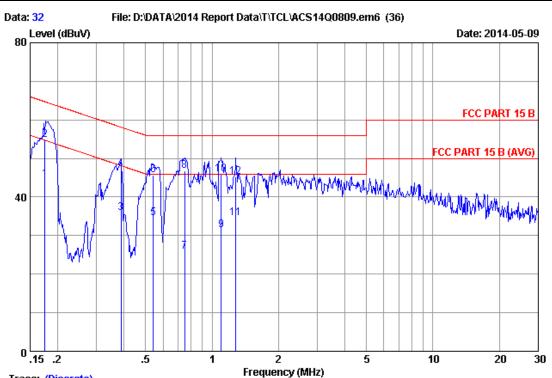
HDMI 1:1920*1080@60Hz

| | | LISN | Cable | | Emission | ı | | |
|----|---------|--------|-------|---------|----------|--------|--------|---------|
| No | Freq | Factor | Loss | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB) | (dB) | (dBuV) | (dBuV) | (dBuV) | (dB) | |
| | | | | | | | | |
| 1 | 0.17800 | 0.13 | 9.88 | 36.69 | 46.70 | 54.58 | 7.88 | Average |
| 2 | 0.17800 | 0.13 | 9.88 | 44.99 | 55.00 | 64.58 | 9.58 | QP |
| 3 | 0.38700 | 0.14 | 9.88 | 22.70 | 32.72 | 48.13 | 15.41 | Average |
| 4 | 0.38700 | 0.14 | 9.88 | 37.00 | 47.02 | 58.13 | 11.11 | QP |
| 5 | 0.53200 | 0.15 | 9.88 | 20.10 | 30.13 | 46.00 | 15.87 | Average |
| 6 | 0.53200 | 0.15 | 9.88 | 34.20 | 44.23 | 56.00 | 11.77 | QP |
| 7 | 0.70400 | 0.16 | 9.89 | 20.40 | 30.45 | 46.00 | 15.55 | Average |
| 8 | 0.70400 | 0.16 | 9.89 | 36.50 | 46.55 | 56.00 | 9.45 | QP |
| 9 | 0.95300 | 0.17 | 9.89 | 14.20 | 24.26 | 46.00 | 21.74 | Average |
| 10 | 0.95300 | 0.17 | 9.89 | 29.00 | 39.06 | 56.00 | 16.94 | QP |
| 11 | 1.262 | 0.18 | 9.90 | 18.49 | 28.57 | 46.00 | 17.43 | Average |
| 12 | 1.262 | 0.18 | 9.90 | 30.39 | 40.47 | 56.00 | 15.53 | QP |
| | | | | | | | | |

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)

2. If the average limit is met when useing a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.





:1#conduction Site no Data No :32

Dis./Ant. :2014 ESH2-Z5 NEUTRAL

Limit :FCC PART 15 B

Env./Ins. :24.1*C/51% Engineer : Danny Liu

EUT :LCD TV M/N:48FS4610R

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

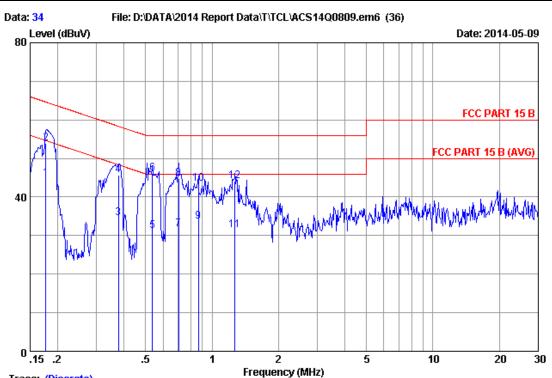
HDMI 1:1920*1080@60Hz

| No Freq (MHz) Factor (dB) Loss (dB) Reading (dBuV) Level (dBuV) Limits (dBuV) Margin (dBuV) Remark (dBuV) 1 0.17500 0.13 9.88 34.50 44.51 54.72 10.21 Average (dBuV) 2 0.17500 0.13 9.88 44.80 54.81 64.72 9.91 QP 3 0.38724 0.14 9.88 25.80 35.82 48.12 12.30 Average (dBuV) 4 0.38724 0.14 9.88 37.12 47.14 58.12 10.98 QP 5 0.54068 0.15 9.88 24.50 34.53 46.00 11.47 Average (dBuV) 6 0.54068 0.15 9.89 35.60 45.63 56.00 10.37 QP 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average (dBuV) | |
|---|--------|
| 1 0.17500 0.13 9.88 34.50 44.51 54.72 10.21 Average 2 0.17500 0.13 9.88 44.80 54.81 64.72 9.91 QP 3 0.38724 0.14 9.88 25.80 35.82 48.12 12.30 Average 4 0.38724 0.14 9.88 37.12 47.14 58.12 10.98 QP 5 0.54068 0.15 9.88 24.50 34.53 46.00 11.47 Average 6 0.54068 0.15 9.88 35.60 45.63 56.00 10.37 QP 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average | mark |
| 2 0.17500 0.13 9.88 44.80 54.81 64.72 9.91 QP 3 0.38724 0.14 9.88 25.80 35.82 48.12 12.30 Average 4 0.38724 0.14 9.88 37.12 47.14 58.12 10.98 QP 5 0.54068 0.15 9.88 24.50 34.53 46.00 11.47 Average 6 0.54068 0.15 9.88 35.60 45.63 56.00 10.37 QP 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average | |
| 2 0.17500 0.13 9.88 44.80 54.81 64.72 9.91 QP 3 0.38724 0.14 9.88 25.80 35.82 48.12 12.30 Average 4 0.38724 0.14 9.88 37.12 47.14 58.12 10.98 QP 5 0.54068 0.15 9.88 24.50 34.53 46.00 11.47 Average 6 0.54068 0.15 9.88 35.60 45.63 56.00 10.37 QP 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average | |
| 3 0.38724 0.14 9.88 25.80 35.82 48.12 12.30 Average 4 0.38724 0.14 9.88 37.12 47.14 58.12 10.98 QP 5 0.54068 0.15 9.88 24.50 34.53 46.00 11.47 Average 6 0.54068 0.15 9.88 35.60 45.63 56.00 10.37 QP 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average | verage |
| 4 0.38724 0.14 9.88 37.12 47.14 58.12 10.98 QP 5 0.54068 0.15 9.88 24.50 34.53 46.00 11.47 Average 6 0.54068 0.15 9.88 35.60 45.63 56.00 10.37 QP 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average | P |
| 5 0.54068 0.15 9.88 24.50 34.53 46.00 11.47 Average 6 0.54068 0.15 9.88 35.60 45.63 56.00 10.37 QP 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average | verage |
| 6 0.54068 0.15 9.88 35.60 45.63 56.00 10.37 QP 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average | P |
| 7 0.75000 0.15 9.89 15.80 25.84 46.00 20.16 Average | verage |
| | P |
| | verage |
| 8 0.75000 0.15 9.89 36.70 46.74 56.00 9.26 QP | P |
| 9 1.099 0.17 9.89 21.31 31.37 46.00 14.63 Average | verage |
| 10 1.099 0.17 9.89 35.81 45.87 56.00 10.13 QP | P |
| 11 1.282 0.18 9.90 24.50 34.58 46.00 11.42 Average | verage |
| 12 1.282 0.18 9.90 35.14 45.22 56.00 10.78 QP | Р |

