

FCC ID:ZSR46LEDF3200B

### APPLICATION OF CERTIFICATION For

#### Nebraska Furniture Mart INC

### LCD TV

Brand Name	Model Number
BERKSHIRE	46LEDF3200B

FCC ID: ZSR46LEDF3200B

Prepared for: Nebraska Furniture Mart INC

700 South 72nd street Omaha, Nebraska 68114

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-F11225

Date of Test : Sep.18~24, 2011

Date of Report : Oct.12, 2011



### TABLE OF CONTENTS

<u>De</u>	escription	Page Page
Te	est Report Certification	
1.	SUMMARY OF STANDARDS AND RESULTS	1-1
	1.1. Description of Standards and Results	1-1
2.	GENERAL INFORMATION	
	2.1. Description of Device (EUT)	2-1
	2.2. Tested Supporting System Details	
	2.3. Block diagram of connection between the EUT and simulators	2-3
	2.4. Test Facility	
	2.5. Measurement Uncertainty (95% confidence levels, k=2)	
<b>3.</b>	POWER LINE CONDUCTED EMISSION TEST	3-1
	3.1. Test Equipment	
	3.2. Block Diagram of Test Setup	3-1
	3.3. Power Line Conducted Emission Test Limits	
	3.4. Configuration of EUT on Test	
	3.5. Operating Condition of EUT	
	3.7. Conducted Disturbance at Mains Terminals Test Results	
4.	RADIATED EMISSION TEST	
-1.	4.1. Test Equipment	
	4.2. Block Diagram of Test Setup	
	4.3. Radiated Emission Limit	
	4.4. EUT Configuration on Test	4-2
	4.5. Operating Condition of EUT	
	4.6. Test Procedure	
	4.7. Radiated Disturbance Test Results	
5.	DEVIATION TO TEST SPECIFICATIONS	5-1
6.	PHOTOGRAPH	6-1
	6.1. Photos of Power Line Conducted Emission Test	
	6.2. Photos of Radiated Emission Test (In Anechoic Chamber)	
7.	PHOTOS OF THE EUT	7-1



FCC ID: ZSR46LEDF3200B

### TEST REPORT CERTIFICATION

Applicant : Nebraska Furniture Mart INC

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

EUT Description : LCD TV

FCC ID : ZSR46LEDF3200B

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

Brand Name BERKSHIRE 46LEDF3200B

(B) Serial No. : N/A

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

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart B Class B 2010, ANSI C63.4: 2009 ICES-003 Issue 4 February 2004.

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 :	Sep.18~24, 2011	Report of date:	Oct.12, 2011
Prepared by :	cermy He	Reviewed by:	Gran Jan A
	Cerry He / Assistant	Audix Technol EMC 部門報	n Zeng / Supervisor
		Stamp only for EM	
Approved & Auth	norized Signer :	Signature:	en 1 198il



# 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						
<b>Description of Test Item</b>	Standard	Results	Remarks			
Power Line Conducted Emission Test	FCC Part 15: 2010 ANSI C63.4: 2009	PASS	Meets Class B Limit Minimum passing margin is 7.81dB at 0.15000MHz			
Radiated Emission Test (30-1000MHz)	FCC Part 15: 2010 ANSI C63.4: 2009	PASS	Meets Class B Limit Minimum passing margin is 2.10dB at 390.000MHz			
Radiated Emission Test (1-2GHz)	FCC Part 15: 2010 ANSI C63.4: 2009	PASS	Meets Class B Limit Minimum passing margin is 8.84dB at 1709.260MHz			



### 2. GENERAL INFORMATION

2.1.Description of Device (EUT)

Description : LCD TV

Model Number : Brand Name | Model Number

BERKSHIRE | 46LEDF3200B

FCC ID : ZSR46LEDF3200B

Applicant : Nebraska Furniture Mart INC

700 South 72nd street Omaha, Nebraska 68114

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

Section 19, Zhongkai Development Zone for New & High-Level Tech Industries, Huizhou, Guangdong Province, China, 516006.

FREQUENCIES USED AND GENERATED WITHIN DEVICE						
X54M1 45-OSC54M-0Y1CR 54MHz						
LVDS CLOCK	81.43MHZ					
IF	44MHz					
DC-DC	U302->385KHz	U303->1MHz				
DDR	390MHz					
AMP	384KHz					

Date of Test : Sep.18~24, 2011

Date of Receipt : Sep.18, 2011

Sample Type : Prototype production



# 2.2.Tested Supporting System Details

	Description	ACS No.	Manufacturer	Model	Serial Number	Approved type			
1.	Personal	Test PC P	DELL	Studio 540	124XK2X	☑FCC DoC ☑BSMI ID:R33002			
			Power Cord: Unshielded, Detachable, 1.8m Display Card: HD3450 (DVI+VGA+HDMI)						
2.	USB Keyboard	ACS-EMC- K02R	DELL	SK-8115	CN-ORH656-658 90-686-007J	☑ FCC DoC ☑BSMI ID: T3A002			
		Power Cord: shielde	d, Undetachable,	2.0m					
3.	Headphone	ACS-EMC-EP01	OVANN	OV880V	N/A	□FCC ID □BSMI ID			
<i>J</i> .	Treadphone	Cable: Shielded, Un	detachabled, 4.0n	1					
		ACS-EMC-PT04	НР	C9079A	N/A	☑FCC DoC ☑BSMI ID: R33001			
4.		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							
5.	USB Mouse	ACS-EMC-M02R	DELL	M056UO	512024264	☑ FCC DoC ☑BSMI ID: R41108			
		Power Cord: shielde	d, Undetachable,	1.8m					
6.	iPod nano	ACS-EMC-IP01	APPLE	A1199	YM706MLDVQ5	☑FCC DoC ☑BSMI ID: R33057			
		Data Cable: Shielded	d, Detachabled, 1	.0m					
7.	HDD	ACS-EMC-HDD01	Terasys	F12-UF	A0100215-53900 31	☑FCC DoC ☑BSMI ID: 4912A022			
		USB Cable: Shielded, Detachable, 1.8m							
8.	8. Dummy Load (10KΩ &75Ω)  Component In Cable: Unshielded, Detachabled, 1.5m  SPDIF Out Cable: Unshielded, Detachabled, 1.5m  AV Cable: Unshielded, Detachable, 1.5m								
9.	Power Cord: Unshielded, Detachable, 2.0m  D-Sub Cable: Shielded, Detachable, 1.5m								



FCC ID:ZSR46LEDF3200B Page 2-3 2.3.Block diagram of connection between the EUT and simulators  $d \ e \ f \ g \ h$ Dummy Load  $75\Omega$  &  $10k\Omega$ Headphone AC Mains ← **EUT** iPod b c **USB** Mouse AC Mains **◆** PC USB Keyboard **HDD** Printer a: VGA Cable b: HDMI\*3 Cable c: Audio In Cable d: Component In e: SPDIF Out f: AV In 1 g: AV In 2 h: Audio Out (EUT: LCD TV)



### 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: Mar.31, 2012

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

Registration Number: 794232 Valid Date: Dec.30, 2012

EMC Lab. : Certificated by DAkkS, Germany

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

Valid Date: Feb.01, 2014

Accredited by NVLAP, USA NVLAP Code: 200372-0 Valid Date: Mar.31, 2012

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

Test Item	Uncertainty
Uncertainty for Conduction emission test in No. 1 Conduction	3.2 dB
	3.6 dB(30~200MHz, Polarize: H)
Uncertainty for Radiation Emission test	3.7 dB(30~200MHz, Polarize: V)
in 3m chamber	4.0 dB(200M~1GHz, Polarize: H)
	3.7 dB(200M~1GHz, Polarize: V)
Uncertainty for test site temperature	3%
and humidity	0.6℃

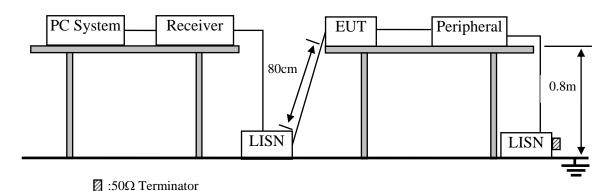


### 3. POWER LINE CONDUCTED EMISSION TEST

### 3.1.Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	838693/001	Nov.05, 10	1 Year
2.	L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	834066/011	Nov.05, 10	1 Year
3.	L.I.S.N.#3	Kyoritsu	KNW-242C	8-1920-1	May.08, 11	1 Year
4.	Terminator	Hubersuhner	50Ω	No. 1	May.08, 11	1 Year
5.	RF Cable	Fujikura	3D-2W	LISN Cable 1#	May.08, 11	1Year
6.	Coaxial Switch	Anritsu	MP59B	M55367	May.08, 11	1 Year
7.	Passive Probe	Rohde & Schwarz	ESH2-Z3	299.7810.52	May.08, 11	1 Year
8.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100341	May.08, 11	1 Year

### 3.2.Block Diagram of Test Setup



#### 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.

### 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 : 46LEDF3200B

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 blackground, set the contrast control to maximum, set the brightness control to maximum and measure it.
- 3.5.4. The PC system was running the program "1kHz signal Playing" and sending sound to EUT.
- 3.5.5. 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 10kHz.

