# TEST REPORT

**Report Number: 100860883DEN-003**
**Project Number: G100860883**

**Report Issue Date: 3/26/2013**

**Product Designation:** **Model: AXS-FMTD – Permissive Change**

**Standards:** **FCC 47CFR Part 15C**
**RSS-210 - Issue 8: 2010**
**RSS-GEN - Issue 3: 2010**

Tested by:

Intertek Testing Services NA, Inc.
1795 Dogwood St. Suite 200
Louisville, CO 80027

Client:

Waio Inc.
2450 Eliot Street, Suite 5
Denver, CO 80211

Report prepared by

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Report reviewed by

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## 1 Introduction and Conclusion

The tests indicated in section 2.0 were performed on the product constructed as described in section 3.0. The remaining test sections are the verbatim text from the actual data sheets used during the investigation. These test sections include the test name, the specified test Method, a list of the actual Test Equipment Used, documentation Photos, Results and raw Data. No additions, deviations, or exclusions have been made from the standard(s) unless specifically noted.

Based on the results of our investigation, we have concluded the **product tested complies with the requirements of the standard(s) indicated.** The results obtained in this test report pertain only to the item(s) tested.

## 2 Test Summary

| Section | Test full name | Test date | Result |
|---|---|---|---|
| 5 | Radiated Unintentional Spurious Emissions - FCC 15.239(c)/ 15.209 [Covers IC RSS-210 A2.8/ RSS-Gen 7.2.5] | N/A (1) | --- |
| 6 | 200kHz Bandwidth & Band Edge – FCC 15.239(a) [Covers IC RSS-210 A2.8] | 3/21/2013 | Pass |
| 7 | Tx Radiated Emissions - FCC 15.239(b) [Covers IC RSS-210 A2.8] | 3/21/2013 | Pass |
| 8 | AC Conducted Emissions - FCC 15.207 [Covers RSS-Gen 7.2.4] | N/A (1) | --- |
| 9 | Occupied Bandwidth Measurement - RSS-Gen 4.6.1 | N/A (1) | --- |

General Notes:

1) Not required for this permissive change.
2) The testing in this report covers the following product models: FM Radio mode of operation (88.1MHz to 107.9MHz). All models are electrically identical.
    - AXS-FMTD
    - AXS-FMTXD
    - CT-FMTD

Radio Notes:

1) FCC CFR47 Part 15.31: Measurement Standards: In any case where the device is powered off a battery, a fresh battery was used during test. In cases where the device is powered off an AC supply, voltage was varied per Part 15.31 to find worst case emissions.
2) FCC CFR47 Part 15.35: Measurement Detector Functions and Bandwidths were utilized when performing the measurements within this report.
3) Testing of the product included (3) axes (product orientations).
4) Testing of the product included (3) Tx channels (low, mid, high).
5) No Duty Cycle Correction Factor for pulsed signals was utilized in this report.

## 2.1 Test Facility

Intertek Denver's testing facilities are located at 1795 Dogwood St. Suite 200 Louisville, CO 80027. The testing facility is ISO17025:2005 accredited by A2LA, our lab code is 2506.02, our VCCI registration numbers are. R-1643, C-1752 and T-1558, our FCC designation no. US1121 and our IC lab no. 2042N.

Testing contained in this test report may not be covered under the laboratories scope of accreditation. A note will be placed in the specific test section for testing not coved under the laboratories scope.

## 3 Description of Equipment Under Test

| Equipment Under Test | | | |
|---|---|---|---|
| Description | Manufacturer | Model Number | Serial Number |
| Broadcastvision Entertainment BVE Transmitter | WAIO, Inc. | AXS-FMTD | 002 |
| | | | |

| | |
|---|---|
| Receive Date: | 3/21/2013 |
| Received Condition: | Good |
| Type: | Production Sample |

| Description of Equipment Under Test (provided by client) |
|---|
| The BVE Transmitter takes an audio signal (either analog stereo or optical/coax digital) and transmits via stereo FM-modulated signal (same as analog broadcast FM). The “FM” version of the product transmits within the FM band only. The “900MHz” version of the product transmits within the 900MHz ISM band using the same analog FM modulation, simply up-converted into the ISM band.<br><br>Specific product mode tested in this report: FM Transmitter (88.1 MHz to 107.9 MHz)<br><br>Clock Frequencies: 7.6MHz, 27MHz, 32MHz<br><br>Radio: Tx Frequency 88.1MHz to 107.9MHz (extendable antenna fully extended)<br><br>Product will marketed in the US and Canada. |

| Equipment Under Test Power Configuration | | | |
|---|---|---|---|
| Rated Voltage | Rated Current | Rated Frequency | Number of Phases |
| AC-DC Adapter Input: 120VAC | 10W | 60 | 1 |
| AC-DC Adapter Output: 12VDC | 300mA | ---- | ---- |