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)

2.If the average limit is met when useing a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.





:1#conduction Site no Data No :34

Dis./Ant. :2014 ESH2-Z5 LINE Limit :FCC PART 15 B

Env./Ins. :24.1*C/51% Engineer : Danny Liu

EUT :LCD TV M/N:48FS4610R

Power Rating : AC 120V/60Hz

Test Mode :Running H Pattern And 1KHz Playing

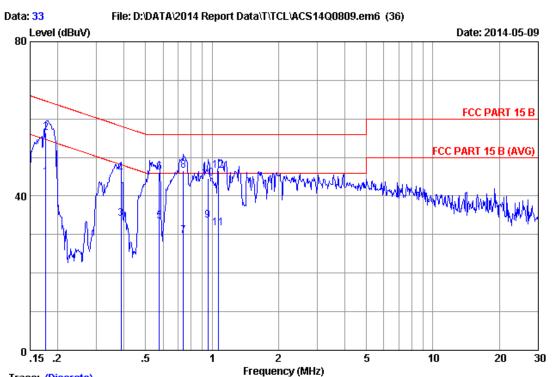
HDMI 2:1920*1080@60Hz

| | | LISN | Cable | | Emission | ı | | |
|----|---------|--------|-------|---------|----------|--------|--------|---------|
| No | Freq | Factor | Loss | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB) | (dB) | (dBuV) | (dBuV) | (dBuV) | (dB) | |
| | | | | | | | | |
| 1 | 0.17700 | 0.13 | 9.88 | 34.69 | 44.70 | 54.63 | 9.93 | Average |
| 2 | 0.17700 | 0.13 | 9.88 | 43.89 | 53.90 | 64.63 | 10.73 | QP |
| 3 | 0.37711 | 0.14 | 9.88 | 24.50 | 34.52 | 48.34 | 13.82 | Average |
| 4 | 0.37711 | 0.14 | 9.88 | 35.55 | 45.57 | 58.34 | 12.77 | QP |
| 5 | 0.53782 | 0.15 | 9.88 | 21.20 | 31.23 | 46.00 | 14.77 | Average |
| 6 | 0.53782 | 0.15 | 9.88 | 36.10 | 46.13 | 56.00 | 9.87 | QP |
| 7 | 0.70468 | 0.16 | 9.89 | 21.50 | 31.55 | 46.00 | 14.45 | Average |
| 8 | 0.70468 | 0.16 | 9.89 | 34.69 | 44.74 | 56.00 | 11.26 | QP |
| 9 | 0.86643 | 0.17 | 9.89 | 23.60 | 33.66 | 46.00 | 12.34 | Average |
| 10 | 0.86643 | 0.17 | 9.89 | 33.34 | 43.40 | 56.00 | 12.60 | QP |
| 11 | 1.269 | 0.18 | 9.90 | 21.39 | 31.47 | 46.00 | 14.53 | Average |
| 12 | 1.269 | 0.18 | 9.90 | 34.11 | 44.19 | 56.00 | 11.81 | QP |
| | | | | | | | | |

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)

2.If the average limit is met when useing a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.





Site no :1#conduction Data No :33

Dis./Ant. :2014 ESH2-Z5 NEUTRAL

Limit :FCC PART 15 B

Env./Ins. :24.1*C/51% Engineer :Danny_Liu

EUT :LCD TV M/N:48FS4610R

Power Rating :AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

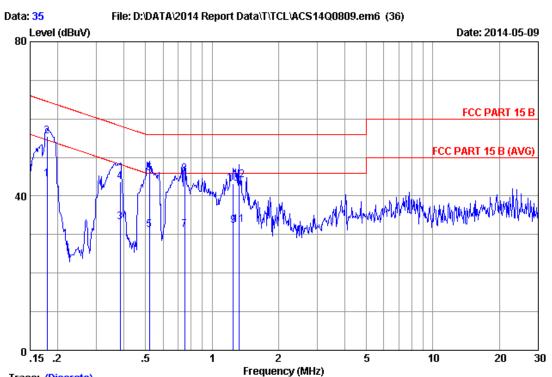
HDMI 2:1920*1080@60Hz

| | | LISN | Cable | | Emissior | 1 | | |
|----|---------|--------|-------|---------|----------|--------|--------|---------|
| No | Freq | Factor | Loss | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB) | (dB) | (dBuV) | (dBuV) | (dBuV) | (dB) | |
| | | | | | | | | |
| 1 | 0.17700 | 0.13 | 9.88 | 34.80 | 44.81 | 54.63 | 9.82 | Average |
| 2 | 0.17700 | 0.13 | 9.88 | 46.30 | 56.31 | 64.63 | 8.32 | QP |
| 3 | 0.38724 | 0.14 | 9.88 | 24.10 | 34.12 | 48.12 | 14.00 | Average |
| 4 | 0.38724 | 0.14 | 9.88 | 35.74 | 45.76 | 58.12 | 12.36 | QP |
| 5 | 0.57617 | 0.15 | 9.88 | 23.50 | 33.53 | 46.00 | 12.47 | Average |
| 6 | 0.57617 | 0.15 | 9.88 | 36.01 | 46.04 | 56.00 | 9.96 | QP |
| 7 | 0.74300 | 0.15 | 9.89 | 19.50 | 29.54 | 46.00 | 16.46 | Average |
| 8 | 0.74300 | 0.15 | 9.89 | 36.60 | 46.64 | 56.00 | 9.36 | QP |
| 9 | 0.95819 | 0.17 | 9.89 | 23.50 | 33.56 | 46.00 | 12.44 | Average |
| 10 | 0.95819 | 0.17 | 9.89 | 34.42 | 44.48 | 56.00 | 11.52 | QP |
| 11 | 1.071 | 0.17 | 9.89 | 21.50 | 31.56 | 46.00 | 14.44 | Average |
| 12 | 1.071 | 0.17 | 9.89 | 36.50 | 46.56 | 56.00 | 9.44 | QP |
| | | | | | | | | |