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

#### 3.7. Conducted Disturbance 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.

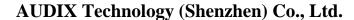
EUT: LCD TV Model No.: 46LEDF3200B

Test Date: Sep.18, 2011 Temperature: 29.5°C Humidity: 55%

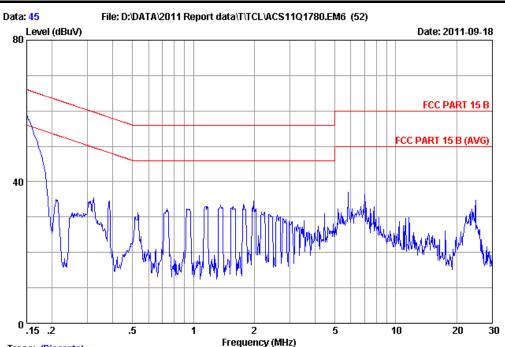
The details of test modes are as follows:

No.	Test Mode	Input Port	Resolution &		Reference Test Data No.		
1,0,	Test Mode imput Fort	Frequency	Line	Neutral			
1.			640*480 @60Hz	#45	#46		
2.		VGA	800*600 @ 60Hz	#44	#43		
3.	PC Mode		1024*768 @60Hz	#41	#42		
4. 💥	PC Mode	HDMI 1	1920*1080@60Hz	#48	#47		
5.		HDMI 2	1920*1080@60Hz	#49	#50		
6.		HDMI 3	1920*1080@60Hz	#51	#51		

(\* Worst test mode)







Trace: (Discrete)

Site no :1#conduction Data No :45

Dis./Ant. :\*\* 2011 ESH2-Z5 LINE

Limit :FCC PART 15 B

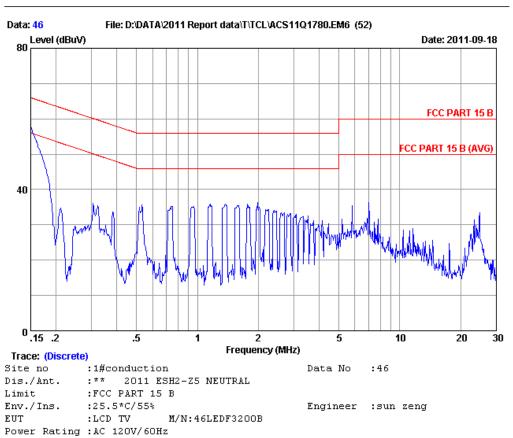
Env./Ins. :25.5\*C/55% Engineer :sun zeng

EUT :LCD TV M/N:46LEDF3200B

Power Rating :AC 120V/60Hz

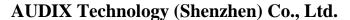
Test Mode :Running "H" Pattern And 1KHz Playing

VGA:640\*480@60Hz



:Running "H" Pattern And 1KHz Playing

VGA:640\*480@60Hz

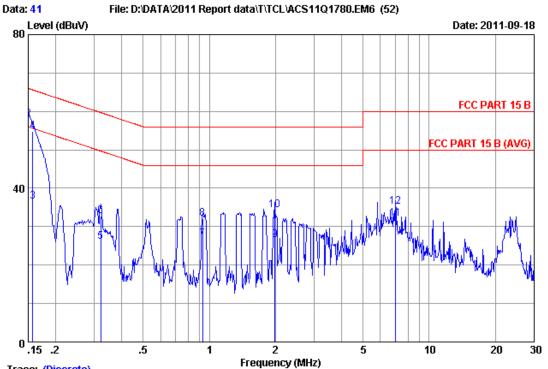




3-4 FCC ID: ZSR46LEDF3200B Page File: D:\DATA\2011 Report data\T\TCL\ACS11Q1780.EM6 (52) Data: 44 Level (dBuV) Date: 2011-09-18 FCC PART 15 B FCC PART 15 B (AVG) 40 .5 5 10 20 30 Frequency (MHz) Trace: (Discrete) Site no :1#conduction Data No Dis./Ant. : \*\* 2011 ESH2-Z5 LINE :FCC PART 15 B Limit Env./Ins. :25.5\*C/55% Engineer :sun zeng EUT :LCD TV M/N:46LEDF3200B Power Rating :AC 120V/60Hz :Running "H" Pattern And 1KHz Playing Test Mode VGA:800\*600@60Hz File: D:\DATA\2011 Report data\T\TCL\ACS11Q1780.EM6 (52) Data: 43 80 Level (dBuV) Date: 2011-09-18 FCC PART 15 B FCC PART 15 B (AVG) 40 0 .15 .2 5 10 30 Frequency (MHz) Trace: (Discrete) Site no :1#conduction Data No Dis./Ant. :\*\* 2011 ESH2-Z5 NEUTRAL Limit :FCC PART 15 B :25.5\*C/55% Env./Ins. Engineer :sun zeng EUT :LCD TV M/N:46LEDF3200B Power Rating :AC 120V/60Hz Test Mode :Running "H" Pattern And 1KHz Playing VGA:800\*600@60Hz



3-5 FCC ID: ZSR46LEDF3200B Page



Trace: (Discrete)

Site no :1#conduction Data No

:\*\* 2011 ESH2-Z5 LINE Dis./Ant.

:FCC PART 15 B Limit

Env./Ins. :25.5\*C/55% Engineer :sun zeng

EUT :LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

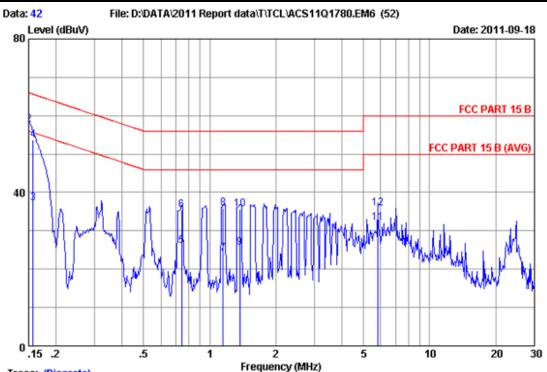
:Running "H" Pattern And 1KHz Playing

VGA:1024\*768060Hz

No 	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emissio Level (dBuV)	n Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.17	9.98	30.01	40.16	56.00	15.84	Average
2	0.15000	0.17	9.98	47.81	57.96	66.00	8.04	QP
3	0.15700	0.17	9.98	26.31	36.46	55.62	19.16	Average
4	0.15700	0.17	9.98	44.61	54.76	65.62	10.86	QP
5	0.32100	0.18	9.98	15.90	26.06	49.68	23.62	Average
6	0.32100	0.18	9.98	22.60	32.76	59.68	26.92	QP
7	0.93400	0.22	9.98	16.60	26.80	46.00	19.20	Average
8	0.93400	0.22	9.98	22.00	32.20	56.00	23.80	QP
9	1.990	0.31	9.96	16.30	26.57	46.00	19.43	Average
10	1.990	0.31	9.96	24.00	34.27	56.00	21.73	QP
11	7.000	0.47	9.92	21.80	32.19	50.00	17.81	Average
12	7.000	0.47	9.92	24.80	35.19	60.00	24.81	QP

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





Trace: (Discrete)

Site no :1#conduction Data No :42

Dis./Ant. :\*\* 2011 ESH2-Z5 NEUTRAL

Limit :FCC PART 15 B

Env./Ins. :25.5\*C/55% Engineer :sun zeng

EUT :LCD TV M/N:46LEDF3200B

Power Rating :AC 120V/60Hz

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

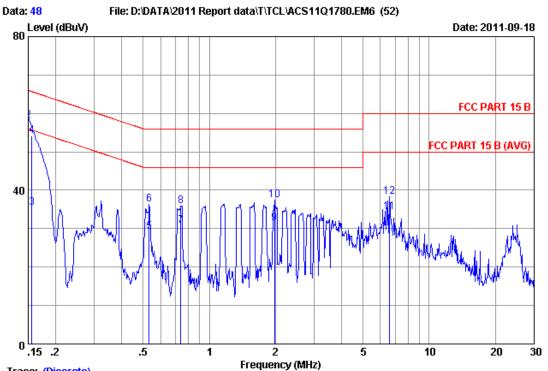
VGA:1024\*768@60Hz

		LISN	Cable		Emissio	n		
No	Freq	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.15000	0.21	9.98	32.00	42.19	56.00	13.81	Average
2	0.15000	0.21	9.98	47.60	57.79	66.00	8.21	QP
3	0.15700	0.21	9.98	27.00	37.19	55.62	18.43	Average
4	0.15700	0.21	9.98	43.60	53.79	65.62	11.83	QP
5	0.74400	0.23	9.97	15.91	26.11	46.00	19.89	Average
6	0.74400	0.23	9.97	25.21	35.41	56.00	20.59	QP
7	1.150	0.24	9.98	13.90	24.12	46.00	21.88	Average
8	1.150	0.24	9.98	25.60	35.82	56.00	20.18	QP
9	1.370	0.25	9.97	15.30	25.52	46.00	20.48	Average
10	1.370	0.25	9.97	25.40	35.62	56.00	20.38	QP
11	5.800	0.35	9.93	21.70	31.98	50.00	18.02	Average
12	5.800	0.35	9.93	25.60	35.88	60.00	24.12	QP

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



3-7 FCC ID: ZSR46LEDF3200B Page



Trace: (Discrete)

Site no :1#conduction Data No

:\*\* 2011 ESH2-Z5 LINE Dis./Ant.

