

FCC / Certification Test Report

EverPro Technologies Company Ltd.

FIBBR Ultra HDMI AOC

Model: FBHDAOC01

FCC ID: 2ACI5-FBHDAOC01

REPORT# 15WB0616029F Rev 0

Jan.11, 2016

Prepared for:

EverPro Technologies Company Ltd.

4# Guanshan Er Road, Wuhan 430073 P,R, China

Prepared by:

WASHINGTON TECHNOLOGY INTERNATIONAL LIMITED

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For the
EverPro Technologies Company Ltd.
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MODEL: FBHDAOC01
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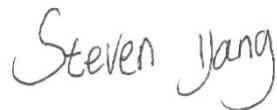
WLL REPORT# 15WB0616029F Rev 0
Jan.11, 2016

Prepared by:



Henry guo

Reviewed by:



Steven yang

Abstract

This report has been prepared on behalf of EverPro Technologies Company Ltd. to document compliance with the limits for a Class B digital device required under Part 15 (1/2016) of the FCC Rules and Regulations. This Federal Communication Commission (FCC) Test Report documents the test configuration and test results for the EverPro Technologies Company Ltd. FIBBR ULTRA HDMI AOC. Testing was performed on Audix Technology (Shenzhen) Co., Ltd. has been accepted by the FCC, the FCC Registration Number is 90454.

The EverPro Technologies Company Ltd. FIBBR ULTRA HDMI AOC complies with the FCC Part 15 requirements for a Class B device.

Revision History	Reason	Date
Rev 0	Initial Release	Jan.09, 2016

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1 Introduction

1.1 Compliance Statement

After the modifications listed in Section 2.7 were installed:

The EverPro Technologies Company Ltd. FIBBR Ultra HDMI AOC complied with the requirements for a Class B digital device under Part 15 (1/2016) of the FCC Rules and Regulations

1.2 Test Scope Summary

Tests for radiated and conducted emissions were performed. All measurements were performed according to the 2014 version of ANSI C63.4. The measurement equipment conforms to ANSI C63.4 Specifications for Electromagnetic Noise and Field Strength Instrumentation.

Test Specification	Specific Description	Date Completed	Result	Test location	Modifications (Y/N)
CFR 47 Part 15.107	Class B Conducted Emissions at the Mains Port	Dec.25, 2015	Complied	Audix Technology (Shenzhen) Co., Ltd.	No
CFR 47 Part 15.109	Class B Radiated Emissions	Dec.26~29, 2015	Complied	Audix Technology (Shenzhen) Co., Ltd.	No

1.3 Contract Information

Customer: EverPro Technologies Company Ltd.
4# Guanshan Er Road, Wuhan 430073 P,R, China

1.4 Test and Support Personnel

Mario Wu Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block, Shenzhen
Science & Industrial Park, Nantou, Shenzhen,
Guangdong, China
Test Engineer

Abbreviations

A	Ampere
ac	alternating current
AM	Amplitude Modulation
Amps	Amperes
b/s	bits per second
BW	BandWidth
CE	Conducted Emission
cm	centimeter
CW	Continuous Wave
dB	deciBel
dc	direct current
EMI	Electromagnetic Interference
EUT	Equipment Under Test
FM	Frequency Modulation
G	giga - prefix for 10^9 multiplier
Hz	Hertz
IF	Intermediate Frequency
k	kilo - prefix for 10^3 multiplier
LISN	Line Impedance Stabilization Network
M	Mega - prefix for 10^6 multiplier
m	meter
μ	micro - prefix for 10^{-6} multiplier
NB	Narrowband
QP	Quasi-Peak
RE	Radiated Emissions
RF	Radio Frequency
rms	root-mean-square
SN	Serial Number
S/A	Spectrum Analyzer
V	Volt

2 Equipment Under Test

2.1 EUT Identification

The results obtained relate only to the item(s) tested.

Table 1: Overview of FIBBR Ultra HDMI AOC, Equipment Under Test

Model(s) Tested:	FBHDAOC01
EUT Specifications:	AC 120V/60Hz Equipment Emissions Class: CLASS B
Test Date(s):	Dec.25~29, 2015

2.2 EUT Description

Product Name: FIBBR Ultra HDMI AOC

Model No. : FBHDAOC01

EUT Rated Voltage: AC 120V/60Hz

2.3 Test Configuration

The EverPro Technologies Company Ltd. FIBBR Ultra HDMI AOC, Equipment Under Test (EUT), was operated with AC 120V/60Hz.

The FIBBR Ultra HDMI AOC was configured as below:

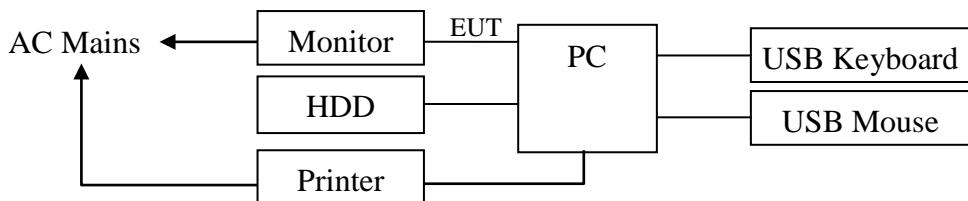


Figure 1: Test Configuration

2.4 Equipment Configuration

The EUT was set up as outlined in Figure 1. The EUT was comprised of the following equipment. (All Modules, PCBs, etc. listed were considered as part of the EUT, as tested.)

Table 2: Equipment Configuration

Slot #	Name / Description	Model Number	Part Number	Serial Number	Revision
1.	FIBBR Ultra HDMI AOC	FBHDAOC01	/	/	/

2.5 Tested Supporting System Details

Table 3: Tested Supporting System Details

Slot #	Port Identification	Connector Type	Cable Length	Shielded (Y/N)	Termination Point
1	Power Cable	Unshielded; Detachable	1.5m	N	AE

2.6 Support Equipment

The following support equipment was used during testing:

	Description	ACS No.	Manufacturer	Model	Serial Number
1.	Personal Computer	Test PC S	DELL	Vostro 470	2SP05W1
		Power Cord: Unshielded, Detachable, 1.8m			
		Display Card: 5970994561(DVI + VGA + HDMI)			
2.	USB Mouse	ACS-EMC-M08R	DELL	M-UARDEL7	HS852130UO
		USB Cable: Shielded, Undetectable, 1.5m			
3.	USB Keyboard	ACS-EMC-K08R	DELL	SK-8165	CN-OW374C-71616-88F-0VXW
		USB Cable: Shielded, Undetectable, 2.0m			
4.	Monitor	---	Lenovo	L2364PWA	---
		Power Cord: Unshielded, Detachable, 1.8m			
5.	Printer	ACS-EMC-PT04	HP	C9079A	---
		USB Cable: Shielded, Detachable, 1.8m			
		Power Cord: Unshielded, Detachable, 1.8m			
		Power Adapter: HP, M/N: 0957-2119, BSMI ID: R33030			
		DC Cable: Unshielded, Detachable, 1.5m			
6.	HDD	ACS-EMC-HDD01	Terasys	F12-UF	A0100215-5390018
		USB Cable: shielded, Detachable, 1.0m			

2.7 EUT Modifications

None

2.8 Testing Algorithm

The FIBBR Ultra HDMI AOC was operated continuously by normal operating conditions.