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)

2. If the average limit is met when useing a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.





Site no :1#conduction Data No :35

Dis./Ant. :2014 ESH2-Z5 LINE Limit :FCC PART 15 B

Env./Ins. :24.1*C/51% Engineer :Danny Liu

EUT :LCD TV M/N:48FS4610R

Power Rating :AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

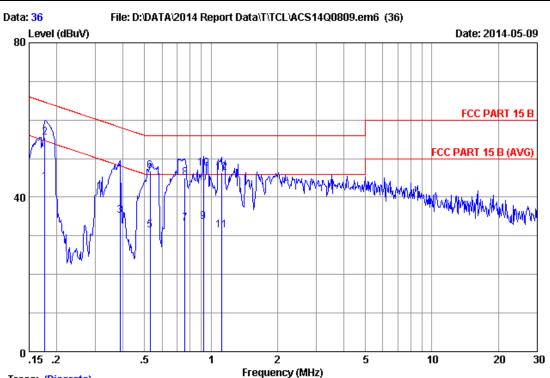
HDMI 3:1920*1080@60Hz

| | | LISN | Cable | | Emissior | 1 | | |
|----|---------|--------|-------|---------|----------|--------|--------|---------|
| No | Freq | Factor | Loss | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB) | (dB) | (dBuV) | (dBuV) | (dBuV) | (dB) | |
| | | | | | | | | |
| 1 | 0.17866 | 0.13 | 9.88 | 34.44 | 44.45 | 54.55 | 10.10 | Average |
| 2 | 0.17866 | 0.13 | 9.88 | 45.48 | 55.49 | 64.55 | 9.06 | QP |
| 3 | 0.38315 | 0.14 | 9.88 | 23.20 | 33.22 | 48.21 | 14.99 | Average |
| 4 | 0.38315 | 0.14 | 9.88 | 33.63 | 43.65 | 58.21 | 14.56 | QP |
| 5 | 0.52099 | 0.15 | 9.88 | 21.20 | 31.23 | 46.00 | 14.77 | Average |
| 6 | 0.52099 | 0.15 | 9.88 | 35.98 | 46.01 | 56.00 | 9.99 | QP |
| 7 | 0.75094 | 0.16 | 9.89 | 21.20 | 31.25 | 46.00 | 14.75 | Average |
| 8 | 0.75094 | 0.16 | 9.89 | 35.58 | 45.63 | 56.00 | 10.37 | QP |
| 9 | 1.249 | 0.18 | 9.90 | 22.19 | 32.27 | 46.00 | 13.73 | Average |
| 10 | 1.249 | 0.18 | 9.90 | 33.16 | 43.24 | 56.00 | 12.76 | QP |
| 11 | 1.324 | 0.18 | 9.90 | 22.40 | 32.48 | 46.00 | 13.52 | Average |
| 12 | 1.324 | 0.18 | 9.90 | 34.09 | 44.17 | 56.00 | 11.83 | QP |
| | | | | | | | | |

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)

2. If the average limit is met when useing a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.





Site no :1#conduction Data No :36

Dis./Ant. :2014 ESH2-Z5 NEUTRAL

Limit :FCC PART 15 B

Env./Ins. :24.1*C/51% Engineer :Danny_Liu

EUT :LCD TV M/N:48FS4610R

Power Rating :AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

HDMI 3:1920*1080@60Hz

| | | LISN | Cable | | Emission | ı | | |
|----|---------|--------|-------|---------|----------|--------|--------|---------|
| No | Freq | Factor | Loss | Reading | Level | Limits | Margin | Remark |
| | (MHz) | (dB) | (dB) | (dBuV) | (dBuV) | (dBuV) | (dB) | |
| 1 | 0.17700 | 0.13 | 9.88 | 33.90 | 43.91 | 54.63 | 10.72 | Average |
| _ | | | | | | | | _ |
| 2 | 0.17700 | 0.13 | 9.88 | 45.40 | 55.41 | 64.63 | 9.22 | QP |
| 3 | 0.38724 | 0.14 | 9.88 | 25.10 | 35.12 | 48.12 | 13.00 | Average |
| 4 | 0.38724 | 0.14 | 9.88 | 36.80 | 46.82 | 58.12 | 11.30 | QP |
| 5 | 0.52934 | 0.15 | 9.88 | 21.40 | 31.43 | 46.00 | 14.57 | Average |
| 6 | 0.52934 | 0.15 | 9.88 | 36.77 | 46.80 | 56.00 | 9.20 | QP |
| 7 | 0.76297 | 0.15 | 9.89 | 23.20 | 33.24 | 46.00 | 12.76 | Average |
| 8 | 0.76297 | 0.15 | 9.89 | 34.88 | 44.92 | 56.00 | 11.08 | QP |
| 9 | 0.92330 | 0.17 | 9.89 | 23.50 | 33.56 | 46.00 | 12.44 | Average |
| 10 | 0.92330 | 0.17 | 9.89 | 37.43 | 47.49 | 56.00 | 8.51 | QP |
| 11 | 1.117 | 0.17 | 9.89 | 21.41 | 31.47 | 46.00 | 14.53 | Average |
| 12 | 1.117 | 0.17 | 9.89 | 36.27 | 46.33 | 56.00 | 9.67 | QP |

Remarks: 1.Emission Level=LISN Factor+Cable Loss(Include 10dB pulse limit)

2.If the average limit is met when useing a quasi-peak detector. the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