:FCC PART 15 B Limit

Env./Ins. :25.5\*C/55% Engineer :sun zeng

EUT :LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

:Running "H" Pattern And 1KHz Playing

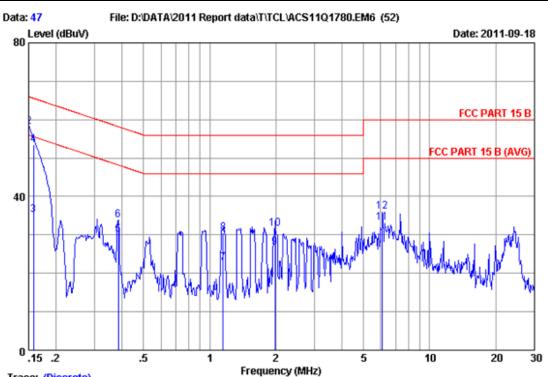
HDMI 1:1920\*1080@60

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emissio Level (dBuV)	n Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.17	9.98	31.01	41.16	56.00	14.84	Average
2	0.15000	0.17	9.98	48.01	58.16	66.00	7.84	QP
3	0.15600	0.17	9.98	25.21	35.36	55.67	20.31	Average
4	0.15600	0.17	9.98	43.91	54.06	65.67	11.61	QP
5	0.53215	0.19	9.98	19.13	29.30	46.00	16.70	Average
6	0.53215	0.19	9.98	26.15	36.32	56.00	19.68	QP
7	0.74302	0.19	9.97	20.69	30.85	46.00	15.15	Average
8	0.74302	0.19	9.97	25.63	35.79	56.00	20.21	QP
9	1.980	0.31	9.96	21.12	31.39	46.00	14.61	Average
10	1.980	0.31	9.96	27.15	37.42	56.00	18.58	QP
11	6.592	0.45	9.92	23.97	34.34	50.00	15.66	Average
12	6.592	0.45	9.92	27.92	38.29	60.00	21.71	QP

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



3-8 FCC ID: ZSR46LEDF3200B Page



Trace: (Discrete)

Site no :1#conduction Data No

Dis./Ant. :\*\* 2011 ESH2-Z5 NEUTRAL

:FCC PART 15 B Limit

Env./Ins. :25.5\*C/55% Engineer :sun zeng

M/N:46LEDF3200B EUT :LCD TV

Power Rating : AC 120V/60Hz

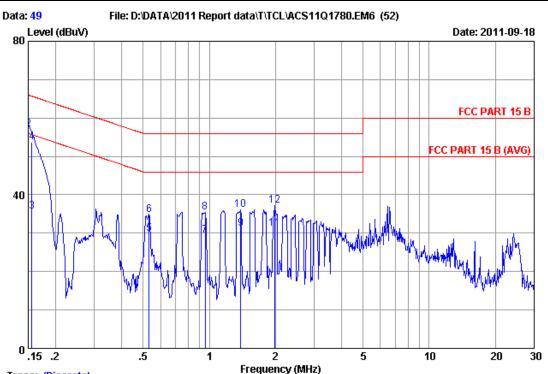
:Running "H" Pattern And 1KHz Playing Test Mode

HDMI 1:1920\*1080@60

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emissio Level (dBuV)	n Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.21	9.98	30.00	40.19	56.00	15.81	Average
2	0.15000	0.21	9.98	48.00	58.19	66.00	7.81	QP
3	0.15800	0.21	9.98	25.00	35.19	55.57	20.38	Average
4	0.15800	0.21	9.98	43.30	53.49	65.57	12.08	QP
5	0.38400	0.22	9.98	19.80	30.00	48.19	18.19	Average
6	0.38400	0.22	9.98	23.60	33.80	58.19	24.39	QP
7	1.150	0.24	9.98	12.60	22.82	46.00	23.18	Average
8	1.150	0.24	9.98	20.30	30.52	56.00	25.48	QP
9	1.980	0.27	9.96	16.60	26.83	46.00	19.17	Average
10	1.980	0.27	9.96	21.40	31.63	56.00	24.37	QP
11	6.100	0.36	9.92	23.01	33.29	50.00	16.71	Average
12	6.100	0.36	9.92	25.81	36.09	60.00	23.91	QP

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

FCC ID: ZSR46LEDF3200B Page 3-9



Trace: (Discrete)

Site no :1#conduction Data No :49

Dis./Ant. :\*\* 2011 ESH2-Z5 LINE

Limit :FCC PART 15 B

Env./Ins. :25.5\*C/55% Engineer :sun zeng

EUT :LCD TV M/N:46LEDF3200B

Power Rating :AC 120V/60Hz

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

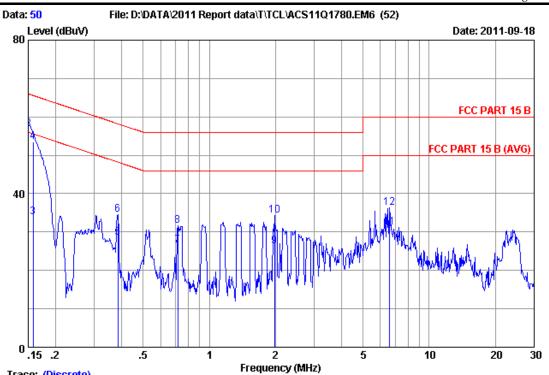
HDMI 2:1920\*1080@60

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emissio Level (dBuV)	n Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.17	9.98	32.41	42.56	56.00	13.44	Average
2	0.15000	0.17	9.98	46.91	57.06	66.00	8.94	QP
3	0.15600	0.17	9.98	25.51	35.66	55.67	20.01	Average
4	0.15600	0.17	9.98	43.61	53.76	65.67	11.91	QP
5	0.53215	0.19	9.98	19.64	29.81	46.00	16.19	Average
6	0.53215	0.19	9.98	24.67	34.84	56.00	21.16	QP
7	0.95819	0.23	9.98	19.22	29.43	46.00	16.57	Average
8	0.95819	0.23	9.98	25.24	35.45	56.00	20.55	QP
9	1.388	0.26	9.97	20.98	31.21	46.00	14.79	Average
10	1.388	0.26	9.97	25.93	36.16	56.00	19.84	QP
11	1.980	0.31	9.96	20.92	31.19	46.00	14.81	Average
12	1.980	0.31	9.96	26.97	37.24	56.00	18.76	QP

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



3-10 FCC ID: ZSR46LEDF3200B Page



Trace: (Discrete)

Site no :1#conduction Data No :50

:\*\* 2011 ESH2-Z5 NEUTRAL Dis./Ant.

:FCC PART 15 B Limit

Env./Ins. :25.5\*C/55% Engineer :sun zeng

EUT M/N:46LEDF3200B :LCD TV

Power Rating :AC 120V/60Hz

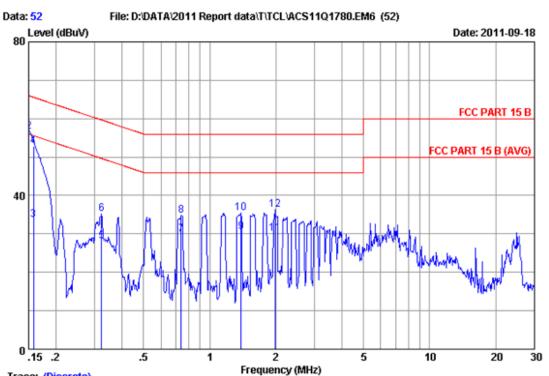
Test Mode :Running "H" Pattern And 1KHz Playing

HDMI 2:1920\*1080@60

		LISN	Cable		Emissio	n		
No	Freq	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.15000	0.21	9.98	32.00	42.19	56.00	13.81	Average
2	0.15000	0.21	9.98	46.60	56.79	66.00	9.21	QP
3	0.15800	0.21	9.98	23.60	33.79	55.57	21.78	Average
4	0.15800	0.21	9.98	43.30	53.49	65.57	12.08	QP
5	0.38315	0.22	9.98	18.23	28.43	48.21	19.78	Average
6	0.38315	0.22	9.98	24.25	34.45	58.21	23.76	QP
7	0.71977	0.23	9.97	16.32	26.52	46.00	19.48	Average
8	0.71977	0.23	9.97	21.34	31.54	56.00	24.46	QP
9	1.980	0.27	9.96	16.03	26.26	46.00	19.74	Average
10	1.980	0.27	9.96	24.09	34.32	56.00	21.68	QP
11	6.592	0.38	9.92	20.97	31.27	50.00	18.73	Average
12	6.592	0.38	9.92	26.00	36.30	60.00	23.70	QP

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





Trace: (Discrete)

Site no :1#conduction Data No

Dis./Ant. :\*\* 2011 ESH2-Z5 LINE

:FCC PART 15 B Limit

Env./Ins. :25.5\*C/55% Engineer :sun zeng

M/N:46LEDF3200B EUT :LCD TV

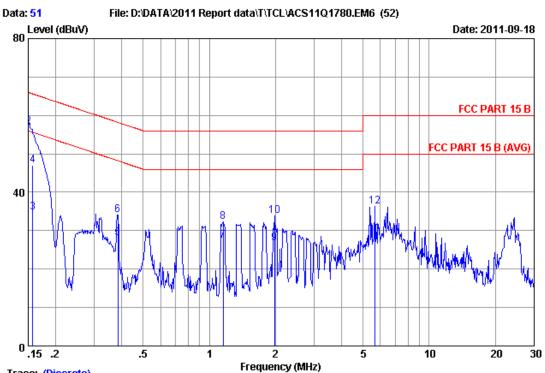
Power Rating : AC 120V/60Hz

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

HDMI 3:1920\*1080@60

		LISN	Cable		Emissio	n		
No	Freq	Factor	Loss	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)	
1	0.15000	0.17	9.98	28.61	38.76	56.00	17.24	Average
2	0.15000	0.17	9.98	46.41	56.56	66.00	9.44	QP
3	0.15800	0.17	9.98	23.61	33.76	55.57	21.81	Average
4	0.15800	0.17	9.98	42.61	52.76	65.57	12.81	QP
5	0.32169	0.18	9.98	17.93	28.09	49.66	21.57	Average
6	0.32169	0.18	9.98	24.94	35.10	59.66	24.56	QP
7	0.74302	0.19	9.97	19.62	29.78	46.00	16.22	Average
8	0.74302	0.19	9.97	24.69	34.85	56.00	21.15	QP
9	1.388	0.26	9.97	20.24	30.47	46.00	15.53	Average
10	1.388	0.26	9.97	25.21	35.44	56.00	20.56	QP
11	1.980	0.31	9.96	19.78	30.05	46.00	15.95	Average
12	1.980	0.31	9.96	26.07	36.34	56.00	19.66	QP

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



Trace: (Discrete)

Site no :1#conduction Data No

:\*\* 2011 ESH2-Z5 NEUTRAL Dis./Ant.