2.9 Test Location

NAME: Audix Technology (Shenzhen) Co., Ltd. by CNAS. The CNAS Registration No.: L4117.
the FCC Registration Number is 90454

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



2.10 Measurements

2.10.1 Measurement Method

All measurements herein were performed according to the 2014 version of ANSI C63.4. The measurement equipment conforms to ANSI C63.4 Specifications for Electromagnetic Noise and Field Strength Instrumentation. Calibration checks are made periodically to verify proper performance of the measuring instrumentation.

2.11 Measurement Uncertainty

All results reported herein relate only to the equipment tested. The basis for uncertainty calculation uses ANSI/NCSL Z540-2-1997 with a type B evaluation of the standard uncertainty. Elements contributing to the standard uncertainty are combined using the method described in Equation 1 to arrive at the total standard uncertainty. The standard uncertainty is multiplied by the coverage factor to determine the expanded uncertainty which is generally accepted for use in commercial, industrial, and regulatory applications and when health and safety are concerned (see Equation 2). A coverage factor was selected to yield a 95% confidence in the uncertainty estimation.

Equation 1: Standard Uncertainty

$$u_c = \pm \sqrt{\frac{a^2}{div_a^2} + \frac{b^2}{div_b^2} + \frac{c^2}{div_c^2} + \dots}$$

where u_c = standard uncertainty

a, b, c, \dots = individual uncertainty elements

div_a, b, c = the individual uncertainty element divisor based on the probability distribution

divisor = 1.732 for rectangular distribution

divisor = 2 for normal distribution

divisor = 1.414 for trapezoid distribution

Equation 2: Expanded Uncertainty

$$U = ku_c$$

where U = expanded uncertainty
 k = coverage factor
 $k \leq 2$ for 95% coverage (ANSI/NCSL Z540-2 Annex G)
 u_c = standard uncertainty

The measurement uncertainty complies with the maximum allowed uncertainty from CISPR 16-4-2. Measurement uncertainty is not used to adjust the measurements to determine compliance. The expanded uncertainty values for the various scopes in the WLL accreditation are provided in Table 4 below.

Table 4: Expanded Uncertainty List

Scope	Standard(s)	Expanded Uncertainty
Conducted Emissions	FCC Part 15	3.4 dB
Radiated Emissions (30MHz-1GHz)	FCC Part 15	2.6 dB
		2.6 dB
		3.0 dB
		2.8 dB
Radiated Emissions (1GHz-25GHz)	FCC Part 15	6.3 dB
		5.7 dB

3 Test Results

3.1 Conducted Emissions

3.1.1 Requirements

Test Arrangement: Table Top

Compliance Standard: FCC Part 15 (1/2016), Class B

Compliance Limits		
Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz~500kHz	66 ~ 56	56 ~ 46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

3.1.2 Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	1# Shielding Room	AUDIX	N/A	N/A	Apr.17,15	1 Year
2.	Test Receiver	Rohde & Schwarz	ESCI	100842	Apr.28,15	1 Year
3.	L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	100429	Oct.18,15	1 Year
4.	L.I.S.N.#2	Kyoritsu	K NW-403D	8-1750-2	Apr.28,15	1 Year
5.	Terminator	Hubersuhner	50Ω	No.1	Apr.28,15	1 Year
6.	Terminator	Hubersuhner	50Ω	No.2	Apr.28,15	1 Year
7.	RF Cable	MIYAZAKI	3D-2W	No.1	Apr.28,15	1 Year
8.	Coaxial Switch	Anritsu	MP59B	6200766906	Apr.28,15	1 Year
9.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	101838	Oct.17,15	1 Year
10.	Test Software	AUDIX	E3	6.100913a	N/A	N/A

3.1.3 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.#2). 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: 2014 on conducted Emission test.

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

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

3.1.4 Radiated Data Reduction and Reporting

To convert the raw spectrum analyzer radiated data into a form that can be compared with the FCC limits, it is necessary to account for various calibration factors that are supplied with the antennas and other measurement accessories. These factors are included into the antenna factor (AF) column of the table and in the cable factor (CF) column of the table. The AF (in dB/m) and the CF (in dB) is algebraically added to the raw Spectrum Analyzer Voltage in dB μ V to obtain the Radiated Electric Field in dB μ V/m. This logarithm amplitude is converted to a linear amplitude, then compared to the FCC limit. Example:

Spectrum Analyzer Voltage: $V_dB\mu V$

Antenna Correction Factor: dB/m

Electric Field: $EdB\mu V/m = V_dB\mu V + AFdB/m + CFdB - GdB$

To convert to linear units of measure: $EdBV/m/20 \text{ Inv log}$

3.1.5 Test Data

The EUT FIBBR Ultra HDMI AOC complied with the Class B Radiated Emissions requirements.

Table 5 provides the test results for radiated conducted emissions.

Photograph 1 and Photograph 2 show the radiated emission test configuration.

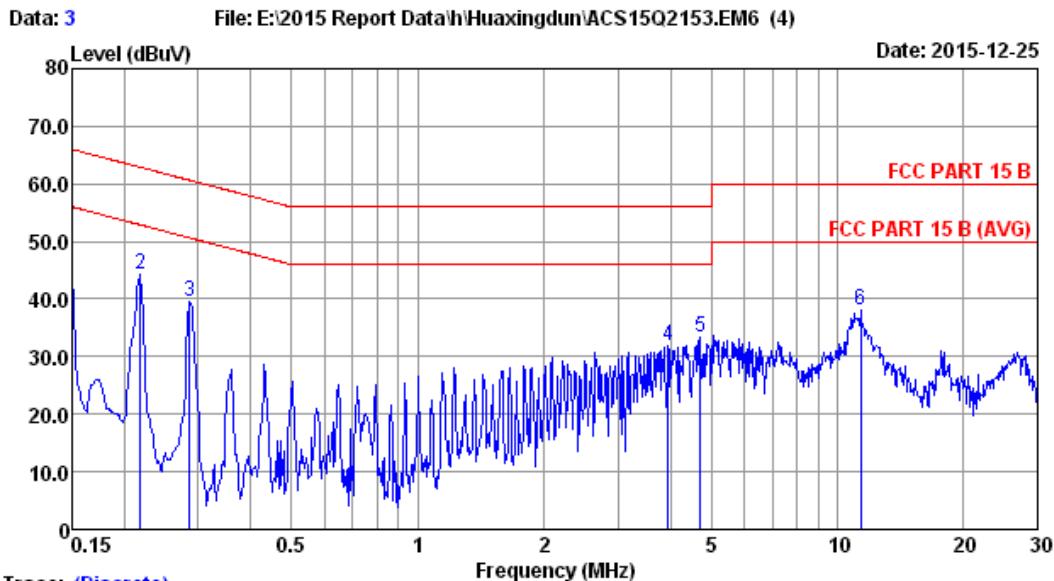
3.1.6 Areas of Concern

None.