4. RADIATED EMISSION MEASUREMENT

4.1.Test Equipment

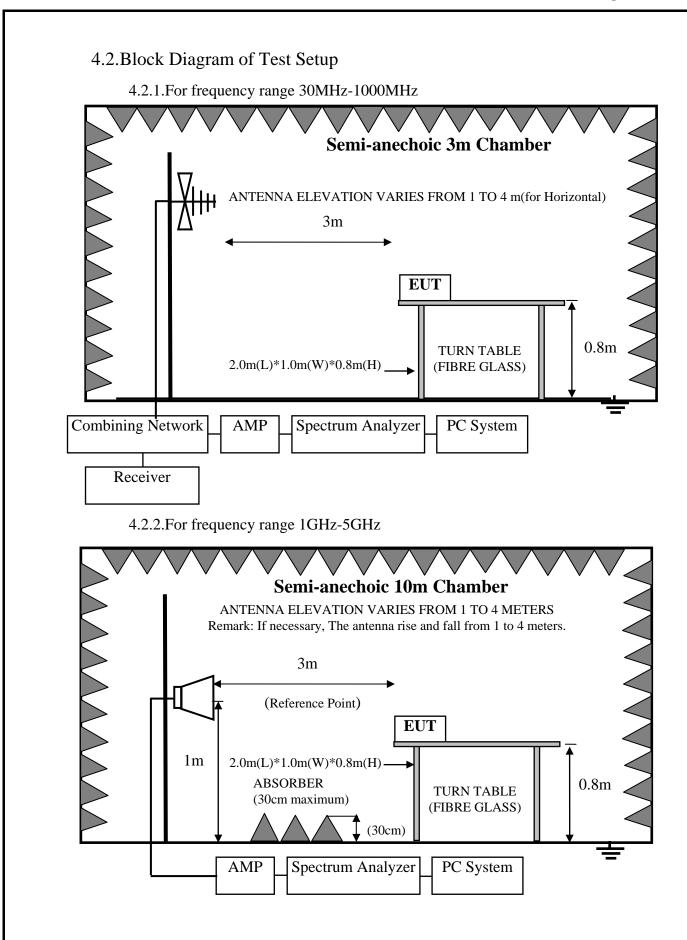
4.1.1.For frequency range $30MHz\sim1000MHz$

| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
|------|-----------------------------------|-------------------|-----------|--------------------|------------|---------------|
| 1 | 3#Chamber | AUDIX | N/A | N/A | Nov.24, 13 | 1 Year |
| 2 | EMI Spectrum | Agilent | E4407B | MY41440292 | Apr. 28,14 | 1 Year |
| 3 | Test Receiver | Rohde & Schwarz | ESVS10 | 834468/011 | Apr. 28,14 | 1 Year |
| 4 | Amplifier | HP | 8447D | 2648A04738 | Apr. 28,14 | 1 Year |
| 5 | Bilog Antenna | TESEQ | CBL6112D | 35375 | May.30, 13 | 1 Year |
| 6 | RF Cable | MIYAZAKI | CFD400-NL | 3# Chamber No.1 | Apr. 28,14 | 1 Year |
| 7 | Coaxial Switch | Anritsu | MP59B | M74389 | Apr. 28,14 | 1 Year |
| 8 | MPEG2 Measurement Generator | ROHDE&SCHWA RZ | DVG | 100319 | Dec.11, 13 | 1 Year |
| 9 | TV Transmitter | ROHDE&SCHWA RZ | SFQ | 100521 | Apr. 28,14 | 1 Year |
| 10 | Signal Generator | HP | 8648A | 3625U00573 | Apr. 28,14 | 1 Year |
| 11 | Pattern Generator | Philips | PM5418 | LO625020 | Apr. 28,14 | 1 Year |

4.1.2.For frequency range 1GHz~5GHz

| | | 1 , | | | | |
|------|-----------------------------------|-------------------|-------------|------------|------------|---------------|
| Item | Equipment | Manufacturer | Model No. | Serial No. | Last Cal. | Cal. Interval |
| 1 | 3#Chamber | AUDIX | N/A | N/A | Nov.03, 13 | 1 Year |
| 2 | Spectrum Analyzer | Agilent | E4407B | MY41440292 | Apr. 28,14 | 1 Year |
| 3 | Horn Antenna | EMCO | 3115 | 9607-4877 | Aug.27, 13 | 1 Year |
| 4 | Amplifier | Agilent | 8449B | 3008A00863 | Apr. 28,14 | 1 Year |
| 5 | RF Cable | Hubersuhner | SUCOFLEX106 | 77977/6 | Apr. 28,14 | 1 Year |
| 6 | RF Cable | Hubersuhner | SUCOFLEX106 | 28616/2 | Apr. 28,14 | 1 Year |
| 7 | MPEG2 Measurement Generator | ROHDE&SC HWARZ | DVG | 100319 | Dec.11, 13 | 1 Year |
| 8 | TV Transmitter | ROHDE&SC HWARZ | SFQ | 100521 | Apr. 28,14 | 1 Year |
| 9 | Pattern Generator | Philips | PM5418 | LO625020 | Apr. 28,14 | 1 Year |







4.3. Radiated Emission Limit

| Frequency | Distance | Field Strengths Limits |
|------------|----------|------------------------|
| MHz | (Meters) | $dB(\mu V)/m$ |
| 30 ~ 88 | 3 | 40.0 |
| 88 ~ 216 | 3 | 43.5 |
| 216 ~ 960 | 3 | 46.0 |
| 960 ~ 1000 | 3 | 54.0 |
| Above 1000 | 3 | 74(Peak)54(Average) |

Remark: (1) Emission level = Antenna Factor + Cable Loss + Reading Emission level = Antenna Factor - Amp Factor + Cable Loss + Reading (above 1000MHz)

- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.4.EUT Configuration on Test

The configurations of EUT are listed in Section 3.4

4.5. Operating Condition of EUT

Same as Conducted Emission test that is listed in Section 3.5. except the test set up replaced by Section 4.2.

4.6.Test Procedure

The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.4: 2009 on Radiated Emission test.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's RBW is set at 1MHz and VBW is set at 3MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz.



4.7. Radiated Emission Test Results

PASS. (All emissions not reported below are too low against the prescribed limits.)

EUT: LCD TV Model No.: 48FS4610R

For frequency range 30MHz~1000MHz

The EUT with the following test modes were tested and selected to read Q.P values, all the test results are listed in next pages.