Limit :FCC PART 15 B

Env./Ins. :25.5\*C/55% Engineer :sun zeng

EUT :LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

:Running "H" Pattern And 1KHz Playing

HDMI 3:1920\*1080@60

No 	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emissio Level (dBuV)	n Limits (dBuV)	Margin (dB)	Remark
1	0.15000	0.21	9.98	33.00	43.19	56.00	12.81	Average
2	0.15000	0.21	9.98	46.90	57.09	66.00	8.91	QP
3	0.15700	0.21	9.98	24.60	34.79	55.62	20.83	Average
4	0.15700	0.21	9.98	36.80	46.99	65.62	18.63	QP
5	0.38315	0.22	9.98	17.92	28.12	48.21	20.09	Average
6	0.38315	0.22	9.98	23.93	34.13	58.21	24.08	QP
7	1.153	0.24	9.98	17.09	27.31	46.00	18.69	Average
8	1.153	0.24	9.98	22.01	32.23	56.00	23.77	QP
9	1.980	0.27	9.96	16.55	26.78	46.00	19.22	Average
10	1.980	0.27	9.96	23.53	33.76	56.00	22.24	QP
11	5.683	0.35	9.93	18.92	29.20	50.00	20.80	Average
12	5.683	0.35	9.93	25.97	36.25	60.00	23.75	QP

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



### 4. RADIATED EMISSION TEST

### 4.1.Test Equipment

### 4.1.1.For frequency range 30MHz~1000MHz

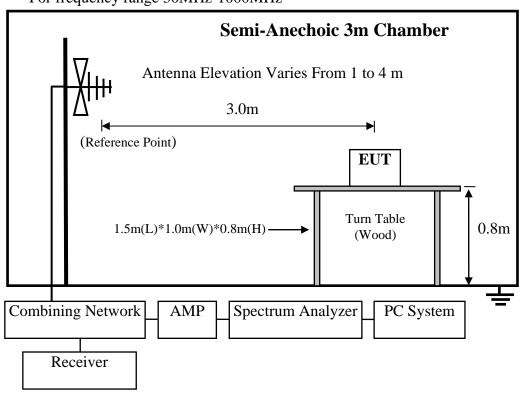
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	1 3#Chamber AUDIX		N/A	N/A	Dec.06,10	1 Year
2	EMI Spectrum	Agilent	E4407B	MY41440292	May.08, 11	1 Year
3	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	May.08, 11	1 Year
4	Amplifier	HP	8447D	2648A04738	May.08, 11	1 Year
5	Bilog Antenna	Schaffner	CBL6111C	2598	Oct.26, 10	1 Year
6	RF Cable	MIYAZAKI	8D-FB	3# Chamber No.1	May.08, 11	1 Year
7	Coaxial Switch	Anritsu	MP59B	M73989	May.08, 11	1 Year

### 4.1.2.For frequency range 1GHz~2GHz

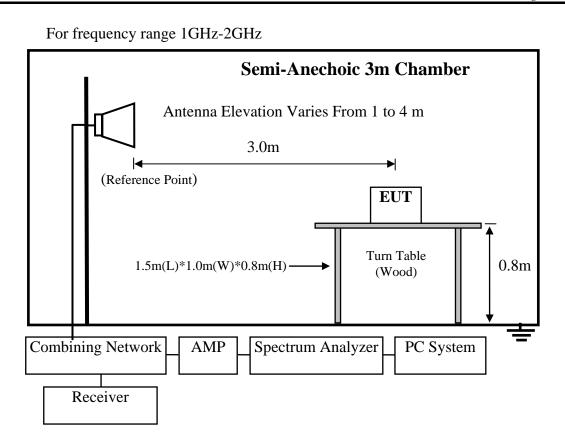
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	Spectrum Analyzer	Agilent	E4407B	MY41440292	May.08, 11	1 Year
2	Horn Antenna	EMCO	3115	9607-4877	July.01, 11	1 Year
3	Amplifier	Agilent	8449B	3008A00863	May.08, 11	1 Year
4	RF Cable	Hubersuhner	SUCOFLEX102	28622/2	May.08, 11	1 Year
5	RF Cable	Hubersuhner	SUCOFLEX102	29091/2	May.08, 11	1 Year

## 4.2.Block Diagram of Test Setup

For frequency range 30MHz-1000MHz







#### 4.3. Radiated Emission Limit

Frequency	Distance	Field Strengths Limits
MHz	(Meters)	dB(μV)/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 Disturbance Test Results

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

EUT: LCD TV Model No.: 46LEDF3200B

### 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: Sep.23, 2011 Temperature: 24°C Humidity: 56%

The details of test modes are as follows:

No.	Test Mode	Input Port	Resolution &	Reference Test Data No.		
		_	Frequency	Horizontal	Vertical	
1.			640*480 @60Hz	#12	#11	
2.		VGA	800*600 @ 60Hz	#10	#9	
3.	DC Mode		1024*768 @60Hz	#8	#7	
4.	PC Mode	HDMI 1	1920*1080@60Hz	#5	#6	
5. ※		HDMI 2	1920*1080@60Hz	#4	#3	
6.		HDMI 3	1920*1080@60Hz	#1	#2	

(\* Worst test mode)



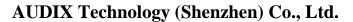
FCC ID: ZSR46LEDF3200B Page 4-4

#### For frequency range 1GHz~2GHz

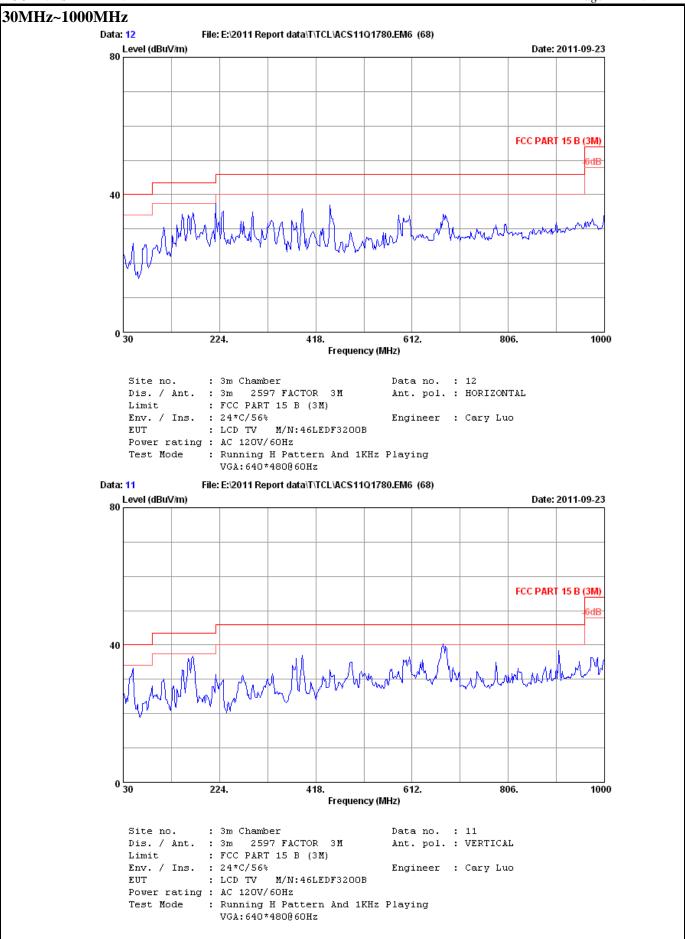
The EUT with below test mode were measured within Anechoic Chamber and the test results listed in next pages

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.