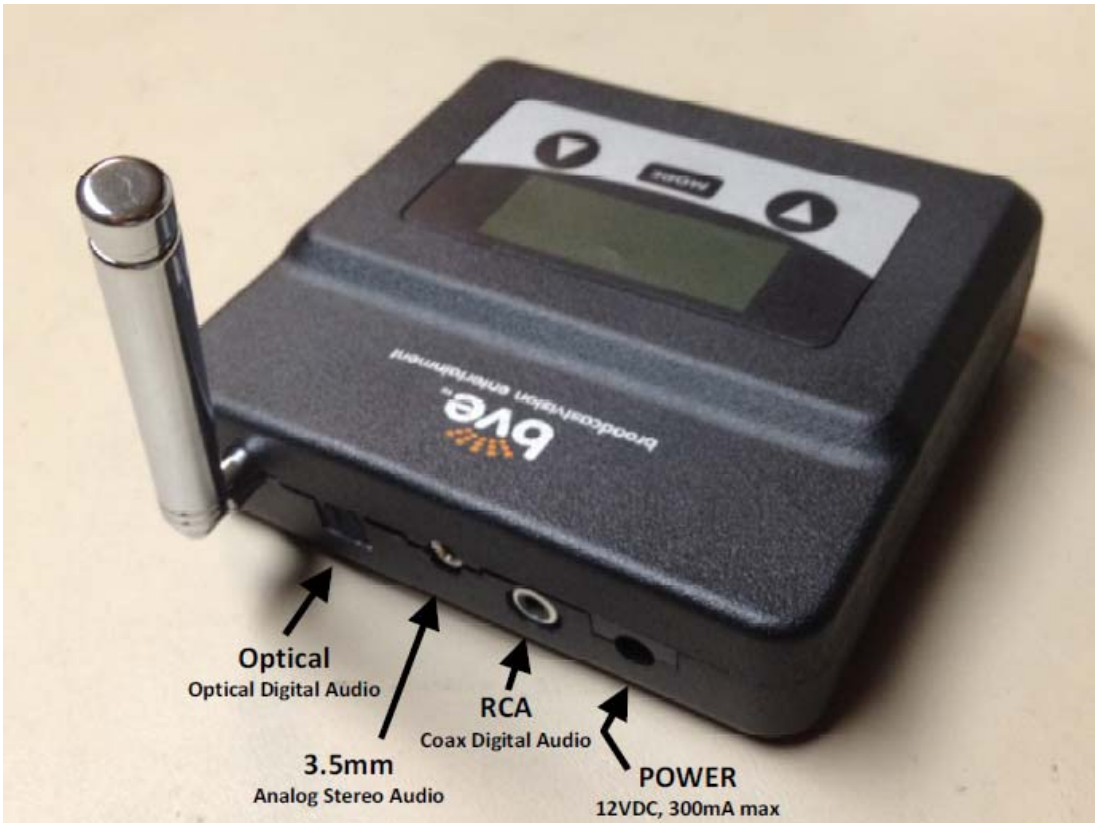
**Operating modes of the EUT:**

| No. | Descriptions of EUT Exercising |
|---|---|
| 1 | Product tuned to specific FM channel (low, mid, high). |
| 2 | Transmitting audio continuously via FM-modulated signal. |
| 3 | Volume level (modulation level) set to maximum recommended by the manufacturer during testing – determined by internal VU meter on the product LCD display. |

### 3.1 Photo: Product Under Test

Model: AXS-FMTD

**Photo: Product Under Test**




There are 3 Audio connectors, choose only one to connect to an audio source – **do not use more than one of these connectors at any time**:

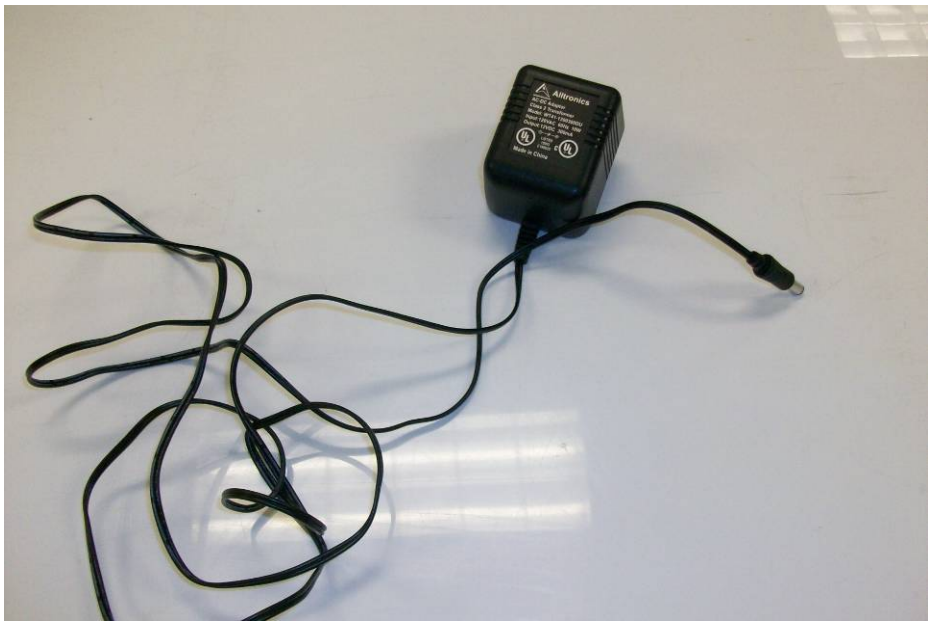
Optical Connect this to an optical digital audio output on a TV, CD/DVD player, etc., using a standard optical cable

3.5 mm Connect this to a line-level or headphone-level stereo signal source on a RV, CD/DVD player, Receiver, etc., using an appropriate cable

RCA Connect this to a coax digital audio output on a TV, CD/DVD player, etc.

