



# APPLIED TEST LAB INC.

Page 1 of 55

## FCC Part 15 TEST REPORT

DTS (2400-2483.5 MHz)

Limits Applied: **FCC 15.247**

Report#: **A001E005-31**

FCC ID: **2AOSO1M01831**

Manufacturer: **L3 Mobile-Vision Inc.**

Model: **BWX-100 Camera System**

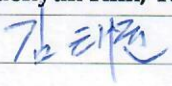
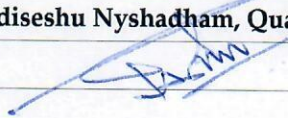
Serial Number: **Camera:214, Dock:307**

Test Start Date: **2017-12-18**

Test Completion Date: **2018-02-23**

Test Result: **PASS**

Report Issue Date: **2018-05-14**

| Tested by                                                                                                          | Approved by:                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Taekyun Kim, Test specialist<br> | Adishesu Nyshadham, Quality Prime<br> |

| Report Issued to                                                                 | Report Issued by                                                                 |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>L3 Mobile-Vision Inc.</b><br>400 Commons way, Suite F,<br>Rockaway, NJ, 07866 | <b>Applied Test Lab Inc.</b><br>Unit 4174-3961 52 Ave NE<br>Calgary, AB, T3J 0J8 |

| Report Revision History |                                                                                  |          |
|-------------------------|----------------------------------------------------------------------------------|----------|
| Rev                     | Description of Change                                                            | Date     |
| Draft01                 | Initial                                                                          | 18-02-05 |
| Release                 | Title page and information(Page.1, 3-6, 12, 14, 18, 20, 26-27, 30-35, 40, 49-57) | 18-03-07 |
| Rev 1                   | Title page and information(Page.1, 4, 6, 16-55)                                  | 18-05-14 |

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This report contains 55 pages



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## 1.0 General

### 1.1 Purpose

The purpose of this report is to document conformance with FCC Part 15 Subpart C – 15.247(DTS) and to detail the results of testing performed on the sample Model: **BWX-100 Camera System** manufactured by **L3 Mobile-Vision Inc.**. The test sample was received in good condition. Testing began **2017-12-18** on and was completed on **2018-02-23**.

### 1.2 Relevant Standards and References

One or more of the following standards were used to evaluate the EUT:

1. **ANSI C63.4-2014:** American National Standard for Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9 kHz to 40 GHz
2. **ANSI C63.10-2013:** American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices
3. **US Code of Federal Regulations (CFR):** Part 15 Subpart B Title 47, Radio Frequency Devices - Unintentional Radiators
4. **US Code of Federal Regulations (CFR):** Part 15 Sub part C Title 47, Radio Frequency Devices - Intentional Radiators
5. **KDB 558074 D01 DTS Meas Guidance v04 2017-04** – Guidance for performing compliance measurements on Digital Transmission System(DTS) operating under section 15.247

### 1.3 Performance Requirement

The EUT is marketed as **FCC Part 15 Subpart C** equipment and must comply with the **FCC 15.247(DTS)** emission limits and requirements.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product which may result in increase emission levels should be checked and verified to ensure continuous compliance has been maintained (i.e., printed circuit board layout changes, changes to filter performance, power supply changes, I/O cable and interface changes, critical component changes etc.)