Test Date: May.12, 2014 Temperature: 24°C Humidity: 56%

The details of test modes are as follows:

| No. | T (M 1 | T (D) | Resolution & | Reference Test Data No. | | |
|------|-----------|------------|----------------|-------------------------|----------|--|
| | Test Mode | Input Port | Frequency | Horizontal | Vertical | |
| 1. ※ | | HDMI 1 | 1920*1080/60Hz | #32 | #31 | |
| 2. | PC Mode | HDMI 2 | 1920*1080/60Hz | #33 | #34 | |
| 3. | | HDMI 3 | 1920*1080/60Hz | #36 | #35 | |

^{(*} Worst test mode)

For frequency range 1GHz~5GHz

The EUT with below test mode were measured within Anechoic Chamber and the test results listed in next pages

Note: For all the emissions above 1GHz, the peak measured level comply with peak limit, so the average level were deemed to comply with average limit.

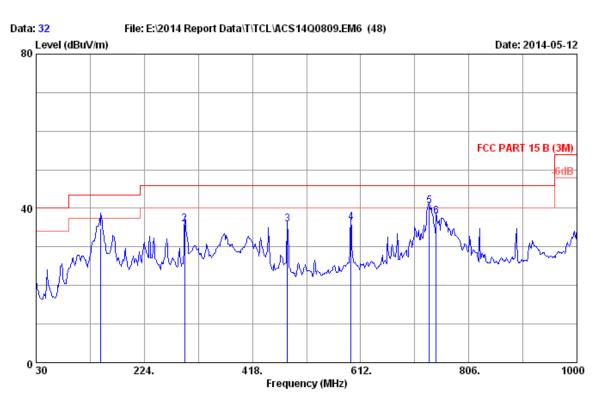
Test Date: May.12, 2014 Temperature: 24°C Humidity: 56%

| No. | Test Mode | | Resolution & | Reference Test Data No. | | |
|------|-----------|------------|----------------|-------------------------|----------|--|
| | | Input Port | Frequency | Horizontal | Vertical | |
| 1. 💥 | | HDMI 1 | 1920*1080/60Hz | #44 | #43 | |
| 2. | PC Mode | HDMI 2 | 1920*1080/60Hz | #45 | #46 | |
| 3. | | HDMI 3 | 1920*1080/60Hz | #48 | #47 | |

(* Worst test mode)



30MHz~1000MHz



Site no. : 3m Chamber Data no. : 32

Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

Test Mode : Running"H"Pattren And 1KHz Playing

HDMI1:1920*1080@60Hz

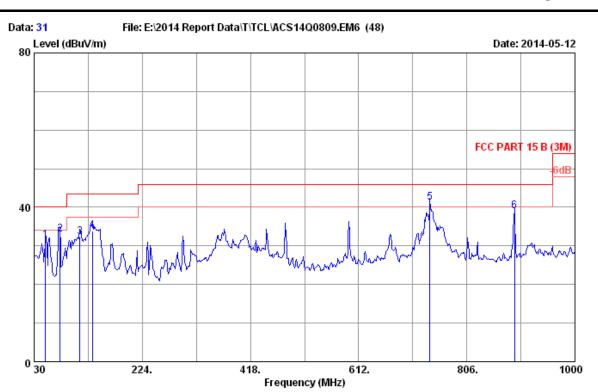
| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 146.40 | 11.48 | 1.59 | 21.72 | 34.79 | 43.50 | 8.71 | QP |
| 2 | 296.75 | 13.90 | 2.16 | 19.82 | 35.88 | 46.00 | 10.12 | QP |
| 3 | 481.05 | 17.80 | 2.70 | 15.30 | 35.80 | 46.00 | 10.20 | QP |
| 4 | 594.54 | 19.09 | 3.02 | 14.30 | 36.41 | 46.00 | 9.59 | QP |
| 5 | 735.19 | 20.20 | 3.42 | 17.04 | 40.66 | 46.00 | 5.34 | QP |
| 6 | 747.80 | 20.30 | 3.46 | 14.18 | 37.94 | 46.00 | 8.06 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

- The emission levels that are 20dB below the official limit are not reported.
- 3. The worst emission was detected at 735.19 MHz with corrected signal level of 40.66 dB μ V/m (Limit is 46.00 dB μ V/m) when the antenna was at horizontal polarization and at 1.0m high and the turn table was at 75°.
- 4. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

Engineer : Even_Deng





Site no. : 3m Chamber Data no. : 31 Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

Test Mode : Running"H"Pattren And 1KHz Playing

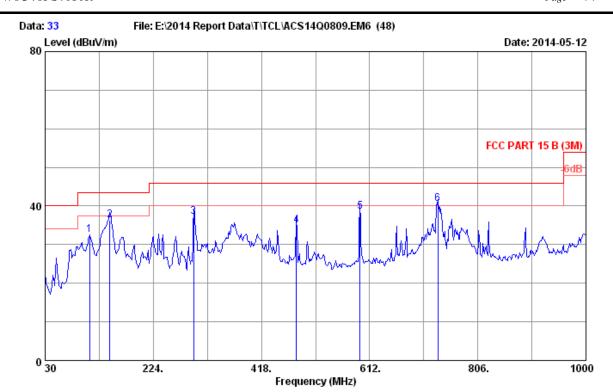
HDMI1:1920*1080@60Hz

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 50.37 | 8.97 | 1.19 | 21.15 | 31.31 | 40.00 | 8.69 | QP |
| 2 | 76.56 | 7.26 | 1.31 | 24.32 | 32.89 | 40.00 | 7.11 | QP |
| 3 | 112.45 | 12.45 | 1.46 | 18.40 | 32.31 | 43.50 | 11.19 | QP |
| 4 | 134.76 | 12.42 | 1.54 | 19.89 | 33.85 | 43.50 | 9.65 | QP |
| 5 | 740.04 | 20.30 | 3.44 | 17.57 | 41.31 | 46.00 | 4.69 | QP |
| 6 | 891.36 | 21.57 | 3.90 | 13.45 | 38.92 | 46.00 | 7.08 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

- 2. The emission levels that are 20dB below the official limit are not reported.
- 3. The worst emission was detected at 740.04 MHz with corrected signal level of 41.31 dBµV/m (Limit is 46.00 dBµV/m) when the antenna was at vertical polarization and at 1.0m high and the turn table was at 235°.
- 4. 0° was the table front facing the antenna. Degree is calculated from 0° clockwise facing the antenna.