**Photo: Product Under Test**

AC-DC Adapter

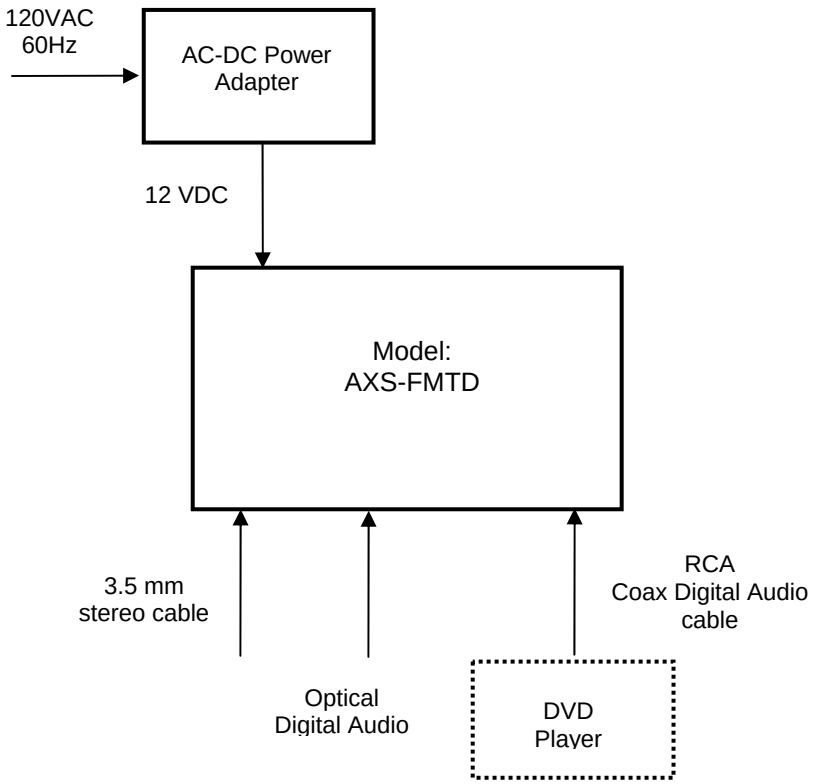


## 4 System setup including cable interconnection details, support equipment and simplified block diagram

### 4.1 Method:

Record the details of EUT cabling, document the support equipment, and show the interconnections in a block diagram.

### 4.2 EUT Block Diagram:




Notes:

1. Items in dashed line are support equipment – not directly tested.

### 4.3 Support Data:

| ID | Description/ Function | Shield | Length | Connector | Connection | Ferrites |
|---|---|---|---|---|---|---|
| 1 | AC-DC Adapter Cable | no | 1.5-meters | Dc power | Model AXS9FMT | no |
| 2 | RCA Coax Digital Audio Cable | yes | 3-meters | RCA | DVD Player | no |
| 3 | 3.5mm Analog Stereo Audio Cable | no | 1-meter | 3.5mm | none | no |
| 4 | Optical Digital Audio Cable | N/A | 1-meter | optical | none | N/A |
| | | | | | | |

| Support Equipment | | | |
|---|---|---|---|
| Description | Manufacturer | Model Number | Serial Number |
| DVD Player | Unknown | Unknown | Unknown |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Notes: DVD player located outside the test chamber.

# 5 Radiated Unintentional & Tx Spurious Emissions – Not necessary for permissive change

# 6 200kHz Bandwidth & Band Edge

## 6.1 Method

Unless otherwise stated no deviations were made from FCC 15.239(a) [RSS-210 A2.8].

This testing was performed at Intertek Denver, located at 1795 Dogwood St. Suite 200, Louisville, CO 80027.

## 6.2 Test Equipment Used:

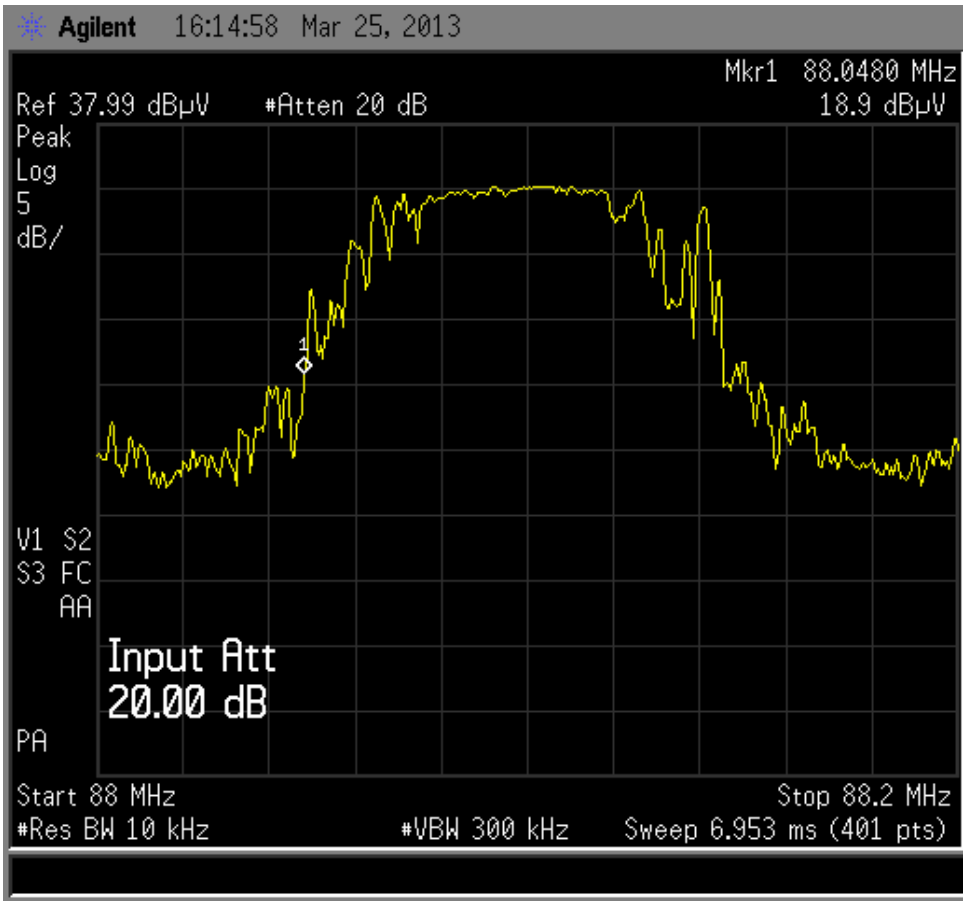
| Asset ID | Description | Manufacturer | Model | Serial | Cal Date | Cal Due |
|---|---|---|---|---|---|---|
| DEN-073 | EMI Receiver | RHODE & SCHWARZ | ESU 26 | 100265 | 1/23/2013 | 1/23/2014 |
| 19936 | Bilog Antenna 30MHz - 6GHz | Sunol Sciences | JB6 | A050707-1 | 11/15/2012 | 11/15/2013 |
| 18912 | 9 kHz- 1.3GHz Pre Amp | Hewlett-Packard | 8447F | 3113A05545 | 6/6/2012 | 6/6/2013 |
| | | | | | | |
| SW-6 | Software for Radiated and Conducted emissions. | Intertek | OATS vba | V. 3.0 | VBU | VBU |
| | | | | | | |