Table 5: Conducted Emissions Test Data



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Trace: (Discrete)

Site no	:1# Conduction	Data No	:3
Dis./Lisn	:2015 ESH2-Z5 LINE	LISN phase:	
Limit	:FCC PART 15 B		
Env./Ins.	:23.1°C/52%	Engineer	:Alvis-Wu
EUT	:FIBBR Ultra HDMI AOC M/N:FBHDAOC01		
Power Rating	:AC 120V/60Hz		
Test Mode	:Running "H" Pattern		

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission			
					Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.150	0.12	0.05	43.55	43.72	66.00	22.28	QP
2	0.219	0.12	0.05	44.18	44.35	62.88	18.53	QP
3	0.286	0.13	0.05	39.34	39.52	60.63	21.11	QP
4	3.943	0.23	0.13	31.58	31.94	56.00	24.06	QP
5	4.721	0.24	0.14	32.84	33.22	56.00	22.78	QP
6	11.377	0.42	0.20	37.42	38.04	60.00	21.96	QP

Remarks: 1. Emission Level=LISN Factor+Cable Loss+Reading.
2. If the average limit is met when using a quasi-peak detector.
the EUT shall be deemed to meet both limits and measurement
with average detector is unnecessary.

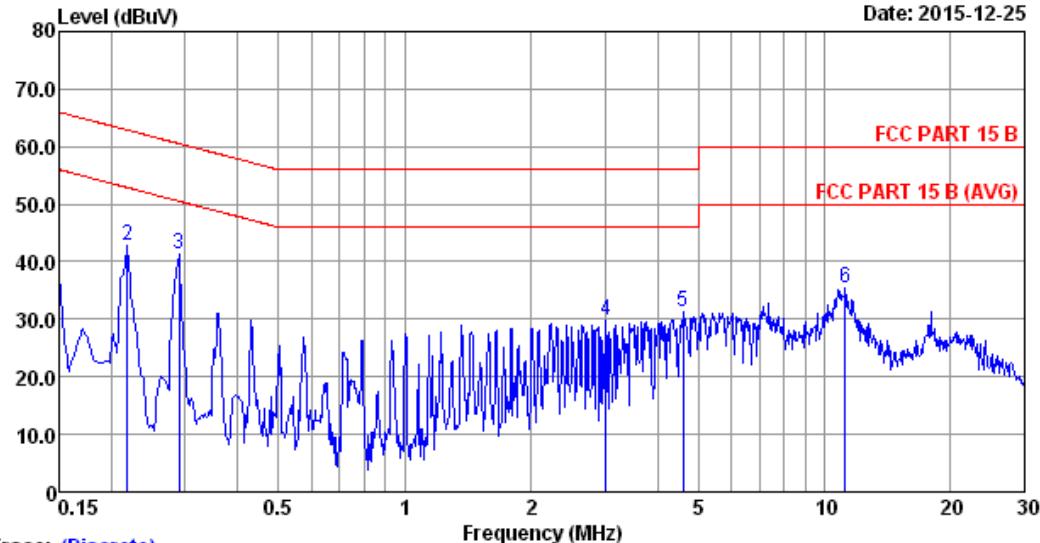


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Postcode: 518057

Data: 4

File: E:\2015 Report Data\h\Huaxingdun\ACS15Q2153.EM6 (4)

Date: 2015-12-25



Trace: (Discrete)

Site no :1# Conduction Data No :4
Dis./Lisn :2015 ESH2-Z5 NEUTRAL LISN phase:
Limit :FCC PART 15 B
Env./Ins. :23.1°C/52% Engineer :Alvis-Wu
EUT :FIBBR Ultra HDMI AOC M/N:FBHDAOC01
Power Rating :AC 120V/60Hz
Test Mode :Running "H" Pattern

No	Freq (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission			
					Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.150	0.12	0.05	36.96	37.13	66.00	28.87	QP
2	0.219	0.12	0.05	42.61	42.78	62.88	20.10	QP
3	0.289	0.13	0.05	41.02	41.20	60.54	19.34	QP
4	3.009	0.22	0.12	29.56	29.90	56.00	26.10	QP
5	4.598	0.27	0.14	30.91	31.32	56.00	24.68	QP
6	11.198	0.52	0.20	34.65	35.37	60.00	24.63	QP

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

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

Photograph 1: Conducted Emissions Front



Photograph 2: Conducted Emissions Back



3.2 Radiated Emissions

3.2.1 Requirements

Test Arrangement: Table Top

Compliance Standard: FCC Part 15 (1/2016), Class B (3 meter)

FCC Compliance Limits	
Frequency	Limits
30-88 MHz	40dBuV
88-216 MHz	43.5dBuV
216-960 MHz	46dBuV
>960MHz (3 meters)	74dBuV
>960MHz (3 meters)	54dBuV

3.2.2 Test Equipment

For frequency range 30MHz~1000MHz (In 3m Anechoic Chamber)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Mar.28,15	1 Year
2.	EMI Spectrum	Agilent	E4407B	MY41440292	Apr.28,15	1 Year
3.	Test Receiver	Rohde & Schwarz	ESVS10	834468/011	Apr.28,15	1 Year
4.	Amplifier	HP	8447D	2648A04738	Apr.28,15	1 Year
5.	Bilog Antenna	TESEQ	CBL6112D	35375	Jun.30,15	1 Year
6.	RF Cable	MIYAZAKI	CFD400-NW(3.5M)	No.3	Apr.28,15	1 Year
7.	RF Cable	MIYAZAKI	CFD400-LW(22M)	No.7	Apr.28,15	1 Year
8.	Coaxial Switch	Anritsu	MP59B	6201397222	Apr.28,15	1 Year
9.	Test Software	AUDIX	E3	6.2009-5-21a(n)	N/A	N/A

For frequency range above 1GHz (In 3m Anechoic Chamber)

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	3#Chamber	AUDIX	N/A	N/A	Mar.22,15	1 Year
2.	Spectrum Analyzer	Agilent	E4407B	MY41440292	Apr.28,15	1 Year
3.	Horn Antenna	ETC	MCTD 1209	DRH15F03007	Feb.03,15	1 Year
4.	Amplifier	Agilent	83017A	MY53270084	May.25,15	1 Year
5.	RF Cable	Hubersuhner	SUCOFLEX106	505238/6+28616/2	Apr.28,15	1 Year
6.	Test Software	AUDIX	E3	6.2009-5-21a(n)	N/A	N/A

3.2.3 Test Procedure

The requirements of FCC Part 15 (1/2016) call for the EUT to be placed on an 80 cm high 1 X 1.5 meters non-conductive motorized turntable for radiated testing on a 10-meter open field test site. The emissions from the EUT were measured continuously at every azimuth by rotating the turntable. Bi-conical and log periodic broadband antennas were mounted on an antenna mast to determine the height of maximum emissions. The height of the antenna was varied between 1 and 4 meters. The output of the antenna was connected to the input of the spectrum analyzer and the emissions in the frequency range of 30 MHz to 1 GHz were measured. The peripherals were placed on the table in accordance with ANSI C63.4-2014. Cables were varied in position to produce maximum emissions. Both the horizontal and vertical field components were measured.

The output from the antenna was connected, via a preamplifier, to the input of the spectrum analyzer. The detector function was set to quasi-peak or peak, as appropriate. Above 1GHz average measurement are recorded. The measurement bandwidth of the spectrum analyzer system was set to at least 120 kHz, with all post-detector filtering no less than 10 times the measurement bandwidth. Frequencies above 1GHz were performed using a measurement bandwidth of 1MHz with a video bandwidth setting of 10 Hz for the average measurement.