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Site no. : 3m Chamber Data no. : 33

Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

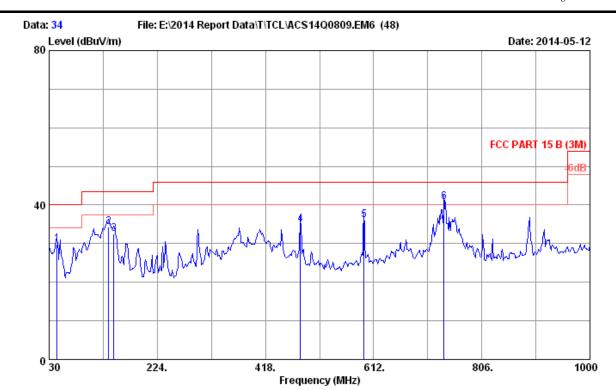
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI2:1920*1080@60Hz

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 109.54 | 12.25 | 1.45 | 18.76 | 32.46 | 43.50 | 11.04 | QP |
| 2 | 146.40 | 11.48 | 1.59 | 23.19 | 36.26 | 43.50 | 7.24 | QP |
| 3 | 296.75 | 13.90 | 2.16 | 21.08 | 37.14 | 46.00 | 8.86 | QP |
| 4 | 481.05 | 17.80 | 2.70 | 14.59 | 35.09 | 46.00 | 10.91 | QP |
| 5 | 594.54 | 19.09 | 3.02 | 16.43 | 38.54 | 46.00 | 7.46 | QP |
| 6 | 734.22 | 20.17 | 3.42 | 16.99 | 40.58 | 46.00 | 5.42 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

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Site no. : 3m Chamber Data no. : 34

Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

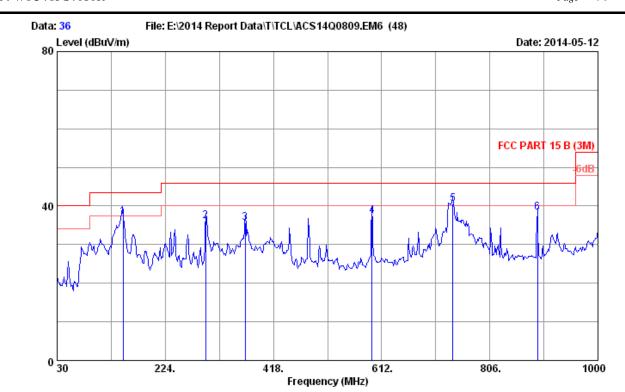
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI2:1920*1080@60Hz

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 44.55 | 11.53 | 1.09 | 17.13 | 29.75 | 40.00 | 10.25 | QP |
| 2 | 136.70 | 12.26 | 1.55 | 20.61 | 34.42 | 43.50 | 9.08 | QP |
| 3 | 146.40 | 11.48 | 1.59 | 19.53 | 32.60 | 43.50 | 10.90 | QP |
| 4 | 481.05 | 17.80 | 2.70 | 14.54 | 35.04 | 46.00 | 10.96 | QP |
| 5 | 594.54 | 19.09 | 3.02 | 13.93 | 36.04 | 46.00 | 9.96 | QP |
| 6 | 738.10 | 20.26 | 3.43 | 17.20 | 40.89 | 46.00 | 5.11 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

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Site no. : 3m Chamber Data no. : 36

Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

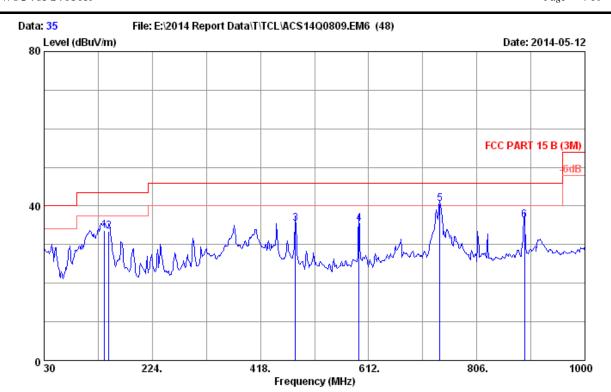
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI3:1920*1080@60Hz

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 148.34 | 11.38 | 1.59 | 24.17 | 37.14 | 43.50 | 6.36 | QP |
| 2 | 296.75 | 13.90 | 2.16 | 19.97 | 36.03 | 46.00 | 9.97 | QP |
| 3 | 367.56 | 15.70 | 2.37 | 17.59 | 35.66 | 46.00 | 10.34 | QP |
| 4 | 594.54 | 19.09 | 3.02 | 15.29 | 37.40 | 46.00 | 8.60 | QP |
| 5 | 740.04 | 20.30 | 3.44 | 16.81 | 40.55 | 46.00 | 5.45 | QP |
| 6 | 891.36 | 21.57 | 3.90 | 12.90 | 38.37 | 46.00 | 7.63 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

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Site no. : 3m Chamber Data no. : 35

Dis. / Ant. : 3m 2013 CBL6112D 35375 Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

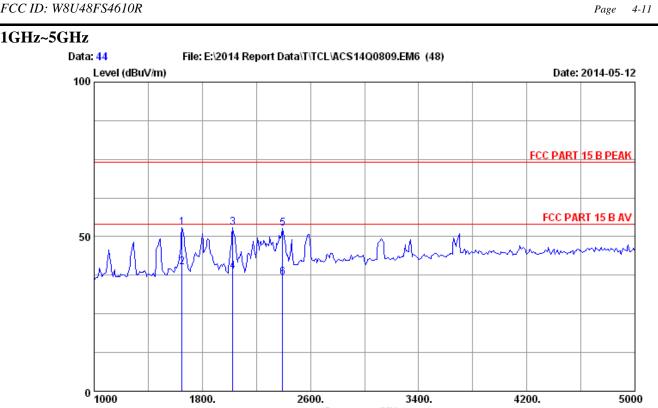
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI3:1920*1080@60Hz

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Reading (dBuV) | Emission Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
|-----|----------------|--------------------------|-----------------------|-------------------|-------------------------------|--------------------|----------------|--------|
| 1 | 138.64 | 12.20 | 1.56 | 19.96 | 33.72 | 43.50 | 9.78 | QP |
| 2 | 146.40 | 11.48 | 1.59 | 20.38 | 33.45 | 43.50 | 10.05 | QP |
| 3 | 481.05 | 17.80 | 2.70 | 14.98 | 35.48 | 46.00 | 10.52 | QP |
| 4 | 594.54 | 19.09 | 3.02 | 13.37 | 35.48 | 46.00 | 10.52 | QP |
| 5 | 740.04 | 20.30 | 3.44 | 16.73 | 40.47 | 46.00 | 5.53 | QP |
| 6 | 891.36 | 21.57 | 3.90 | 10.76 | 36.23 | 46.00 | 9.77 | QP |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