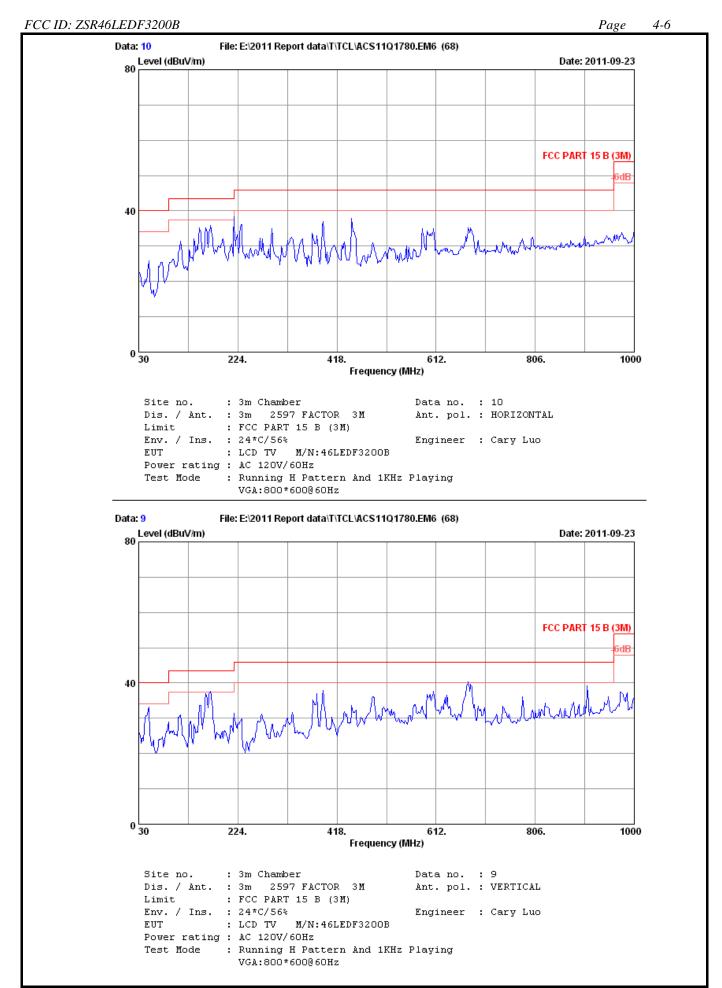
	Test Date: Sep.24, 2011		Temperature: 24°C	Humidity: 56%		
	NO.	Test Mode	Resolution & Frequency	Reference Test Data No.		
	1. VGA 2. HDMI 1 3. HDMI 2		Resolution & Frequency	Horizontal	Vertical	
			1024*768 @60Hz	#67, #68	#65, #66	
			1920*1080 @60Hz	#53, #54	#55, #56	
			1920*1080 @60Hz	#59, #60	#57, #58	
	4.	HDMI 3	1920*1080 @60Hz	#61, #62	#63, #64	

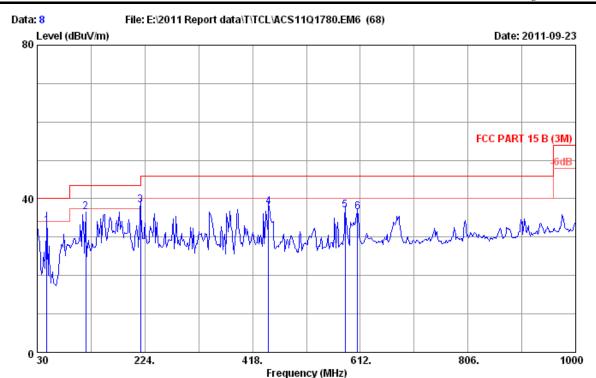












Site no. : 3m Chamber Data no. : 8

Dis. / Ant. : 3m 2597 FACTOR 3M Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

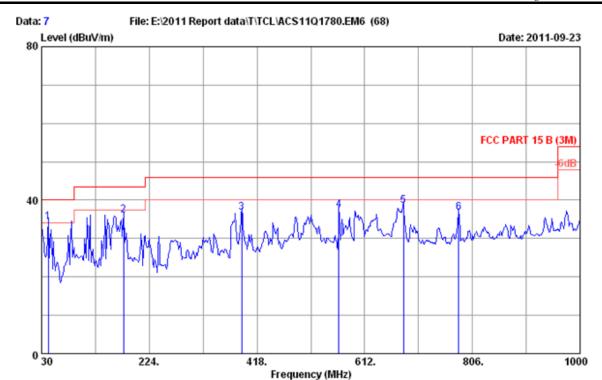
Power rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

VGA:1024\*768@60Hz

_	No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	1	47.500	11.17	0.79	21.00	32.96	40.00	7.04	QP
	2	117.300	13.10	1.28	22.16	36.54	43.50	6.96	QP
	3	216.240	9.46	2.02	26.89	38.37	46.00	7.63	QP
	4	447.100	16.62	3.64	17.72	37.98	46.00	8.02	QP
	5	584.840	18.90	4.43	13.69	37.02	46.00	8.98	QP
	6	607.150	19.14	4.53	12.87	36.54	46.00	9.46	QP

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



Site no. : 3m Chamber Data no. : 7

Dis. / Ant. : 3m 2597 FACTOR 3M Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power rating : AC 120V/60Hz

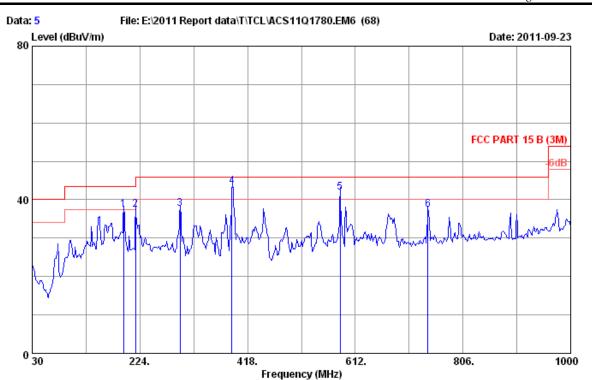
Test Mode : Running H Pattern And 1KHz Playing

VGA: 1024\*768@60Hz

_	No.	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	1	41.640	14.00	0.73	19.61	34.34	40.00	5.66	QP
	2	177.440	10.30	1.68	24.03	36.01	43.50	7.49	QP
	3	390.840	15.64	3.30	17.90	36.84	46.00	9.16	QP
	4	565.440	19.20	4.32	13.82	37.34	46.00	8.66	QP
	5	681.840	19.68	4.91	14.02	38.61	46.00	7.39	QP
	6	781.750	21.56	5.41	9.84	36.81	46.00	9.19	QP

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

The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 5

Dis. / Ant. : 3m 2597 FACTOR 3M Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

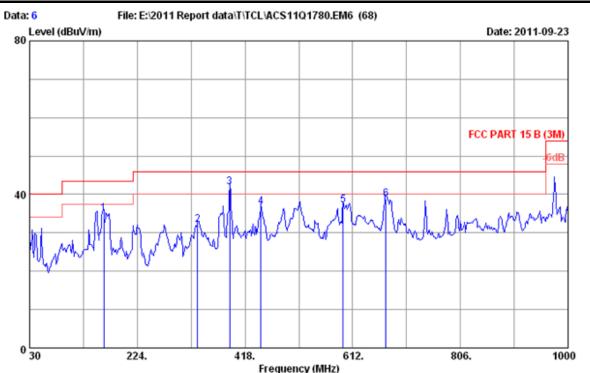
HDMI 1:1920\*1080@60Hz

No.	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	194.900	9.95	1.80	25.66	37.41	43.50	6.09	QP
2	216.240	9.46	2.02	25.92	37.40	46.00	8.60	QP
3	296.750	13.18	2.96	21.50	37.64	46.00	8.36	QP
4	390.010	15.60	3.30	24.60	43.50	46.00	2.50	QP
5	585.000	18.90	4.43	18.59	41.92	46.00	4.08	QP
6	742.950	21.30	5.22	10.82	37.34	46.00	8.66	QP

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

2. The emission levels that are 20dB below the official limit are not reported.





Site no. : 3m Chamber Data no. : 6

Dis. / Ant. : 3m 2597 FACTOR 3M Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

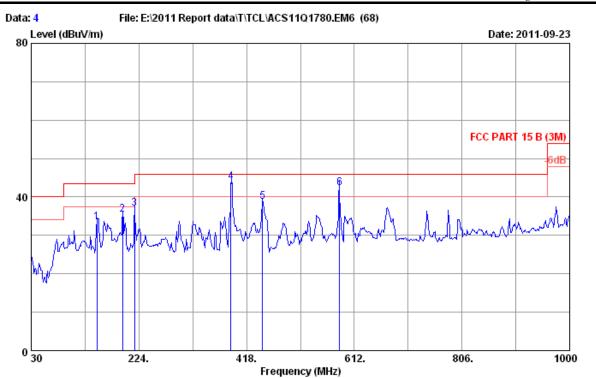
HDMI 1:1920\*1080@60Hz

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	163.860	11.80	1.59	21.65	35.04	43.50	8.46	QP
2	332.640	13.88	3.11	15.12	32.11	46.00	13.89	QP
3	390.840	15.64	3.30	23.05	41.99	46.00	4.01	QP
4	447.100	16.62	3.64	16.46	36.72	46.00	9.28	QP
5	594.540	18.90	4.47	13.77	37.14	46.00	8.86	QP
6	672.140	19.66	4.86	14.26	38.78	46.00	7.22	QP

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

The emission levels that are 20dB below the official limit are not reported.