## 1.4 Test Results Summary

| Test Type                               | Basic Standard   | Assessment                                                                                                                           | Limit/Requirement                          | Result |
|-----------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------|
| Frequency Hopping or Digital Modulation | 15.247(a)        | System uses Frequency Hopping Techniques                                                                                             |                                            | PASS   |
| Conducted Output power                  | 15.247(b)(3)     | Full Power 15.93dBm (39.17 mW)                                                                                                       | <1000mW (30 dBm)                           | PASS   |
| Antenna Conducted Band Edge Emissions   | 15.247(d)/15.209 | 2390 MHz Level: -40.32dBc<br>2483.5 MHz Level: -38.30 dBc                                                                            | <-30dBc                                    | PASS   |
| Antenna Conducted Spurious Emissions    | 15.247(d)/15.209 | Highest Fundamental: 2437 MHz, 122.93 dBuV<br>Highest Spurious: 2411.29MHz, -56.94 dBc,                                              | <-30dBc                                    | PASS   |
| Tx Radiated Band Edge Emissions         | 15.247(d)/15.209 | 2390 MHz Level: -35.5dBc(PK), -38.4(AV)<br>2400 MHz Level: -30.13dBc(PK), -32.71(AV)<br>2483.5 MHz Level: -45.42 dBc(PK), -44.98(AV) | <-30dBc                                    | PASS   |
| Tx Radiated Spurious Emissions          | 15.247(d)/15.209 | Highest Fundamental: 2452 MHz, 90.56 dBuV/m<br>Highest Spurious: 550.0MHz, -9.23dB                                                   | <-30dBc                                    | PASS   |
| RF connector                            | FCC 15.203       | Integral Antenna                                                                                                                     | Integral Antenna or non-standard connector | PASS   |
| Radiated Emission                       | 15.109           | Highest Emissions: 47.83MHz, 37.6 dBuV/m, -2.4 dB, Vertical Polarization                                                             | Refer to Standard                          | PASS   |
| AC Conducted Emission                   | 15.107           | Highest Emissions: 0.209MHz, 49.67 dBuV, -4.62 dB, Line 2                                                                            | Refer to Standard                          | PASS   |
| Power Spectral Density                  | 15.247(e)        | -                                                                                                                                    | <8 dBm                                     | NP     |
| 6 dB Bandwidth                          | 15.247(a)(2)     | -                                                                                                                                    | >= 0.5MHz                                  | NP     |

NP=ATL was not contracted to perform the test.

There were no modifications to Body Camera, Dock was modified (please see details in section 7.0)

## 1.5 Test Facility Information

|                                |                                                                              |                                |                |                        |        |
|--------------------------------|------------------------------------------------------------------------------|--------------------------------|----------------|------------------------|--------|
| <b>Name</b>                    | Applied Test Lab Inc.                                                        |                                |                |                        |        |
| <b>Address</b>                 | Unit 4174-3961 52 <sup>nd</sup> Avenue NE, Calgary, Alberta, T3J 0J8, Canada |                                |                |                        |        |
| <b>Telephone</b>               | 403 590 8701                                                                 |                                | <b>Fax</b>     | 403 590 8570           |        |
| <b>Email</b>                   | emctesting@appliedtestlab.com                                                |                                | <b>Website</b> | www.appliedtestlab.com |        |
| <b>FCC Registration Number</b> | 950875                                                                       | <b>MRA Designation Number.</b> | CA0004         | <b>IC Recognition</b>  | 10988A |



## 1.6 Client Information

|                     |                                               |                      |                                                                  |
|---------------------|-----------------------------------------------|----------------------|------------------------------------------------------------------|
| <b>Name</b>         | <a href="#">L3 Mobile-Vision Inc.</a>         |                      |                                                                  |
| <b>Address</b>      | 400 Commons way, Suite F, Rockaway, NJ, 07866 |                      |                                                                  |
| <b>Telephone</b>    | 407 478 3636 ext)401                          | <b>Website</b>       | <a href="http://www.mobile-vision.com">www.mobile-vision.com</a> |
| <b>Contact Name</b> | Kurt Kessel                                   | <b>Contact Email</b> | <a href="mailto:Kurt.kessel@L3T.com">Kurt.kessel@L3T.com</a>     |



## 2.0 Test Sample Information

The **BWX-100 Camera System** was only operated and exercised in the mode(s) and configuration(s) described in this report. All inputs and outputs to and from support equipment associated with the **BWX-100 Camera System** were provided or simulated under the direction and responsibility of **L3 Mobile-Vision Inc.**. A description of these signals and their provision is included in Appendix A.

### 2.1 Equipment Under Test (EUT)

|                                                               |                                                                                                                                                                  |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCC ID                                                        | <b>2AOSO1M01831</b>                                                                                                                                              |
| Product Description                                           | Body Camera + Dock                                                                                                                                               |
| Manufacturer                                                  | <b>L3 Mobile-Vision Inc.</b>                                                                                                                                     |
| Model Number                                                  | <b>BWX-100 Camera System</b>                                                                                                                                     |
| Serial Number                                                 | <b>Camera:214, Dock:307</b>                                                                                                                                      |
| Model discrepancy/Variations                                  | N/A                                                                                                                                                              |
| Power Supply and Requirements                                 | POE or +5V AC/DC USB Adapter                                                                                                                                     |
| Firmware Version                                              | 1.5.95                                                                                                                                                           |
| Software Version                                              | N/A                                                                                                                                                              |
| Tx/Rx Channel Frequency Range                                 | 802.11b/g/n 2412MHz – 2462MHz                                                                                                                                    |
| Maximum Output Power to Antenna<br>(From original FCC Filing) | Ant. 1<br>802.11b: 17.96dBm(0.0625W)<br>802.11g: 20.59dBm(0.1146W)<br>802.11n HT20:20.56dBm(0.1138W)<br>802.11n HT40:20.22dBm(0.1052W)<br>Ant 2<br>Not installed |
| 99% Occupied Bandwidth<br>(From original FCC Filing)          | Ant.1<br>802.11b: 14.90MHz<br>802.11g:19.55MHz<br>802.11n HT20: 19.55MHz<br>802.11n HT40: 36.80MHz<br>Ant 2<br>Not installed                                     |
| Antenna Type and Gain                                         | Antenna 1(Chip antenna type,1.6 dBi)<br>Antenna 2<br>(Not installed)                                                                                             |
| Modulation type(s)                                            | 802.11b:DSSS(DBPSK/DQPSK/CCK),<br>802.11g/n:OFDM(BPSK/QPSK 16QAM/64QAM)                                                                                          |