1102 111 1001111010**6**J (811011111111) 801) 201



Site no. : 3m Chamber Data no. : 44

Dis. / Ant. : 3m 2013 3115 (4877) Ant. pol. : HORIZONTAL

Frequency (MHz)

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

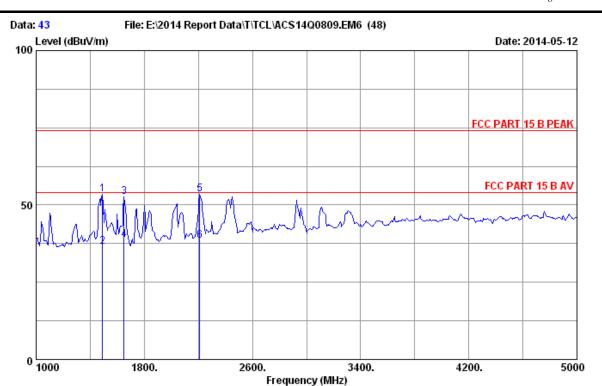
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI1:1920*1080@60Hz

| No | . Freq. | Ant. Factor (dB/m) | Cable Loss (dB) | Amp factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | n Limits (dBuV/m) | Margin (dB) | Remark |
|----|---------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|-------------------------|----------------|---------|
| 1 | 1650.00 | 25.75 | 2.03 | 35.33 | 60.60 | 53.05 | 74.00 | 20.95 | Peak |
| 2 | 1650.32 | 25.75 | 2.03 | 35.32 | 47.52 | 39.98 | 54.00 | 14.02 | Average |
| 3 | 2025.00 | 26.17 | 2.45 | 34.80 | 59.11 | 52.93 | 74.00 | 21.07 | Peak |
| 4 | 2025.42 | 26.17 | 2.45 | 34.80 | 44.81 | 38.63 | 54.00 | 15.37 | Average |
| 5 | 2395.00 | 27.21 | 2.77 | 34.74 | 57.46 | 52.70 | 74.00 | 21.30 | Peak |
| 6 | 2395.33 | 27.21 | 2.77 | 34.74 | 41.48 | 36.72 | 54.00 | 17.28 | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp factor.

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Site no. : 3m Chamber Data no. : 43

Dis. / Ant. : 3m 2013 3115 (4877) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

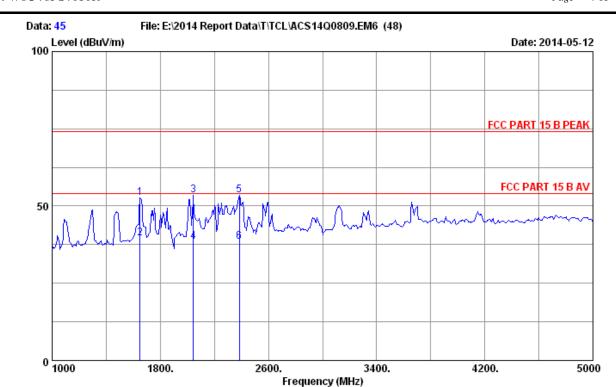
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI1:1920*1080@60Hz

| No. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | l Limits (dBuV/m) | Margin (dB) | Remark |
|---------|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|-------------------------|----------------|---------|
| 1 | 1490.00 | 25.56 | 1.85 | 35.56 | 61.64 | 53.49 | 74.00 | 20.51 | Peak |
| 2 | 1490.32 | 25.56 | 1.85 | 35.56 | 44.68 | 36.53 | 54.00 | 17.47 | Average |
| 3 | 1650.00 | 25.75 | 2.03 | 35.33 | 60.33 | 52.78 | 74.00 | 21.22 | Peak |
| 4 | 1650.33 | 25.75 | 2.03 | 35.32 | 46.38 | 38.84 | 54.00 | 15.16 | Average |
| 5 | 2210.00 | 26.69 | 2.61 | 34.77 | 58.86 | 53.39 | 74.00 | 20.61 | Peak |
| 6 | 2210.19 | 26.69 | 2.61 | 34.77 | 43.89 | 38.42 | 54.00 | 15.58 | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

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Site no. : 3m Chamber Data no. : 45

Dis. / Ant. : 3m 2013 3115 (4877) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

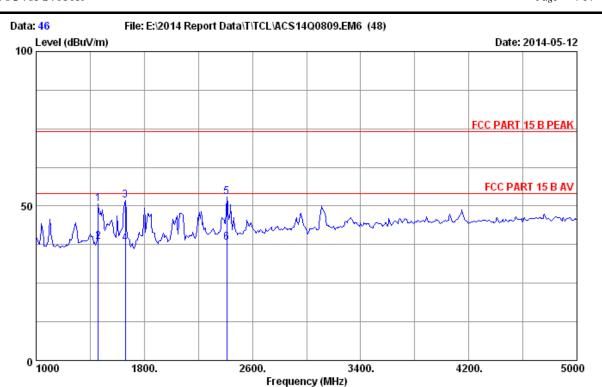
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI2:1920*1080@60Hz

| No | . Freq. | Ant. Factor (dB/m) | Cable Loss (dB) | Amp factor (dB) | Reading (dBuV) | Emissior Level (dBuV/m) | l Limits (dBuV/m) | Margin (dB) | Remark |
|----|---------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|-------------------------|----------------|---------|
| | | | | | | | | | |
| 1 | 1650.00 | 25.75 | 2.03 | 35.33 | 60.09 | 52.54 | 74.00 | 21.46 | Peak |
| 2 | 1650.26 | 25.75 | 2.03 | 35.32 | 47.09 | 39.55 | 54.00 | 14.45 | Average |
| 3 | 2045.00 | 26.23 | 2.47 | 34.79 | 59.53 | 53.44 | 74.00 | 20.56 | Peak |
| 4 | 2045.12 | 26.23 | 2.47 | 34.79 | 44.54 | 38.45 | 54.00 | 15.55 | Average |
| 5 | 2385.00 | 27.18 | 2.76 | 34.74 | 58.17 | 53.37 | 74.00 | 20.63 | Peak |
| 6 | 2385.18 | 27.18 | 2.76 | 34.74 | 43.19 | 38.39 | 54.00 | 15.61 | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