3.2.4 Radiated Data Reduction and Reporting

To convert the raw spectrum analyzer radiated data into a form that can be compared with the FCC limits, it is necessary to account for various calibration factors that are supplied with the antennas and other measurement accessories. These factors are included into the antenna factor (AF) column of the table and in the cable factor (CF) column of the table. The AF (in dB/m) and the CF (in dB) is algebraically added to the raw Spectrum Analyzer Voltage in dB μ V to obtain the Radiated Electric Field in dB μ V/m. This logarithm amplitude is converted to a linear amplitude, then compared to the FCC limit. Example:

Spectrum Analyzer Voltage: VdB μ V

Antenna Correction Factor: dB/m

Electric Field: $EdB\mu V/m = V dB\mu V + AFdB/m + CFdB - GdB$

To convert to linear units of measure: $EdBV/m = EdB\mu V/m / 20 \text{ Inv log}$

3.2.5 Test Data

The EUT FIBBR Ultra HDMI AOC complied with the Class B Radiated Emissions requirements.

Table 6 provides the test results for radiated conducted emissions.

Photograph 3 -5 show the radiated emission test configuration.

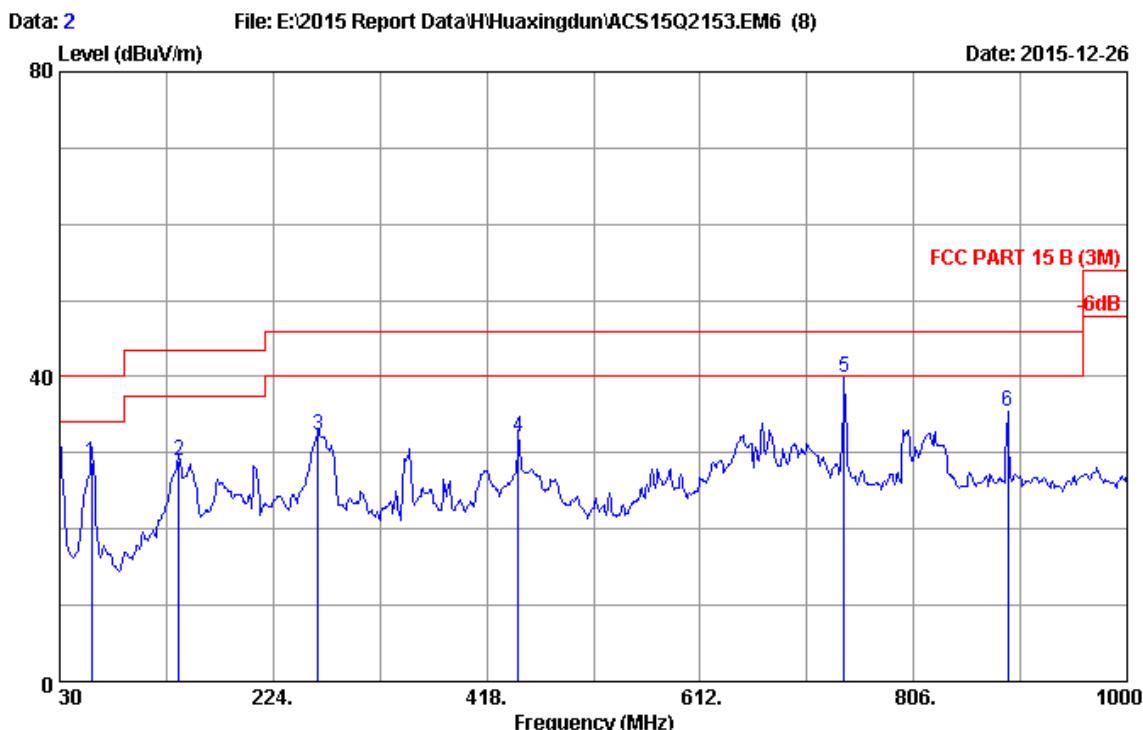
3.2.6 Areas of Concern

None.

Table 6: Radiated Emission Test Data



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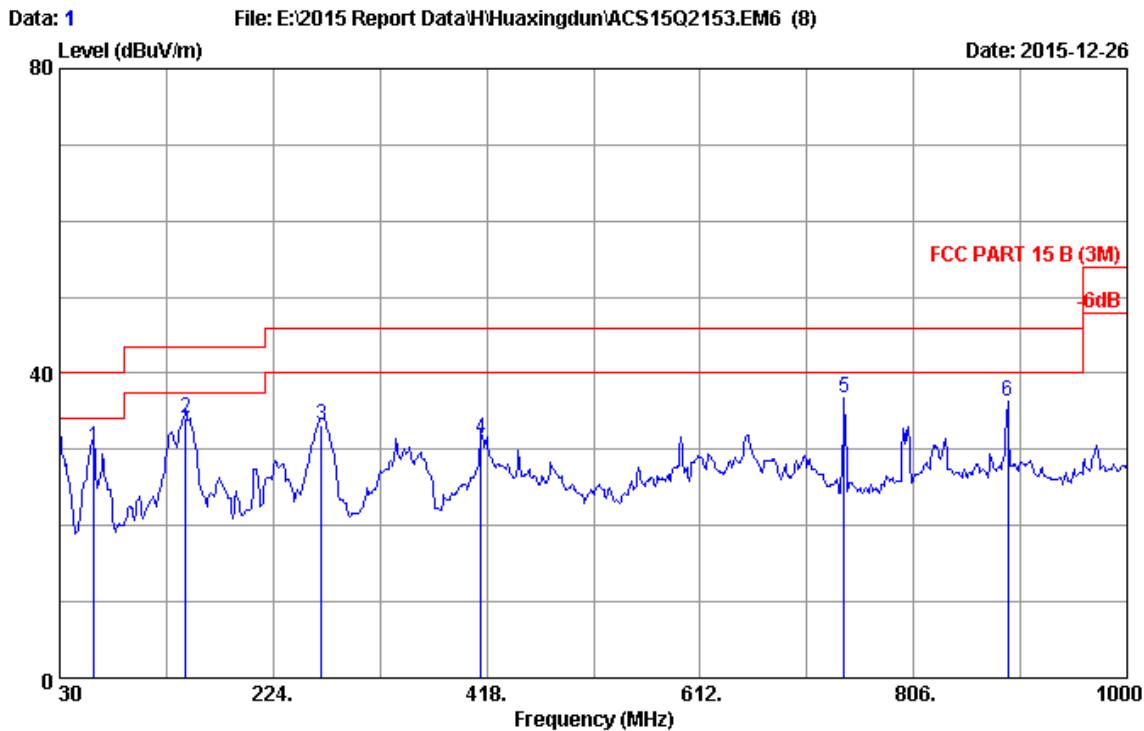
Site no. : 3m Chamber Data no. : 2
Dis. / Ant. : 3m 2015 CBL6112D 35375 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B (3M)
Env. / Ins. : 22.1°C/50% Engineer : Brown
EUT : FIBBR Ultra HDMI AOC M/N:FBHDAOC01
Power rating : AC 120V/60Hz
Test Mode : Running "H" Pattern