## 6.3 Results:

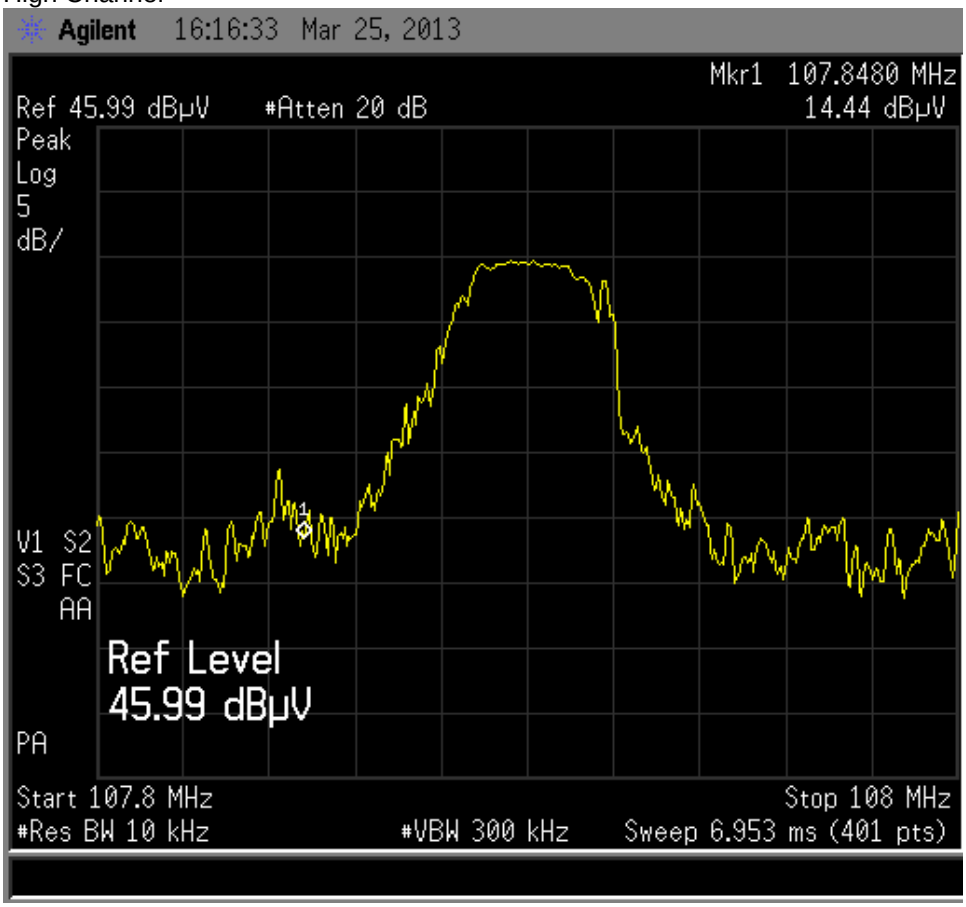
The sample tested was found to Comply.