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Site no. : 3m Chamber Data no. : 46

Dis. / Ant. : 3m 2013 3115 (4877) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

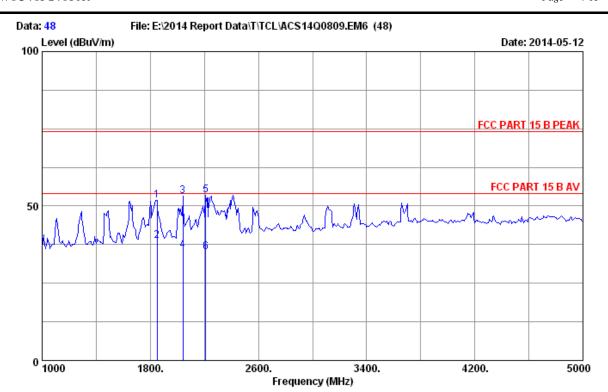
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI2:1920*1080@60Hz

| | | Ant. | Cable | Amp | | Emission | | | |
|-----|------------------|------------------|--------------|----------------|-------------------|-------------------|--------------------|----------------|---------|
| No. | . Freq. (MHz) | Factor (dB/m) | Loss (dB) | factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limits (dBuV/m) | Margin (dB) | Remark |
| 1 | 1460.00 | 25.42 | 1.83 | 35.61 | 59.00 | 50.64 | 74.00 | 23.36 | Peak |
| 2 | 1460.21 | 25.42 | 1.83 | 35.61 | 46.90 | 38.54 | 54.00 | 15.46 | Average |
| 3 | 1660.00 | 25.76 | 2.04 | 35.31 | 59.32 | 51.81 | 74.00 | 22.19 | Peak |
| 4 | 1660.11 | 25.76 | 2.04 | 35.31 | 45.39 | 37.88 | 54.00 | 16.12 | Average |
| 5 | 2410.00 | 27.25 | 2.78 | 34.74 | 57.53 | 52.82 | 74.00 | 21.18 | Peak |
| 6 | 2410.32 | 27.25 | 2.78 | 34.74 | 42.80 | 38.09 | 54.00 | 15.91 | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

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Site no. : 3m Chamber Data no. : 48

Dis. / Ant. : 3m 2013 3115 (4877) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

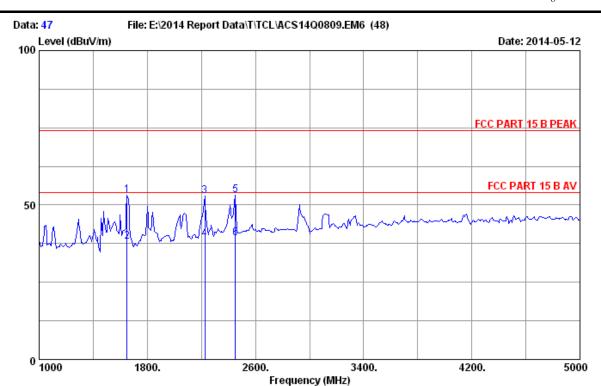
Test Mode : Running"H"Pattren And 1KHz Playing

HDMI3:1920*1080@60Hz

| No | . Freq. | Ant. Factor (dB/m) | Cable Loss (dB) | Amp factor (dB) | Reading (dBuV) | Emission Level (dBuV/m) | n Limits (dBuV/m) | Margin (dB) | Remark |
|----|---------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|-------------------------|----------------|---------|
| | | | | | | | | | |
| 1 | 1850.00 | 25.95 | 2.26 | 35.02 | 58.68 | 51.87 | 74.00 | 22.13 | Peak |
| 2 | 1850.56 | 25.95 | 2.26 | 35.02 | 45.57 | 38.76 | 54.00 | 15.24 | Average |
| 3 | 2040.00 | 26.21 | 2.46 | 34.79 | 59.20 | 53.08 | 74.00 | 20.92 | Peak |
| 4 | 2040.64 | 26.21 | 2.46 | 34.79 | 41.78 | 35.66 | 54.00 | 18.34 | Average |
| 5 | 2210.00 | 26.69 | 2.61 | 34.77 | 59.00 | 53.53 | 74.00 | 20.47 | Peak |
| 6 | 2210.96 | 26.69 | 2.61 | 34.77 | 40.57 | 35.10 | 54.00 | 18.90 | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading

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Site no. : 3m Chamber Data no. : 47

Dis. / Ant. : 3m 2013 3115 (4877) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24*C/56% Engineer : Even_Deng

EUT : LCD TV M/N:48FS4610R

Power rating : AC 120V/60Hz

Test Mode : Running"H"Pattren And 1KHz Playing

HDMI3:1920*1080@60Hz

| N | o. | Freq. (MHz) | Ant. Factor (dB/m) | Cable Loss (dB) | Amp factor (dB) | Reading (dBuV) | Emissior Level (dBuV/m) | l Limits (dBuV/m) | Margin (dB) | Remark |
|-------|-----|----------------|--------------------------|-----------------------|-----------------------|-------------------|-------------------------------|-------------------------|----------------|---------|
| 1 | | 1650.00 | 25.75 | 2.03 | 35.33 | 60.73 | 53.18 | 74.00 | 20.82 | Peak |
| 2 | | 1650.33 | 25.75 | 2.03 | 35.32 | 45.60 | 38.06 | 54.00 | 15.94 | Average |
| 3 | : | 2225.00 | 26.73 | 2.62 | 34.77 | 58.46 | 53.04 | 74.00 | 20.96 | Peak |
| 4 | . : | 2225.15 | 26.73 | 2.62 | 34.77 | 44.50 | 39.08 | 54.00 | 14.92 | Average |
| 5 | : | 2450.00 | 27.36 | 2.82 | 34.73 | 57.87 | 53.32 | 74.00 | 20.68 | Peak |
| 6 | : | 2450.33 | 27.36 | 2.82 | 34.73 | 43.87 | 39.32 | 54.00 | 14.68 | Average |

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading



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| 5. DEVIATION TO TEST SPECIFICATIONS [NONE] |
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