No.	Freq. (MHz)	Ant. (dB/m)	Cable (dB)	Reading (dBuV)	Emission			
					Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	59.100	6.94	0.85	21.00	28.79	40.00	11.21	QP
2	138.640	12.24	1.27	15.36	28.87	43.50	14.63	QP
3	264.740	14.23	1.76	16.32	32.31	46.00	13.69	QP
4	447.100	17.28	2.36	12.42	32.06	46.00	13.94	QP
5	742.950	20.53	3.12	16.13	39.78	46.00	6.22	QP
6	891.360	21.87	3.47	10.10	35.44	46.00	10.56	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



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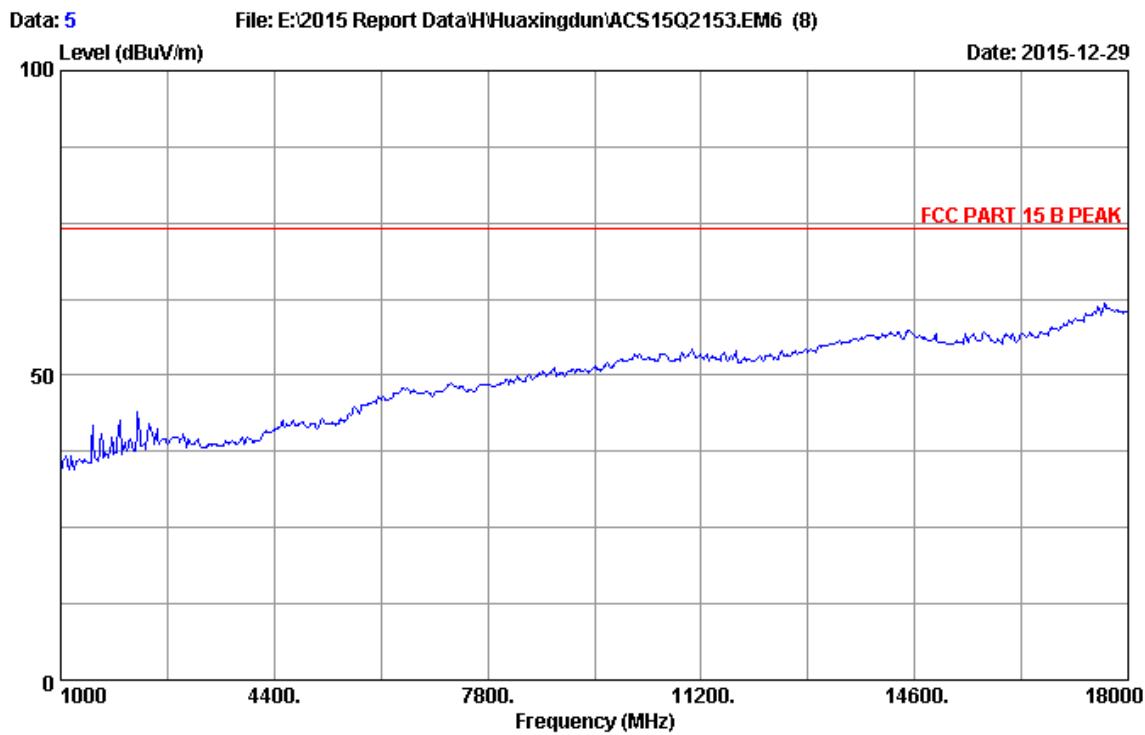
Site no. : 3m Chamber Data no. : 1
Dis. / Ant. : 3m 2015 CBL6112D 35375 Ant. pol. : VERTICAL
Limit : FCC PART 15 B (3M)
Env. / Ins. : 22.1°C/50% Engineer : Brown
EUT : FIBBR Ultra HDMI AOC M/N:FBHDAOC01
Power rating : AC 120V/60Hz
Test Mode : Running "H" Pattern

No.	Freq. (MHz)	Ant. (dB/m)	Cable Loss (dB)	Emission				
				Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	61.040	6.80	0.89	22.71	30.40	40.00	9.60	QP
2	144.460	11.78	1.29	21.07	34.14	43.50	9.36	QP
3	267.650	13.93	1.76	17.52	33.21	46.00	12.79	QP
4	413.150	17.01	2.25	12.20	31.46	46.00	14.54	QP
5	742.950	20.53	3.12	13.01	36.66	46.00	9.34	QP
6	891.360	21.87	3.47	10.94	36.28	46.00	9.72	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



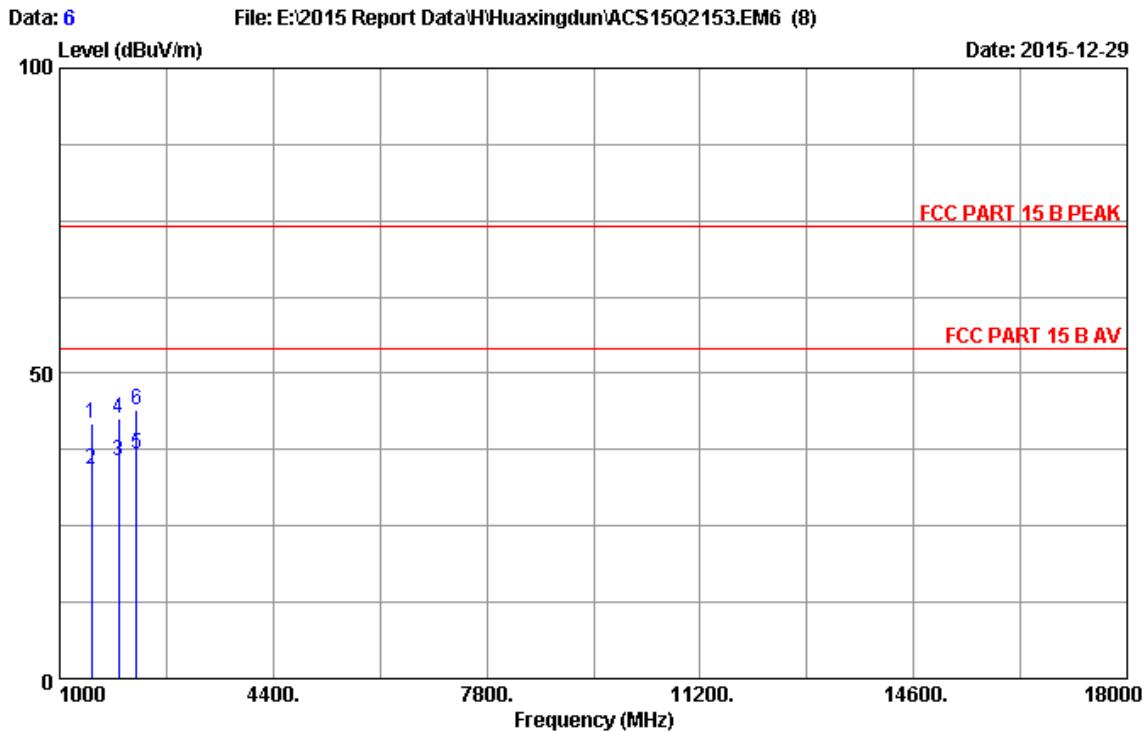
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Postcode:518057