FCC ID: ZSR46LEDF3200B Page 4-11



Site no. : 3m Chamber Data no. : 4

Dis. / Ant. : 3m 2597 FACTOR 3M Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

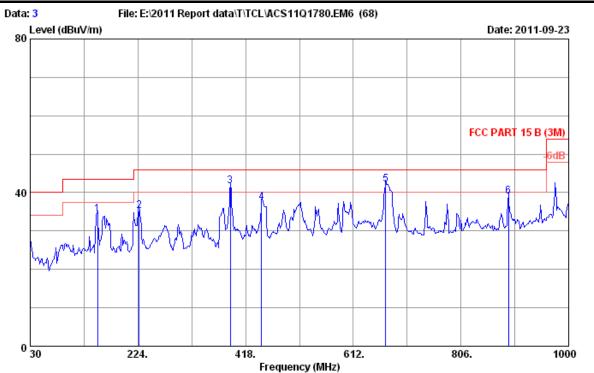
HDMI 2:1920\*1080@60Hz

_	No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	1	148.340	13.10	1.49	18.94	33.53	43.50	9.97	QP
	2	194.900	9.95	1.80	23.67	35.42	43.50	8.08	QP
	3	216.240	9.46	2.02	25.43	36.91	46.00	9.09	QP
	4	390.000	15.60	3.30	25.00	43.90	46.00	2.10	QP
	5	447.100	16.62	3.64	18.49	38.75	46.00	7.25	QP
	6	585.400	18.88	4.43	19.00	42.31	46.00	3.69	QP

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

2. The emission levels that are 20dB below the official limit are not reported.





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

Dis. / Ant. : 3m 2597 FACTOR 3M Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

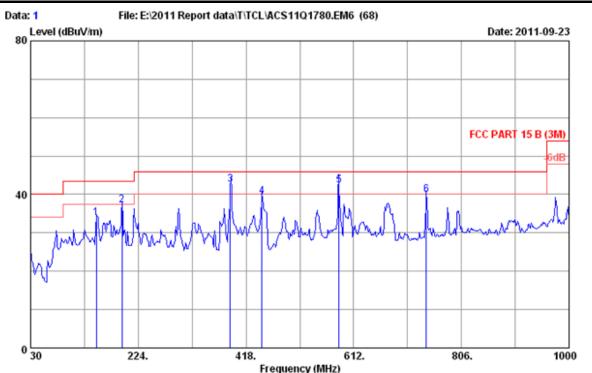
HDMI 2:1920\*1080@60Hz

_	No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	_	Remark
	1	151.250	13.00	1.51	19.72	34.23	43.50	9.27	QP
	2	225.940	10.14	2.13	22.95	35.22	46.00	10.78	QP
	3	390.840	15.64	3.30	22.70	41.64	46.00	4.36	QP
	4	447.100	16.62	3.64	17.18	37.44	46.00	8.56	QP
	5	670.200	19.70	4.85	17.65	42.20	46.00	3.80	QP
	6	891.360	22.32	5.65	11.04	39.01	46.00	6.99	QP

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

2. The emission levels that are 20dB below the official limit are not reported.





Site no. : 3m Chamber Data no. : 1

Dis. / Ant. : 3m 2597 FACTOR 3M Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

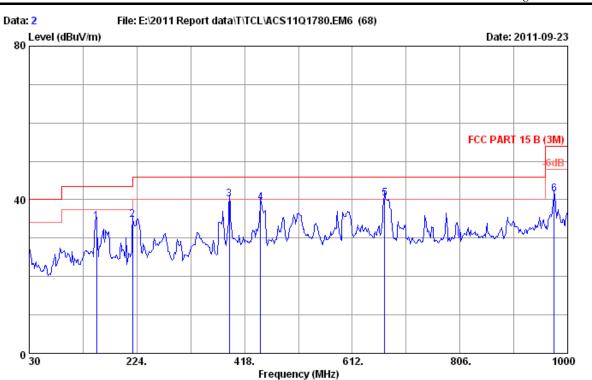
HDMI 3:1920\*1080@60Hz

No.	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	148.340	13.10	1.49	19.22	33.81	43.50	9.69	QP
2	194.900	9.95	1.80	25.37	37.12	43.50	6.38	QP
3	390.000	15.60	3.30	23.70	42.60	46.00	3.40	QP
4	447.100	16.62	3.64	19.21	39.47	46.00	6.53	QP
5	585.500	18.88	4.43	19.00	42.31	46.00	3.69	QP
6	742.950	21.30	5.22	13.39	39.91	46.00	6.09	QP

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

The emission levels that are 20dB below the official limit are not reported.

FCC ID: ZSR46LEDF3200B Page 4-14



Site no. : 3m Chamber Data no. : 2

Dis. / Ant. : 3m 2597 FACTOR 3M Ant. pol. : VERTICAL

Limit : FCC PART 15 B (3M)

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power rating : AC 120V/60Hz

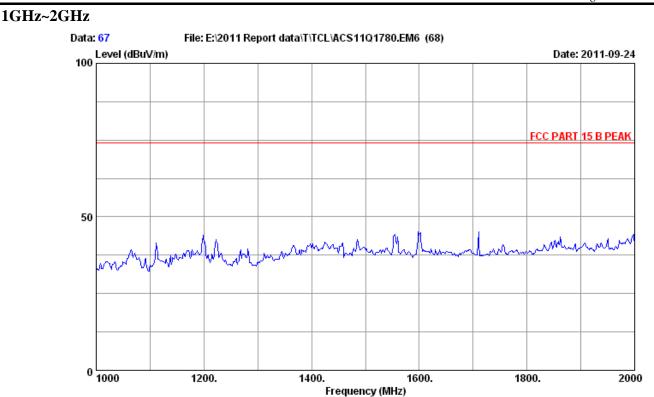
Test Mode : Running H Pattern And 1KHz Playing

HDMI 3:1920\*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	151.250	13.00	1.51	19.91	34.42	43.50	9.08	QP
	2	216.240	9.46	2.02	23.37	34.85	46.00	11.15	QP
	3	390.840	15.64	3.30	21.28	40.22	46.00	5.78	QP
	4	447.100	16.62	3.64	19.06	39.32	46.00	6.68	QP
	5	670.200	19.70	4.85	15.83	40.38	46.00	5.62	QP
	6	975.750	23.48	6.04	11.99	41.51	54.00	12.49	QP

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

2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 67

Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

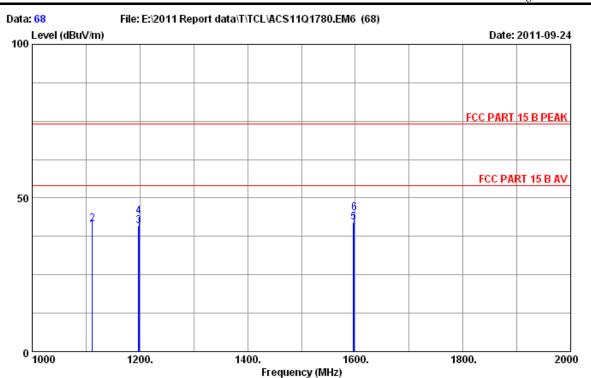
EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

VGA:1024\*768@60Hz

FCC ID: ZSR46LEDF3200B Page 4-16



Site no. : 3m Chamber Data no. : 68

Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

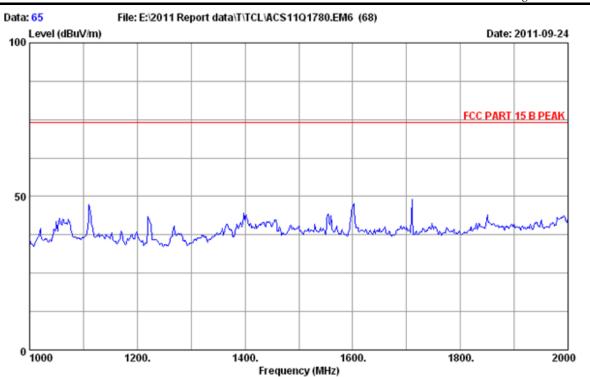
VGA: 1024\*768@60Hz

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dBuV)	Reading (dBuV/m)	Emission Level (dBuV/m)	Limits (dB)	Margin (dB)	Remark
1	1111.850	25.64	3.17	37.72	48.54	39.63	54.00	14.37	Average
2	1112.000	25.64	3.17	37.72	50.54	41.63	74.00	32.37	Peak
3	1197.690	25.81	3.32	37.54	49.33	40.92	54.00	13.08	Average
4	1198.000	25.81	3.32	37.54	52.33	43.92	74.00	30.08	Peak
5	1596.850	26.96	3.97	36.95	48.14	42.12	54.00	11.88	Average
6	1598.000	26.96	3.97	36.95	51.14	45.12	74.00	28.88	Peak

-----

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  $-{\rm Amp}$  Factor

2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 65
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

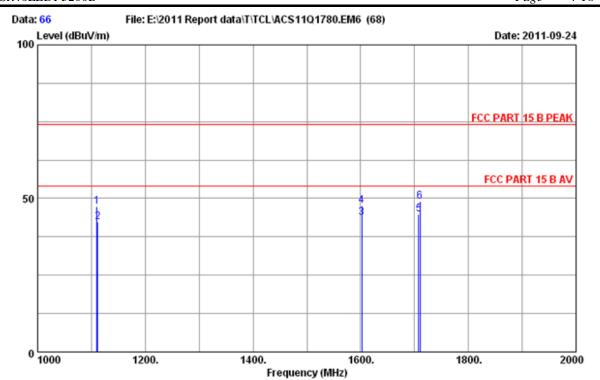
EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

VGA: 1024\*768@60Hz

FCC ID: ZSR46LEDF3200B Page 4-18



Site no. : 3m Chamber Data no. : 66
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