## 6.4 Plots: FM Mode 200kHz Bandwidth

Low Channel – 88.1 MHz



High Channel

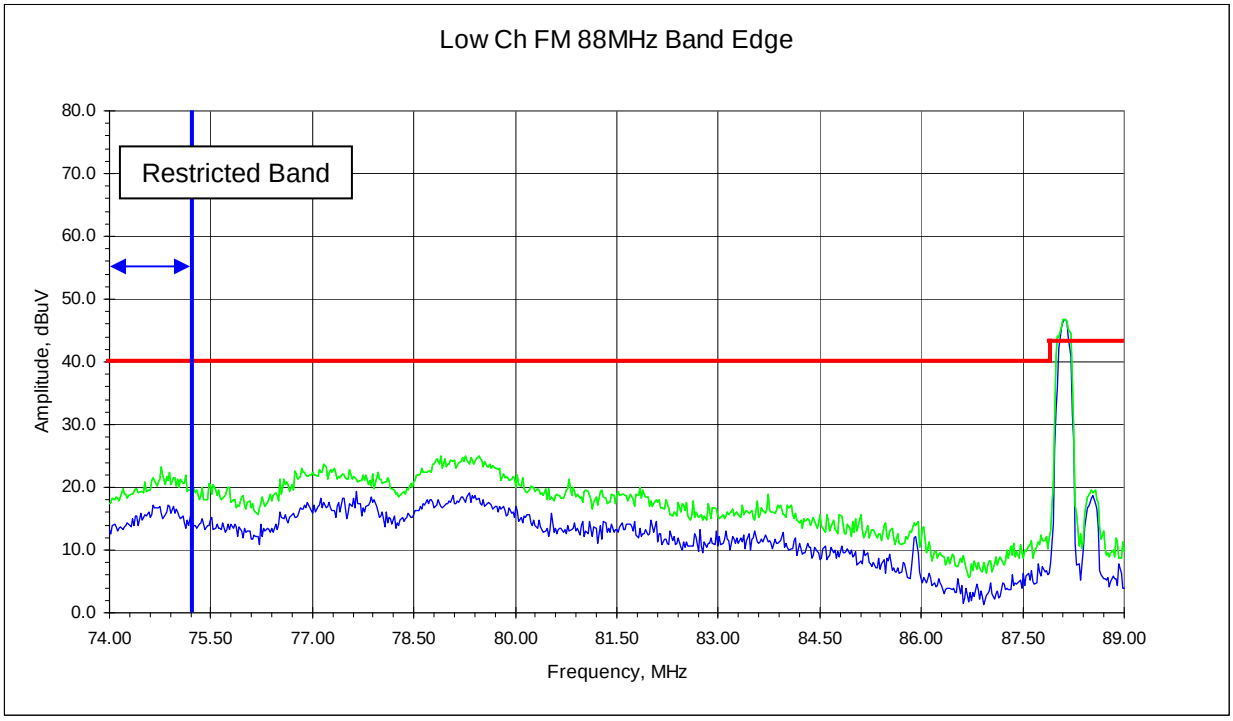



| FREQ | LEVEL | DET | CABLE | ANT | PREAMP | ATTEN | FINAL | POL | HGT | AZ | LIMIT | DELTA | RBW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MHz | dBuV | Qp Av Pk | + [dB] | + [dB/m] | - [dB] | + [dB] | = [dBuV] | (V/H) | (m) | (DEG) | FCC 15.239/209 IC RSS-210 | FCC 15.239/209 IC RSS-210 | (MHz) |
| **200 kHz Band Edge - Worst Case Fundamental Polarization** | | | | | | | | | | | | | |
| **Low Band Edge** | | | | | | | | | | | | | |
| 88.0000 | 59.91 | **Qp** | 0.77 | 7.80 | 28.02 | 0.00 | 40.46 | V | 1.00 | 242.0 | 43.50 | - 3.04 | 0.120 |
| **High Band Edge** | | | | | | | | | | | | | |
| 108.0000 | 42.77 | **Qp** | 0.77 | 12.50 | 27.92 | 0.00 | 28.12 | V | 1.00 | 253.0 | 43.50 | - 15.38 | 0.120 |

Notes: None

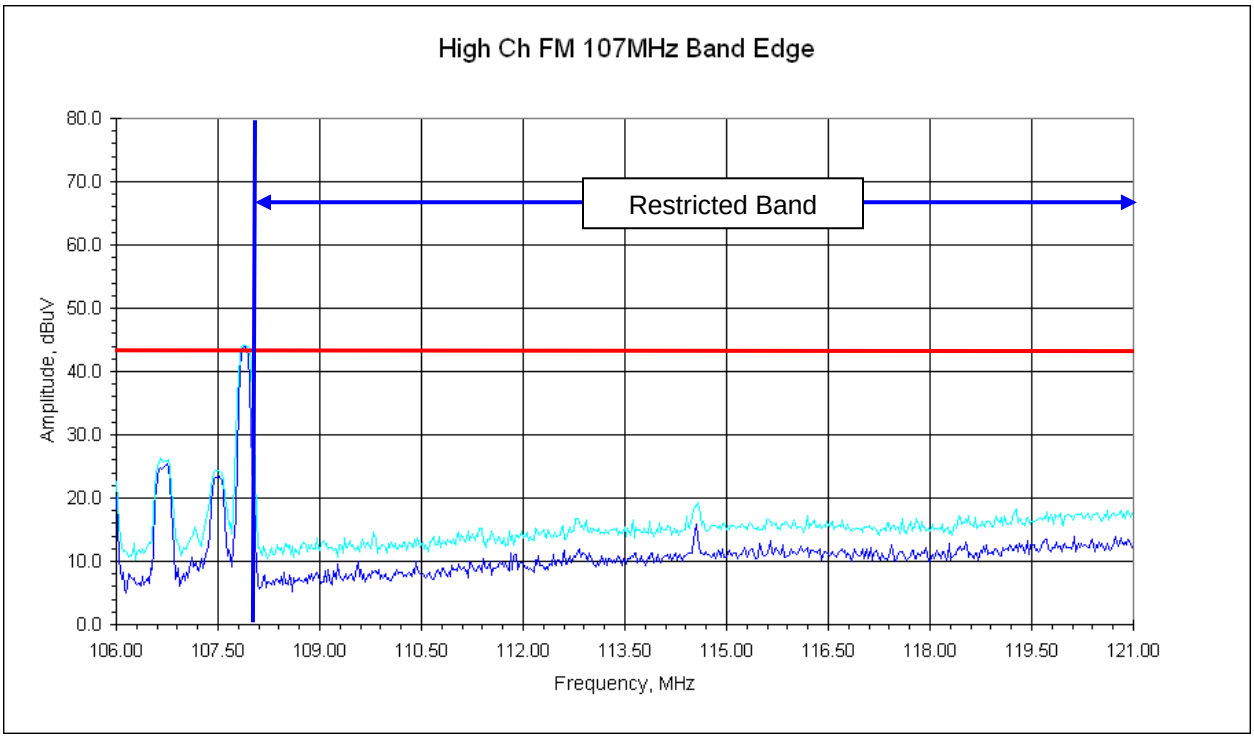
## 6.5 Plots: Band Edge – FM Mode (Low Channel)

Vertical – Worst Case Polarization



## 6.6 Plots: Band Edge – FM Mode (High Channel)

Worst Case Polarization - Vertical



# 7 Radiated Tx Intentional Emissions – Fundamental & Harmonics of the Fundamental

## 7.1 Method

Unless otherwise stated no deviations were made from FCC 15.239 [IC RSS-210 A2.8].

This testing was performed at Intertek Denver, located at 1795 Dogwood St. Suite 200, Louisville, CO 80027.

## 7.2 Test Equipment Used:

| Asset ID | Description | Manufacturer | Model | Serial | Cal Date | Cal Due |
|---|---|---|---|---|---|---|
| DEN-073 | EMI Receiver | RHODE & SCHWARZ | ESU 26 | 100265 | 1/23/2013 | 1/23/2014 |
| 18886 | Ridged Guide Antenna 1-18GHz | Tensor | 4105 | 2020 | 12/11/2012 | 12/11/2013 |
| 18900 | RF Pre-Amplifier (4-8 GHz) | Avantek | AFT97-8434-10F | 1007 | 6/7/2012 | 6/7/2013 |
| DEN-032 | 6-18GHz LNA | Narda | DBL-0618N615 | 31 | 3/7/2013 | 3/7/2014 |
| 18906 | Amplifier (1-4 GHz) | Mini-Circuits Lab | ZHL-42 | N052792-2 | 6/7/2012 | 6/7/2013 |
| 18912 | 9 kHz- 1.3GHz Pre Amp | Hewlett-Packard | 8447F | 3113A05545 | 6/6/2012 | 6/6/2013 |
| 19936 | Bilog Antenna 30MHz - 6GHz | Sunol Sciences | JB6 | A050707-1 | 11/15/2012 | 11/15/2013 |
| | | | | | | |
| SW-6 | Software for Radiated and Conducted emissions. | Intertek | OATS vba | V. 3.0 | VBU | VBU |
| | | | | | | |

## 7.3 Results:

The sample tested was found to Comply.