Site no.	:	3m Chamber	Data no.	:	5
Dis. / Ant.	:	3m 2015 MCTD1209-3007	Ant. pol.	:	HORIZONTAL
Limit	:	FCC PART 15 B PEAK			
Env. / Ins.	:	25.1°C/51%	Engineer	:	Brown
EUT	:	FIBBR Ultra HDMI AOC M/N:FBHDAOC01			
Power rating	:	AC 120V/60Hz			
Test Mode	:	Running "H" Pattern			



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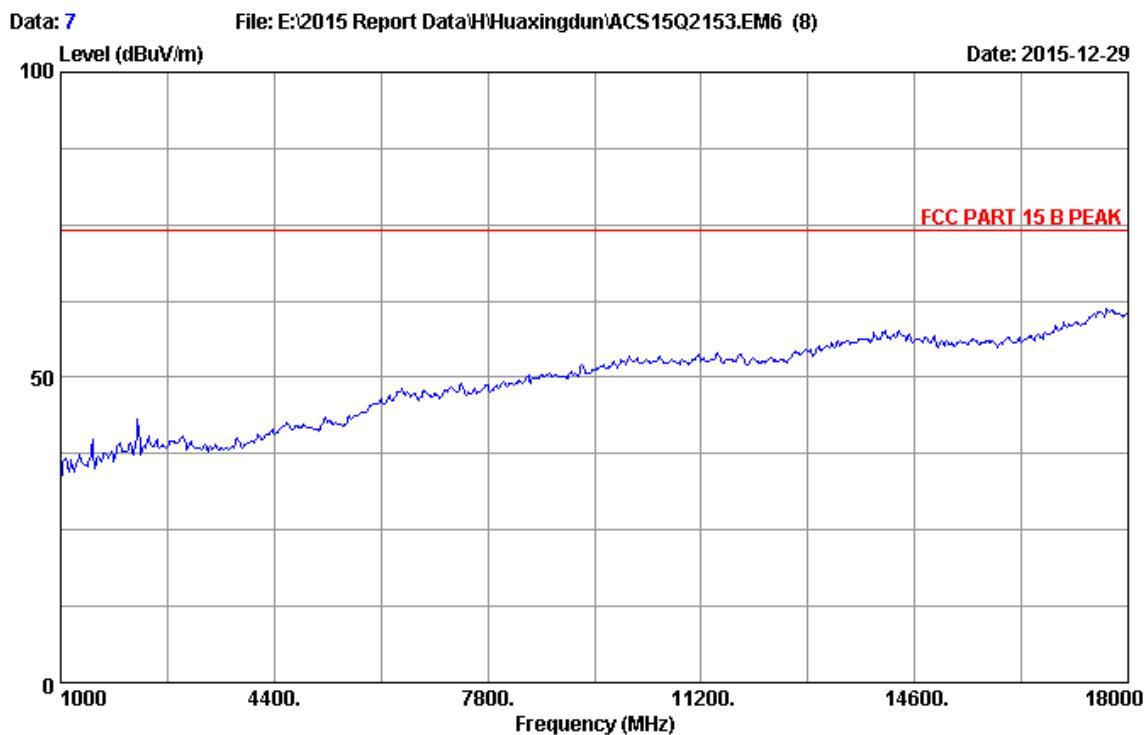
Site no. : 3m Chamber Data no. : 6
Dis. / Ant. : 3m 2015 MCTD1209-3007 Ant. pol. : HORIZONTAL
Limit : FCC PART 15 B PEAK
Env. / Ins. : 25.1°C/51% Engineer : Brown
EUT : FIBBR Ultra HDMI AOC M/N:FBHDAOC01
Power rating : AC 120V/60Hz
Test Mode : Running "H" Pattern

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp factor (dB)	Emission			
					Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)
1	1510.03	25.34	2.43	35.26	49.16	41.67	74.00	32.33
2	1511.26	25.34	2.43	35.26	41.83	34.34	54.00	19.66
3	1934.82	26.80	2.70	34.75	40.92	35.67	54.00	18.33
4	1935.16	26.81	2.70	34.75	47.83	42.59	74.00	31.41
5	2223.26	27.47	2.74	34.59	41.07	36.69	54.00	17.31
6	2224.15	27.48	2.74	34.59	48.34	43.97	74.00	30.03

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.



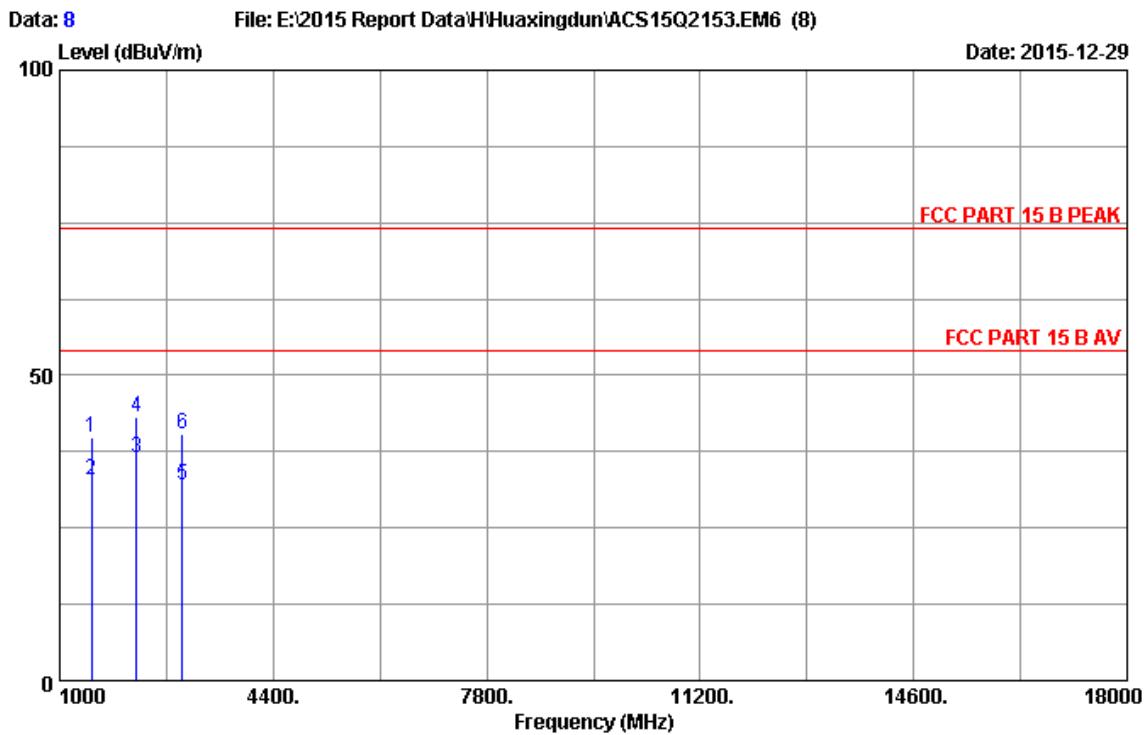
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Site no.	:	3m Chamber	Data no.	:	7
Dis. / Ant.	:	3m 2015 MCTD1209-3007	Ant. pol.	:	VERTICAL
Limit	:	FCC PART 15 B PEAK			
Env. / Ins.	:	25.1°C/51%	Engineer	:	Brown
EUT	:	FIBBR Ultra HDMI AOC M/N:FBHDAOC01			
Power rating	:	AC 120V/60Hz			
Test Mode	:	Running "H" Pattern			