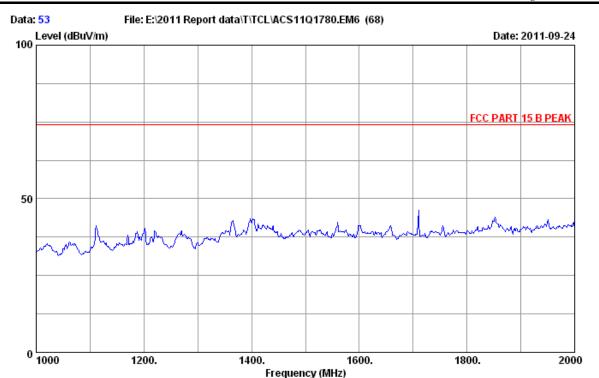
VGA: 1024\*768@60Hz

		Ant.	Cable	AMP		Emission			
No.	Freq. (MHz)	Factor (dB/m)	Loss (dB)	factor (dBuV)	Reading (dBuV/m)	Level (dBuV/m)	Limits (dB)	Margin (dB)	Remark
	1110.000	25.61	3.17	37.72	56.16	47.22	74.00	26.78	Peak
_									
2	1111.850	25.64	3.17	37.72	51.13	42.22	54.00	11.78	Average
3	1601.850	26.96	3.97	36.94	49.76	43.75	54.00	10.25	Average
4	1602.000	26.96	3.97	36.94	53.76	47.75	74.00	26.25	Peak
5	1708.260	27.61	4.15	36.87	50.08	44.97	54.00	9.03	Average
6	1710.000	27.61	4.15	36.87	54.08	48.97	74.00	25.03	Peak

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

-Amp Factor

The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 53

Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

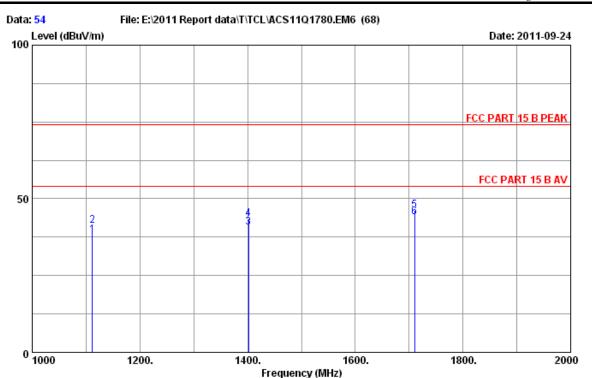
EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

HDMI 1:1920\*1080@60Hz

FCC ID: ZSR46LEDF3200B Page 4-20



Site no. : 3m Chamber Data no. : 54

Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

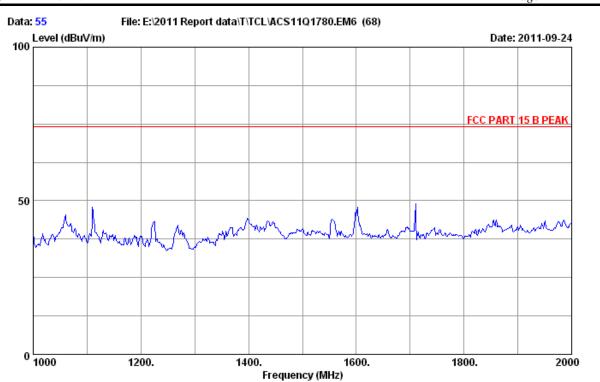
HDMI 1:1920\*1080@60Hz

	Ant.	Cable	AMP		Emission			
Freq.	Factor	Loss	factor	Reading	Level	Limits	_	Remark
(MHZ)	(aB/m)	(aB)	(aBuv)	(asuv/m)	(aBuv/m)	(aB)	(aB)	
1111.850	25.64	3.17	37.72	47.01	38.10	54.00	15.90	Average
1112.000	25.64	3.17	37.72	50.01	41.10	74.00	32.90	Peak
1401.690	26.23	3.64	37.18	47.86	40.55	54.00	13.45	Average
1402.000	26.23	3.64	37.18	50.86	43.55	74.00	30.45	Peak
1710.000	27.61	4.15	36.87	51.25	46.14	74.00	27.86	Peak
1710.260	27.61	4.18	36.87	49.22	44.14	54.00	9.86	Average
	(MHz) 1111.850 1112.000 1401.690 1402.000 1710.000	Freq. Factor (MHz) (dB/m)  1111.850 25.64 1112.000 25.64 1401.690 26.23 1402.000 26.23 1710.000 27.61	Freq. Factor Loss (MHz) (dB/m) (dB) 1111.850 25.64 3.17 1112.000 25.64 3.17 1401.690 26.23 3.64 1402.000 26.23 3.64 1710.000 27.61 4.15	Freq. Factor Loss factor (MHz) (dB/m) (dB) (dBuV)  1111.850 25.64 3.17 37.72  1112.000 25.64 3.17 37.72  1401.690 26.23 3.64 37.18  1402.000 26.23 3.64 37.18  1710.000 27.61 4.15 36.87	Freq. Factor Loss factor Reading (MHz) (dB/m) (dB) (dBuV) (dBuV/m)  1111.850 25.64 3.17 37.72 47.01  1112.000 25.64 3.17 37.72 50.01  1401.690 26.23 3.64 37.18 47.86  1402.000 26.23 3.64 37.18 50.86  1710.000 27.61 4.15 36.87 51.25	Freq. Factor Loss factor Reading Level (MHz) (dB/m) (dB) (dBuV) (dBuV/m) (dBuV/m)  1111.850 25.64 3.17 37.72 47.01 38.10 1112.000 25.64 3.17 37.72 50.01 41.10 1401.690 26.23 3.64 37.18 47.86 40.55 1402.000 27.61 4.15 36.87 51.25 46.14	Freq. (MHz)         Factor (dB/m)         Loss (dBuV)         factor (dBuV/m)         Reading (dBuV/m)         Level (dBuV/m)         Limits (dB)           1111.850         25.64         3.17         37.72         47.01         38.10         54.00           1112.000         25.64         3.17         37.72         50.01         41.10         74.00           1401.690         26.23         3.64         37.18         47.86         40.55         54.00           1402.000         26.23         3.64         37.18         50.86         43.55         74.00           1710.000         27.61         4.15         36.87         51.25         46.14         74.00	Freq. (MHz)         Factor (dB/m)         Loss (dBuV)         Reading (dBuV/m)         Level (dBuV/m)         Limits (dB)         Margin (dB)           1111.850         25.64         3.17         37.72         47.01         38.10         54.00         15.90           1112.000         25.64         3.17         37.72         50.01         41.10         74.00         32.90           1401.690         26.23         3.64         37.18         47.86         40.55         54.00         13.45           1402.000         26.23         3.64         37.18         50.86         43.55         74.00         30.45           1710.000         27.61         4.15         36.87         51.25         46.14         74.00         27.86

------

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  $-\mathrm{Amp}$  Factor

2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 55
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

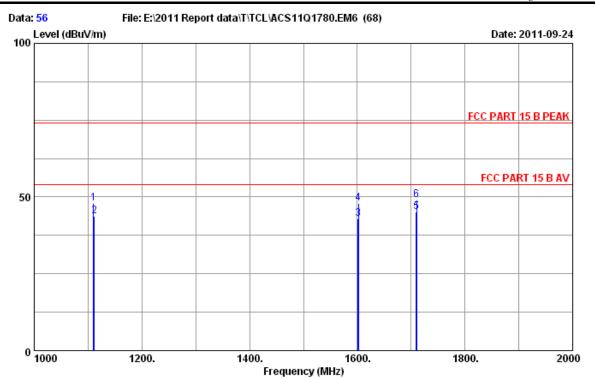
EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

HDMI 1:1920\*1080@60Hz

FCC ID: ZSR46LEDF3200B Page 4-22



Site no. : 3m Chamber Data no. : 56
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

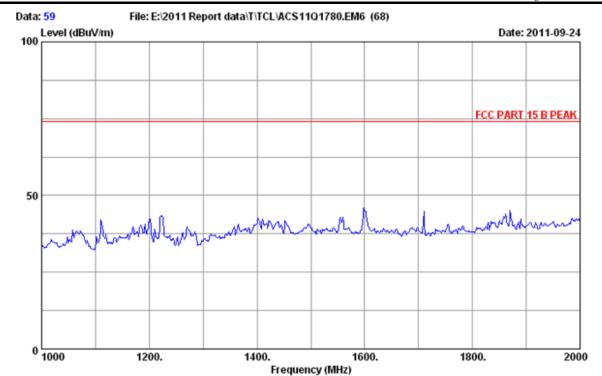
HDMI 1:1920\*1080@60Hz

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dBuV)	Reading (dBuV/m)	Emission Level (dBuV/m)	Limits (dB)	Margin (dB)	Remark
1	1110.000	25.61	3.17	37.72	56.77	47.83	74.00	26.17	Peak
	1111.850	25.64	3.17	37.72	52.74	43.83	54.00	10.17	Average
3	1601.560	26.96	3.97	36.94	48.93	42.92	54.00	11.08	Average
4	1602.000	26.96	3.97	36.94	53.93	47.92	74.00	26.08	Peak
5	1709.260	27.61	4.15	36.87	50.27	45.16	54.00	8.84	Average
6	1710.000	27.61	4.15	36.87	54.27	49.16	74.00	24.84	Peak

-----

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  $-{\rm Amp}$  Factor

2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 59

Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

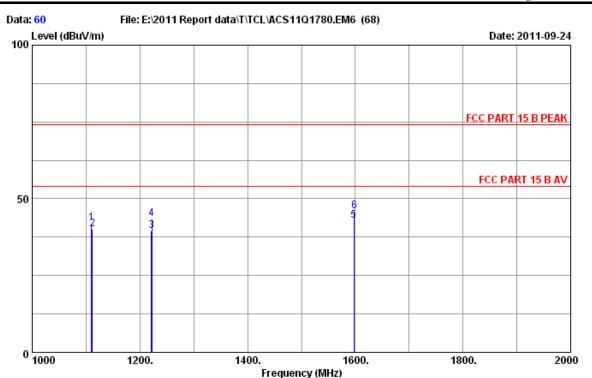
EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