## 7.4 Product Test Orientations: FM Mode

All permissive change measurements performed on Axis 2 (worst-case)

## 7.5 Setup Photographs: FM Mode

Test setup – Front view

Test setup – Rear view

## 7.6 Test Data: FM Mode [Low Channel]

# Tx Intentional Radiated Electromagnetic Emissions

| | | | | | |
|---|---|---|---|---|---|
| Test Report #: | **G100860883-003** | Test Area: | CC1 Radiated | Temperature: | 22.2 °C |
| Test Method: | FCC 15.239(b)/15.209<br>IC RSS-210 A2.8/RSS-Gen | Test Date: | 03/21/2013 | Relative Humidity: | 26.7 % |
| EUT Model #: | AXS-FMTD | EUT Power: | 120VAC/60Hz | Air Pressure: | 83.91 kPa |
| EUT Serial #: | 002 | | | | |
| Manufacturer: | Waio, Inc. | | | | |
| EUT Description: | Broadcastvision Entertainment – Transmitter – FM & 900MHz | | | | |

Notes: **Product Tested in the following configuration: FM Radio**

Product continuously operating/active during all testing – normal operation

**Low FM Channel – 88.1 MHz**

| Level Key |
|---|
| Pk – Peak |
| Qp – Quasi Peak |
| Av - Average |

| FREQ | LEVEL | DET | CABLE | ANT | PREAMP | ATTEN | FINAL | POL | HGT | AZ | LIMIT | DELTA | RBW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MHz | dBuV | Qp Av Pk | + [dB] | + [dB/m] | - [dB] | + [dB] | = [dBuV] | (V/H) | (m) | (DEG) | FCC 15.239/209 IC RSS-210 | FCC 15.239/209 IC RSS-210 | (MHz) |
| Axis 2 – Previous Worst Case | | | | | | | | | | | | | |
| Expand 88.9 to 107.1 MHz to 88.1 to 107.9 MHz | | | | | | | | | | | | | |
| **Fundamental** | | | | | | | | | | | | | |
| **Low Band - Worst Case Axis from previous testing** | | | | | | | | | | | | | |
| 88.1000 | 67.24 | **Pk** | 0.77 | 7.82 | 28.02 | 0.00 | 47.81 | V | 1.00 | 242.0 | 67.96 | - 20.15 | 0.120 |
| 88.1000 | 66.52 | **Av** | 0.77 | 7.82 | 28.02 | 0.00 | 47.09 | V | 1.00 | 242.0 | 47.96 | - 0.87 | 0.120 |
| 88.1000 | 52.77 | **Pk** | 0.77 | 7.82 | 28.02 | 0.00 | 33.34 | H | 1.50 | 129.0 | 67.96 | - 34.62 | 0.120 |
| 88.1000 | 51.80 | **Av** | 0.77 | 7.82 | 28.02 | 0.00 | 32.37 | H | 1.50 | 129.0 | 47.96 | - 15.59 | 0.120 |
| **Band Edge - Worst Case Fundamental Polarization** | | | | | | | | | | | | | |
| **Low Band Edge** | | | | | | | | | | | | | |
| 88.0000 | 59.91 | **Qp** | 0.77 | 7.80 | 28.02 | 0.00 | 40.46 | V | 1.00 | 242.0 | 43.50 | - 3.04 | 0.120 |
| **Low Band Harmonics** | | | | | | | | | | | | | |
| 176.2000 | 31.22 | **Qp** | 0.89 | 11.78 | 27.60 | 0.00 | 16.29 | V | 1.00 | 0.0 | 43.50 | -27.21 | 0.120 |
| 264.3000 | 34.69 | **Qp** | 1.10 | 13.02 | 27.17 | 0.00 | 21.63 | V | 1.00 | 178.0 | 46.00 | -24.37 | 0.120 |
| 352.4000 | 41.70 | **Qp** | 1.29 | 14.70 | 27.41 | 0.00 | 30.28 | V | 1.45 | 256.0 | 46.00 | -15.72 | 0.120 |
| 440.5000 | 47.31 | **Qp** | 1.44 | 17.01 | 28.09 | 0.00 | 37.67 | V | 2.13 | 255.0 | 46.00 | -8.33 | 0.120 |
| 528.6000 | 35.18 | **Qp** | 1.58 | 18.64 | 28.41 | 0.00 | 27.00 | V | 1.27 | 187.0 | 46.00 | -19.00 | 0.120 |
| 616.7000 | 34.55 | **Qp** | 1.72 | 18.86 | 28.34 | 0.00 | 26.80 | V | 1.82 | 227.0 | 46.00 | -19.20 | 0.120 |
| 704.8000 | 34.74 | **Qp** | 1.86 | 19.89 | 28.27 | 0.00 | 28.22 | V | 1.00 | 338.0 | 46.00 | -17.78 | 0.120 |
| 792.9000 | 30.13 | **Qp** | 1.97 | 20.92 | 27.98 | 0.00 | 25.03 | V | 1.00 | 166.0 | 46.00 | -20.97 | 0.120 |
| 881.0000 | 23.81 | **Qp** | 2.07 | 21.82 | 27.70 | 0.00 | 20.00 | V | 1.55 | 261.0 | 46.00 | -26.00 | 0.120 |
| 176.2000 | 25.10 | **Qp** | 0.89 | 11.78 | 27.60 | 0.00 | 10.17 | H | 3.52 | 289.0 | 43.50 | -33.33 | 0.120 |
| 264.3000 | 30.47 | **Qp** | 1.10 | 13.02 | 27.17 | 0.00 | 17.41 | H | 1.25 | 129.0 | 46.00 | -28.59 | 0.120 |
| 352.4000 | 43.22 | **Qp** | 1.29 | 14.70 | 27.41 | 0.00 | 31.80 | H | 1.00 | 1.0 | 46.00 | -14.20 | 0.120 |
| 440.5000 | 53.06 | **Qp** | 1.44 | 17.01 | 28.09 | 0.00 | 43.42 | H | 1.07 | 220.0 | 46.00 | -2.58 | 0.120 |
| 528.6000 | 32.47 | **Qp** | 1.58 | 18.64 | 28.41 | 0.00 | 24.29 | H | 2.29 | 105.0 | 46.00 | -21.71 | 0.120 |
| 616.7000 | 33.17 | **Qp** | 1.72 | 18.86 | 28.34 | 0.00 | 25.42 | H | 2.60 | 196.0 | 46.00 | -20.58 | 0.120 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 704.8000 | 36.50 | **Qp** | 1.86 | 19.89 | 28.27 | 0.00 | 29.98 | H | 1.20 | 360.0 | 46.00 | -16.02 | 0.120 |
| 792.9000 | 30.62 | **Qp** | 1.97 | 20.92 | 27.98 | 0.00 | 25.52 | H | 2.91 | 0.0 | 46.00 | -20.48 | 0.120 |
| 881.0000 | 23.93 | **Qp** | 2.07 | 21.82 | 27.70 | 0.00 | 20.12 | H | 1.31 | 1.0 | 46.00 | -25.88 | 0.120 |