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Site no. : 3m Chamber Data no. : 8
Dis. / Ant. : 3m 2015 MCTD1209-3007 Ant. pol. : VERTICAL
Limit : FCC PART 15 B PEAK
Env. / Ins. : 25.1°C/51% Engineer : Brown
EUT : FIBBR Ultra HDMI AOC M/N:FBHDAOC01
Power rating : AC 120V/60Hz
Test Mode : Running "H" Pattern

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp factor (dB)	Emission			
					Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)
1	1510.26	25.34	2.43	35.26	47.28	39.79	74.00	34.21
2	1511.26	25.34	2.43	35.26	40.22	32.73	54.00	21.27
3	2223.26	27.47	2.74	34.59	40.83	36.45	54.00	17.55
4	2224.52	27.48	2.74	34.59	47.53	43.16	74.00	30.84
5	2954.82	28.28	3.10	34.33	35.06	32.11	54.00	21.89
6	2955.31	28.28	3.10	34.33	43.47	40.52	74.00	33.48

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.

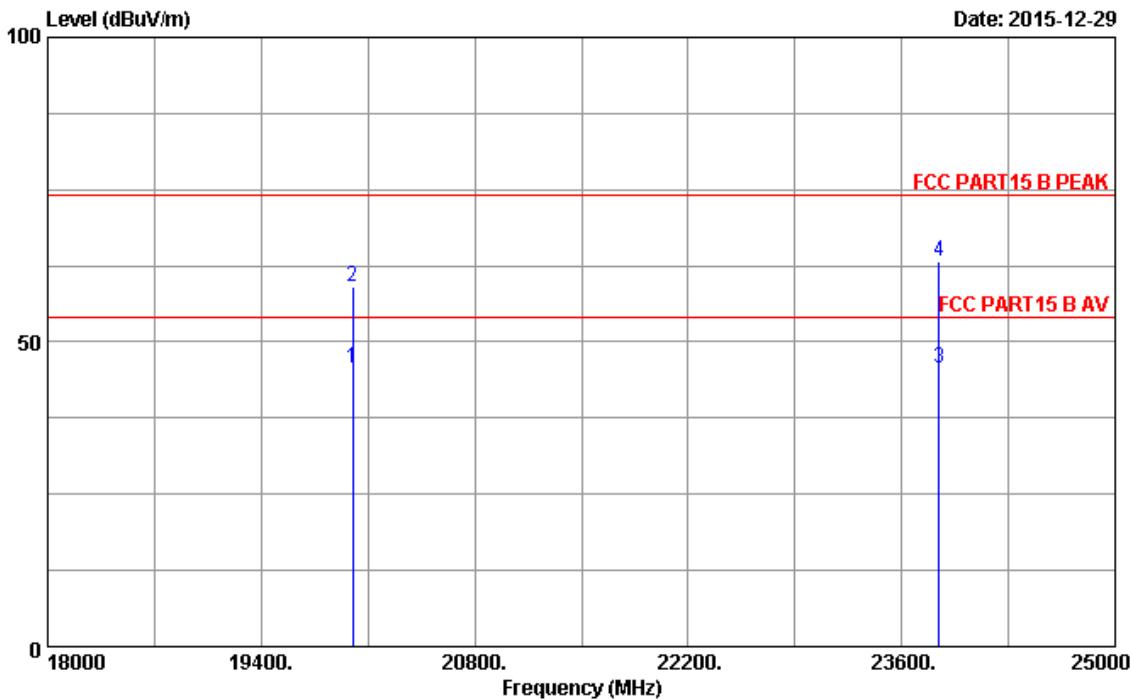


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Data: 10

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Date: 2015-12-29



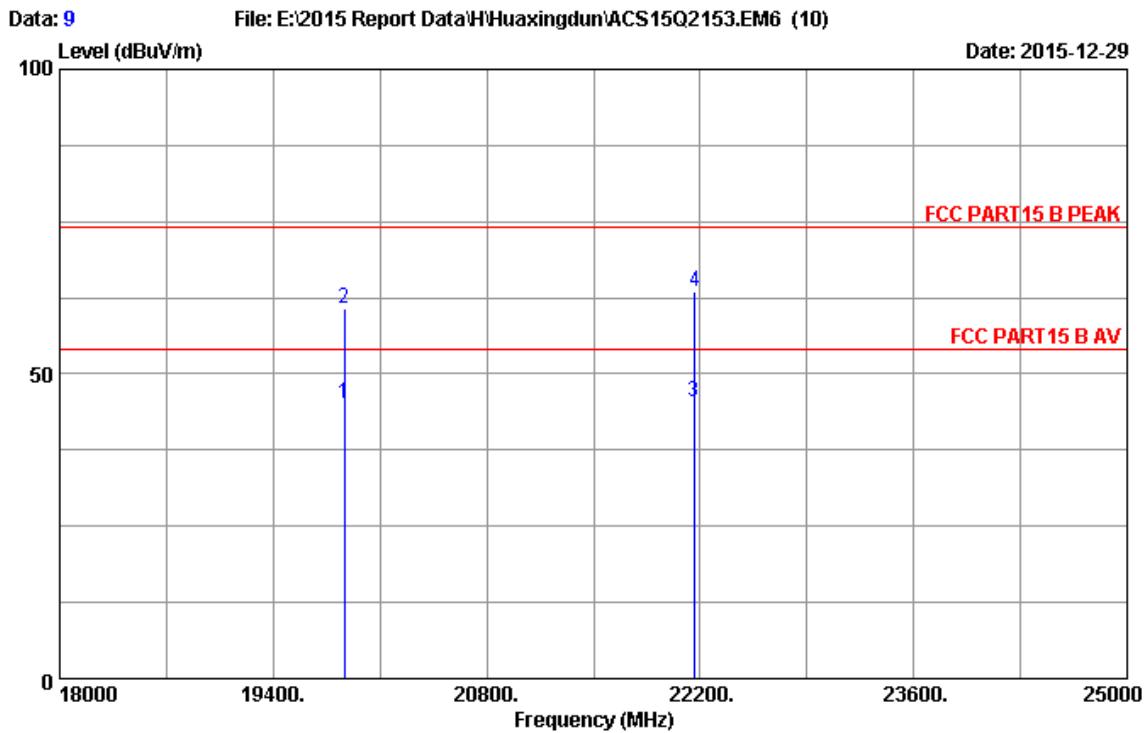
Site no. : 3m Chamber Data no. : 10
Dis. / Ant. : 3m 2015 MCTD1209 3006 Ant. pol. : HORIZONTAL
Limit : FCC PART15 B PEAK
Env. / Ins. : 25.1°C/51% Engineer : Brown
EUT : FIBBR Ultra HDMI AOC M/N:FBHDAOC01
Power rating : AC 120V/60Hz
Test Mode : Running "H" Pattern

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp factor (dB)	Emission			
					Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)
	119999.70	44.50	9.50	29.62	21.20	45.58	54.00	8.42
	220000.00	44.50	9.50	29.62	34.70	59.08	74.00	14.92
	323845.20	45.20	11.54	30.18	19.01	45.57	54.00	8.43
	423847.20	45.20	11.54	30.18	36.61	63.17	74.00	10.83

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.