HDMI 2:1920\*1080@60Hz

FCC ID: ZSR46LEDF3200B Page 4-24



Site no. : 3m Chamber Data no. : 60

Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

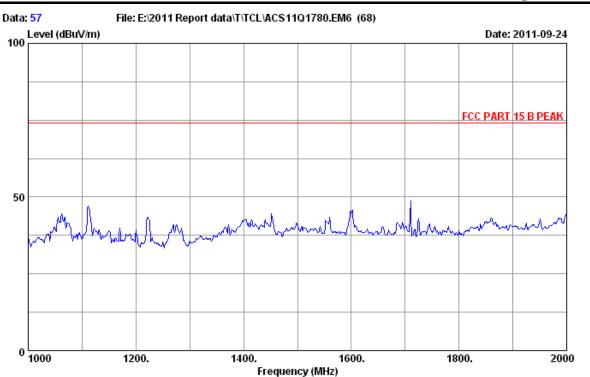
HDMI 2:1920\*1080@60Hz

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	AMP factor (dBuV)	Reading (dBuV/m)	Emission Level (dBuV/m)	Limits (dB)	Margin (dB)	Remark
1	1110.000	25.61	3.17	37.72	50.96	42.02	74.00	31.98	Peak
2	1111.850	25.64	3.17	37.72	48.93	40.02	54.00	13.98	Average
3	1221.420	25.85	3.35	37.50	47.72	39.42	54.00	14.58	Average
4	1222.000	25.85	3.35	37.50	51.72	43.42	74.00	30.58	Peak
5	1597.260	26.96	3.97	36.95	48.90	42.88	54.00	11.12	Average
6	1598.000	26.96	3.97	36.95	51.90	45.88	74.00	28.12	Peak

-----

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading  $-\mathrm{Amp}$  Factor

2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 57
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

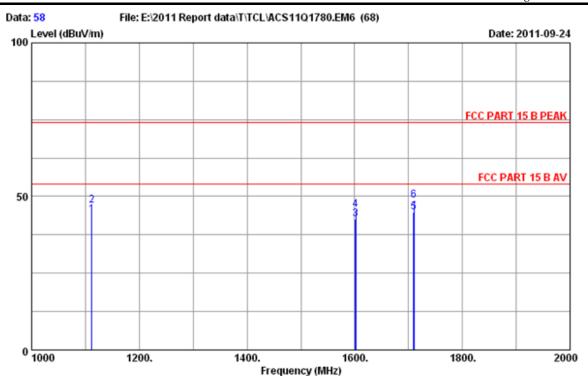
Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

HDMI 2:1920\*1080@60Hz



Site no. : 3m Chamber Data no. : 58
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

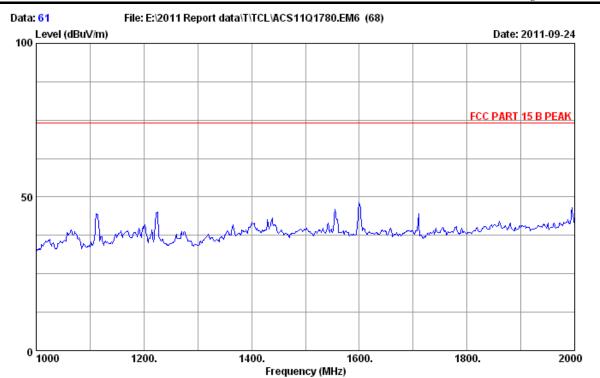
Test Mode : Running H Pattern And 1KHz Playing

HDMI 2:1920\*1080@60Hz

		Ant.	Cable	AMP		Emission			
No.	Freq. (MHz)	Factor (dB/m)	Loss (dB)	factor (dBuV)	Reading (dBuV/m)	Level (dBuV/m)	Limits (dB)	Margin (dB)	Remark
1	1111.850	25.64	3.17	37.72	52.91	44.00	54.00	10.00	Average
2	1112.000	25.64	3.17	37.72	55.91	47.00	74.00	27.00	Peak
3	1601.560	26.96	3.97	36.94	48.70	42.69	54.00	11.31	Average
4	1602.000	26.96	3.97	36.94	51.70	45.69	74.00	28.31	Peak
5	1709.260	27.61	4.15	36.87	49.86	44.75	54.00	9.25	Average
6	1710.000	27.61	4.15	36.87	53.86	48.75	74.00	25.25	Peak

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

The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 61

Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

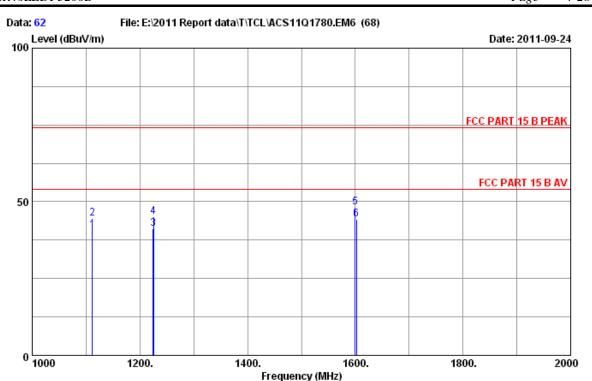
EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

HDMI 3:1920\*1080@60Hz

FCC ID: ZSR46LEDF3200B Page 4-28



Site no. : 3m Chamber Data no. : 62

Dis. / Ant. : 3m 3115(0911) Ant. pol. : HORIZONTAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

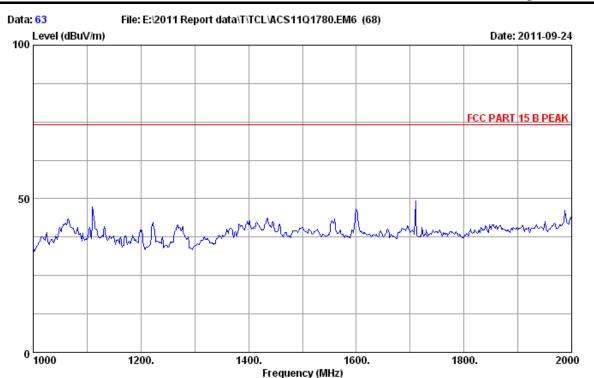
HDMI 3:1920\*1080@60Hz

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor	Loss	factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	
1	1111.850	25.64	3.17	37.72	49.46	40.55	54.00	13.45	Average
2	1112.000	25.64	3.17	37.72	53.46	44.55	74.00	29.45	Peak
3	1224.260	25.85	3.35	37.50	49.42	41.12	54.00	12.88	Average
4	1225.000	25.85	3.35	37.50	53.42	45.12	74.00	28.88	Peak
5	1600.000	26.96	3.97	36.94	54.30	48.29	74.00	25.71	Peak
6	1602.480	26.96	4.00	36.94	50.27	44.29	54.00	9.71	Average

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

-Amp Factor

2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 63
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

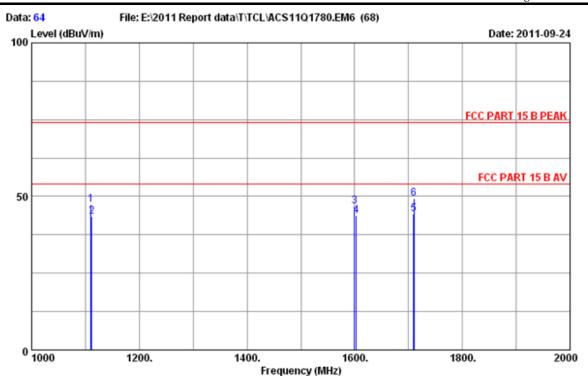
Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

Test Mode : Running H Pattern And 1KHz Playing

HDMI 3:1920\*1080@60Hz



Site no. : 3m Chamber Data no. : 64
Dis. / Ant. : 3m 3115(0911) Ant. pol. : VERTICAL

Limit : FCC PART 15 B PEAK

Env. / Ins. : 24\*C/56% Engineer : Cary Luo

EUT : LCD TV M/N:46LEDF3200B

Power Rating : AC 120V/60Hz

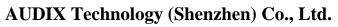
Test Mode : Running H Pattern And 1KHz Playing

HDMI 3:1920\*1080@60Hz

		Ant.	Cable	AMP		Emission			
No.	Freq.	Factor	Loss	factor	Reading	Level	Limits		Remark
	(MHz)	(dB/m)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	
1	1110.000	25.61	3.17	37.72	56.36	47.42	74.00	26.58	Peak
2	1111.850	25.64	3.17	37.72	52.33	43.42	54.00	10.58	Average
3	1600.000	26.96	3.97	36.94	52.88	46.87	74.00	27.13	Peak
4	1602.590	26.96	4.00	36.94	49.85	43.87	54.00	10.13	Average
5	1709.260	27.61	4.15	36.87	49.36	44.25	54.00	9.75	Average
6	1710.000	27.61	4.15	36.87	54.36	49.25	74.00	24.75	Peak

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

The emission levels that are 20dB below the official limit are not reported.





Page 5-1

5. DEVIATION TO TEST SPECIFICATIONS [NONE]