Example calculation:

| **Measured Level** | **+** | **Cable Loss** | **+** | **Antenna Factor** | **-** | **Pre-Amp** | **+** | **Atten** | **=** | **Final Corrected Reading** | **Specification Limit** | **-** | **Final Corrected Reading** | **=** | **Delta Specification** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (dBμV) | | (dB) | | (dB) | | (dB) | | (dB) | | (dBμV/m) | (dBμV/m) | | (dBμV/m) | | |
| **20.0** | | **3.0** | | **5.0** | | **10.0** | | **0.0** | | **18.0** | **40.0** | | **18.0** | | **- 22.0** |

## 7.7 Test Data: FM Mode [High Channel]

# Tx Intentional Radiated Electromagnetic Emissions

| | | | | | |
|---|---|---|---|---|---|
| Test Report #: | **G100860883-003** | Test Area: | CC1 Radiated | Temperature: | 22.2 °C |
| Test Method: | FCC 15.239(b)/15.209<br>IC RSS-210 A2.8/RSS-Gen | Test Date: | 3/21/2013 | Relative Humidity: | 26.7 % |
| EUT Model #: | AXS-FMTD | EUT Power: | 120VAC/60Hz | Air Pressure: | 83.91 kPa |
| EUT Serial #: | 002 | | | | |
| Manufacturer: | Waio, Inc. | | | | |
| EUT Description: | Broadcastvision Entertainment – Transmitter – FM & 900MHz | | | | |
| Notes: | **Product Tested in the following configuration: FM Radio** | | | | |
| | Product continuously operating/active during all testing – normal operation | | | | |
| | **High FM Channel – 107.9 MHz** | | | | |

| Level Key |
|---|
| Pk – Peak |
| Qp – Quasi Peak |
| Av - Average |

| FREQ | LEVEL | DET | CABLE | ANT | PREAMP | ATTEN | FINAL | POL | HGT | AZ | LIMIT | DELTA | RBW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MHz | dBuV | Qp Av Pk | + [dB] | + [dB/m] | - [dB] | + [dB] | = [dBuV] | (V/H) | (m) | (DEG) | FCC 15.239/209 IC RSS-210 | FCC 15.239/209 IC RSS-210 | (MHz) |
| Worst Case Device Position | | | | | | | | | | | | | |
| Expand 88.9 to 107.1 MHz to 88.1 to 107.9 MHz | | | | | | | | | | | | | |
| **Fundamental High Band** | | | | | | | | | | | | | |
| 107.9000 | 59.40 | **Pk** | 0.77 | 12.48 | 27.92 | 0.00 | 44.73 | V | 1.00 | 253.0 | 67.96 | - 23.23 | 0.120 |
| 107.9000 | 58.91 | **Av** | 0.77 | 12.48 | 27.92 | 0.00 | 44.24 | V | 1.00 | 253.0 | 47.96 | - 3.72 | 0.120 |
| 107.9000 | 53.95 | **Pk** | 0.77 | 12.48 | 27.92 | 0.00 | 39.28 | H | 2.68 | 74.0 | 67.96 | - 28.68 | 0.120 |
| 107.9000 | 53.19 | **Av** | 0.77 | 12.48 | 27.92 | 0.00 | 38.52 | H | 2.68 | 74.0 | 47.96 | - 9.44 | 0.120 |
| **Band Edge - Worst Case Fundamental Polarization** | | | | | | | | | | | | | |
| **High Band Edge** | | | | | | | | | | | | | |
| 108.0000 | 42.77 | **Qp** | 0.77 | 12.50 | 27.92 | 0.00 | 28.12 | V | 1.00 | 253.0 | 43.50 | - 15.38 | 0.120 |
| **High Band Harmonics** | | | | | | | | | | | | | |
| 215.8000 | 29.02 | **Qp** | 0.98 | 10.65 | 27.41 | 0.00 | 13.24 | V | 2.50 | 125.0 | 43.50 | -30.26 | 0.120 |
| 323.7000 | 43.65 | **Qp** | 1.24 | 14.37 | 27.26 | 0.00 | 32.00 | V | 1.98 | 291.0 | 46.00 | -14.00 | 0.120 |
| 431.6000 | 49.74 | **Qp** | 1.42 | 16.60 | 28.02 | 0.00 | 39.74 | V | 1.00 | 147.0 | 46.00 | -6.26 | 0.120 |
| 539.5000 | 34.95 | **Qp** | 1.60 | 18.34 | 28.40 | 0.00 | 26.48 | V | 1.14 | 186.0 | 46.00 | -19.52 | 0.120 |
| 647.4000 | 32.14 | **Qp** | 1.77 | 19.34 | 28.32 | 0.00 | 24.94 | V | 1.00 | 317.0 | 46.00 | -21.06 | 0.120 |
| 647.4000 | 32.14 | **Qp** | 1.77 | 19.34 | 28.32 | 0.00 | 24.94 | V | 1.00 | 305.0 | 46.00 | -21.06 | 0.120 |
| 755.3000 | 29.95 | **Qp** | 1.92 | 20.51 | 28.11 | 0.00 | 24.27 | V | 1.00 | 278.0 | 46.00 | -21.73 | 0.120 |
| 863.2000 | 25.48 | **Qp** | 2.05 | 21.79 | 27.76 | 0.00 | 21.56 | V | 1.29 | 224.0 | 46.00 | -24.44 | 0.120 |
| 971.1000 | 24.41 | **Qp** | 2.18 | 22.62 | 27.41 | 0.00 | 21.80 | V | 1.00 | 47.0 | 46.00 | -24.20 | 0.120 |
| 1079.0000 | 34.15 | **Pk** | 2.31 | 22.70 | 27.32 | 0.00 | 31.84 | V | 1.00 | 242.0 | 74.00 | -42.16 | 1.000 |
| 1079.0000 | 22.40 | **Av** | 2.31 | 22.70 | 27.32 | 0.00 | 20.09 | V | 1.00 | 242.0 | 54.00 | -33.91 | 1.000 |
| 215.8000 | 28.33 | **Qp** | 0.98 | 10.65 | 27.41 | 0.00 | 12.55 | H | 1.72 | 254.0 | 43.50 | -30.95 | 0.120 |
| 323.7000 | 43.86 | **Qp** | 1.24 | 14.37 | 27.26 | 0.00 | 32.21 | H | 1.25 | 4.0 | 46.00 | -13.79 | 0.120 |