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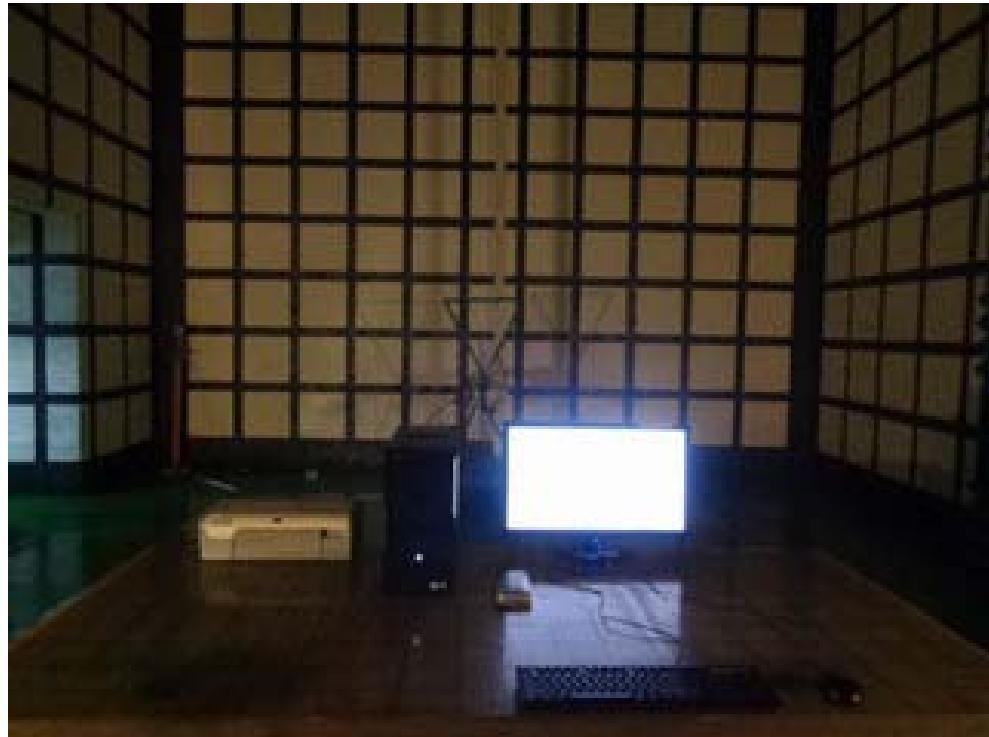


Site no. : 3m Chamber Data no. : 9
Dis. / Ant. : 3m 2015 MCTD1209 3006 Ant. pol. : VERTICAL
Limit : FCC PART15 B PEAK
Env. / Ins. : 25.1°C/51% Engineer : Brown
EUT : FIBBR Ultra HDMI AOC M/N:FBHDAOC01
Power rating : AC 120V/60Hz
Test Mode : Running "H" Pattern

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp factor (dB)	Emission			Margin (dB)	Remark
					Reading (dBuV)	Level (dBuV/m)	Limits (dBuV/m)		
	119867.50	44.30	9.41	29.95	21.50	45.26	54.00	8.74	Average
	219869.10	44.30	9.41	29.95	37.00	60.76	74.00	13.24	Peak
	322161.48	45.30	10.78	30.65	20.10	45.53	54.00	8.47	Average
	422163.80	45.30	10.78	30.65	38.10	63.53	74.00	10.47	Peak

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.

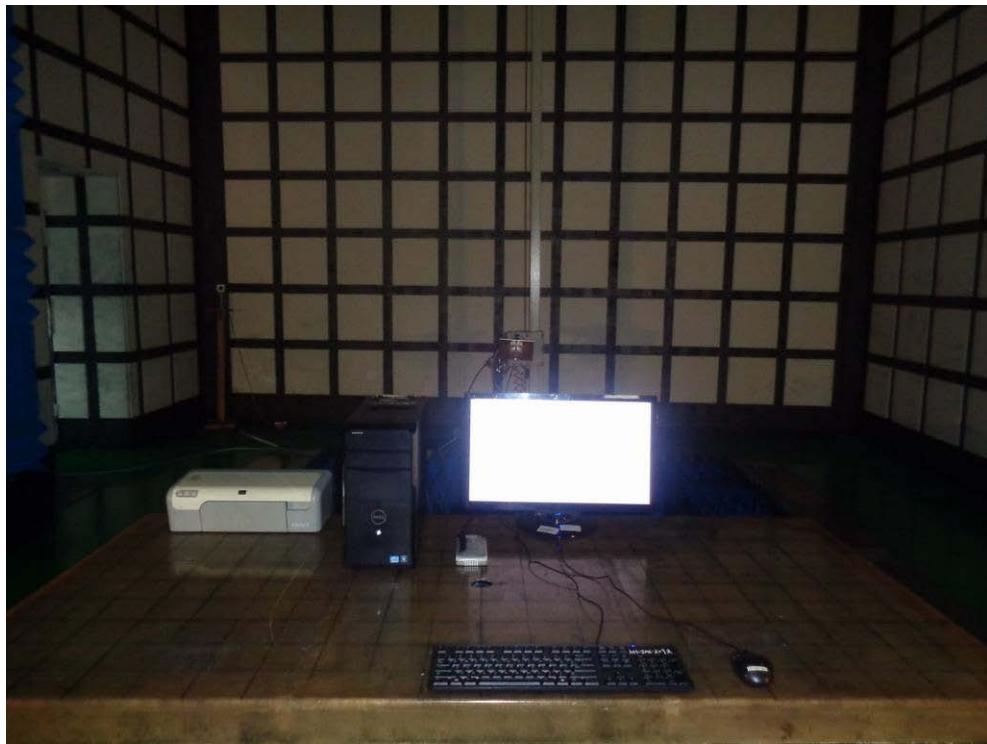
Photograph 3: Radiated Emission Test Configuration, (Below 1GHz) Front



Photograph 4: Radiated Emission Test Configuration, (Below 1GHz) Back



Photograph 5: Radiated Emission Test Configuration, (Above 1GHz) Front



4 Labeling Requirements

Each digital device which has been verified as complying with the Class B limits shall have permanently attached in a conspicuous location for the user to observe, a label with the following statement:

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference,
and (2) this device must accept any interference
received, including interference that may cause
undesired operation.

4.1 Information to User

The following warning or similar statement shall be provided in a conspicuous location in the operator's manual so that the user of a Class B digital device is aware of its interference potential. Additional information about corrective measures may also be provided to the user at the manufacturer's option.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- o Reorient or relocate the receiving antenna
- o Increase the separation between the equipment and receiver
- o Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- o Consult the dealer or an experienced radio/TV technician for help

The instruction manual for a Class B digital device that is separately marketed shall also include sufficient information to insure that the complete system is capable of complying with the requirements for a Class B digital device. The manual should also caution the user that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. Finally, the manual should instruct the user to use any special accessories, i.e. shielded cables, necessary for compliance with the standards.

In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required above may be included in the manual in that alternative form, provided that the user can be reasonably expected to have the capability to access information in that form.

-----The End-----