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 431.6000 | 55.77 | **Qp** | 1.42 | 16.60 | 28.02 | 0.00 | 45.77 | H | 1.00 | 224.0 | 46.00 | -0.23 | 0.120 |
| 539.5000 | 30.37 | **Qp** | 1.60 | 18.34 | 28.40 | 0.00 | 21.90 | H | 1.57 | 167.0 | 46.00 | -24.10 | 0.120 |
| 647.4000 | 31.92 | **Qp** | 1.77 | 19.34 | 28.32 | 0.00 | 24.72 | H | 2.56 | 0.0 | 46.00 | -21.28 | 0.120 |
| 755.3000 | 31.61 | **Qp** | 1.92 | 20.51 | 28.11 | 0.00 | 25.93 | H | 1.00 | 29.0 | 46.00 | -20.07 | 0.120 |
| 863.2000 | 24.71 | **Qp** | 2.05 | 21.79 | 27.76 | 0.00 | 20.79 | H | 1.00 | 44.0 | 46.00 | -25.21 | 0.120 |
| 971.1000 | 24.08 | **Qp** | 2.18 | 22.62 | 27.41 | 0.00 | 21.47 | H | 2.38 | 359.0 | 46.00 | -24.53 | 0.120 |
| 1079.0000 | 35.49 | **Pk** | 2.31 | 22.70 | 27.32 | 0.00 | 33.18 | H | 1.00 | 360.0 | 74.00 | -40.82 | 1.000 |
| 1079.0000 | 22.44 | **Av** | 2.31 | 22.70 | 27.32 | 0.00 | 20.13 | H | 1.00 | 360.0 | 54.00 | -33.87 | 1.000 |

Example calculation:

| **Measured Level** | **+** | **Cable Loss** | **+** | **Antenna Factor** | **-** | **Pre-Amp** | **+** | **Atten** | **=** | **Final Corrected Reading** | **Specification Limit** | **-** | **Final Corrected Reading** | **=** | **Delta Specification** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (dBμV) | | (dB) | | (dB) | | (dB) | | (dB) | | (dBμV/m) | (dBμV/m) | | (dBμV/m) | | |
| **20.0** | | **3.0** | | **5.0** | | **10.0** | | **0.0** | | **18.0** | **40.0** | | **18.0** | | **- 22.0** |

Notes:

1) None

Deviations, Additions, or Exclusions: None

## 8 AC Mains Conducted Emissions – Not required for permissive change

## 9 Occupied Bandwidth (OBW) – Not required for Permissive Change

## 10 Product Modifications required to pass - None

## 11 Measurement Uncertainty

The measured value related to the corresponding limit will be used to decide whether the equipment meets the requirements.

The measurement uncertainty figures were calculated and correspond to a coverage factor of k = 2, providing a confidence level of respectively 95.45 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian).

Measurement uncertainty Table

| Parameter | Uncertainty ± | Notes |
|---|---|---|
| Radiated emissions, 10kHz to 1000 MHz | 4.4 dB | |
| Radiated emissions, 1 to 18 GHz | 4.7 dB | |
| AC mains Conducted emissions, 9kHz to 30 MHz | 3.14 dB | |
| Disturbance Power 30 to 1000 MHz | 3.3 dB | |
| Telecom Port Conducted emissions, Voltage 150 kHz to 30 MHz | 3.11 dB | |
| Harmonics | - | Meets the requirements specified by the standard. |
| Flicker | - | Meets the requirements specified by the standard. |
| ESD | 4.4 % | |
| Radiated RF field immunity 80MHz to 2.7GHz | 2.2 dB | |
| EFT | 4.3 % | |
| Surge | 4.3 % | |
| Conducted RF immunity | 2.1 dB | |
| Power frequency magnetic field immunity | 2.3 dB | |
| Voltage dips / interruptions immunity | 0.3 mV | |

## 12 Revision History

| Revision Level | Date | Report Number | Notes |
|---|---|---|---|
| 0 | 3/26/2013 | 100860883DEN-003 | Original Issue |
| | | | |
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