|                                         |                                                                                       |                          |                          |
|-----------------------------------------|---------------------------------------------------------------------------------------|--------------------------|--------------------------|
| <b>Antenna Function for Transmitter</b> |                                                                                       | Chain<br>Ant. 1          | Chain<br>Ant. 2          |
|                                         | 802.11b                                                                               | <input type="checkbox"/> | <input type="checkbox"/> |
|                                         | 802.11g                                                                               | <input type="checkbox"/> | <input type="checkbox"/> |
|                                         | 802.11n HT20 SISO                                                                     | <input type="checkbox"/> | <input type="checkbox"/> |
|                                         | 802.11n HT20 MIMO                                                                     | <input type="checkbox"/> | <input type="checkbox"/> |
|                                         | 802.11n HT40 SISO                                                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| <b>Product Manufacturing Status</b>     | <input type="checkbox"/> Production Unit <input type="checkbox"/> Pre-Production Unit |                          |                          |

**2.2 Support Equipment and Details**☐ Applicable

| Manufacturer | Description     | Model No.     | Serial Number  | Other Info |
|--------------|-----------------|---------------|----------------|------------|
| ASUS         | Laptop          | S46CM-DH51-CA | 9N0BC395958383 | Emission   |
| HP           | Laptop          | Elite book    | PDXVC001X5UJ2N | Emission   |
| NETGEAR      | Ethernet router | FS108P        | 2HK1163E0191F  | Emission   |
| D-Link       | Ethernet router | DGS-1008P     | SY3L1H5001356  | Emission   |
| CUI Inc      | AC/DC adapter   | SWI10-5-N-138 | N/A            | Emission   |

**2.3 I/O Ports and Details**☐ Applicable

| Port Type | Description  | Filter Info | Shielding Info | Other Info |
|-----------|--------------|-------------|----------------|------------|
| USB       | C type       | No          | Shielded       | -          |
| USB       | Micro B Type | No          | Shielded       | -          |
| Ethernet  | Ethernet     | No          | Unshielded     | -          |

**2.4 I/O Cable Descriptions**☐ Applicable

| Cable Description | Length (m) | Port From       | Port To | Cable Type | Remarks  |
|-------------------|------------|-----------------|---------|------------|----------|
| USB cable         | 0.9        | AC/DC adapter   | EUT     | Shielded   | Emission |
| Ethernet cable    | >5         | Ethernet router | EUT     | Shielded   | Emission |



### 3.0 Test Facilities

#### Laboratory Location

The radiated and conducted emission test sites are located at the following address:

Applied Test Lab,  
Unit 4174, 3961-52 Ave N.E., Calgary, AB T3J 0J8

#### Laboratory Accreditation/Recognitions/Certifications

The Semi-Anechoic Chamber Test Site and Conducted Emission Site have been fully described, submitted to, and accepted by the FCC and Industry Canada for testing Interference by information technology equipment. In addition, ATL has implemented an interim in-house quality system which is based on the ISO 17025 standard and is actively pursuing to achieve its accreditation. The following certification numbers have been issued in recognition of the certifications:

FCC Registration Number: **950875**  
Industry Canada Lab Code: **IC 10988A**

| Country | Agency          | Accreditation/Certification                                          | LOGO                                                                                  |
|---------|-----------------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| USA     | FCC             | 3 (m) Semi-Anechoic Chamber to perform FCC Part 15/18 measurements   |  |
| Canada  | Industry Canada | 3 (m) Semi-Anechoic Chamber to perform ICES-004 and RSS measurements |  |

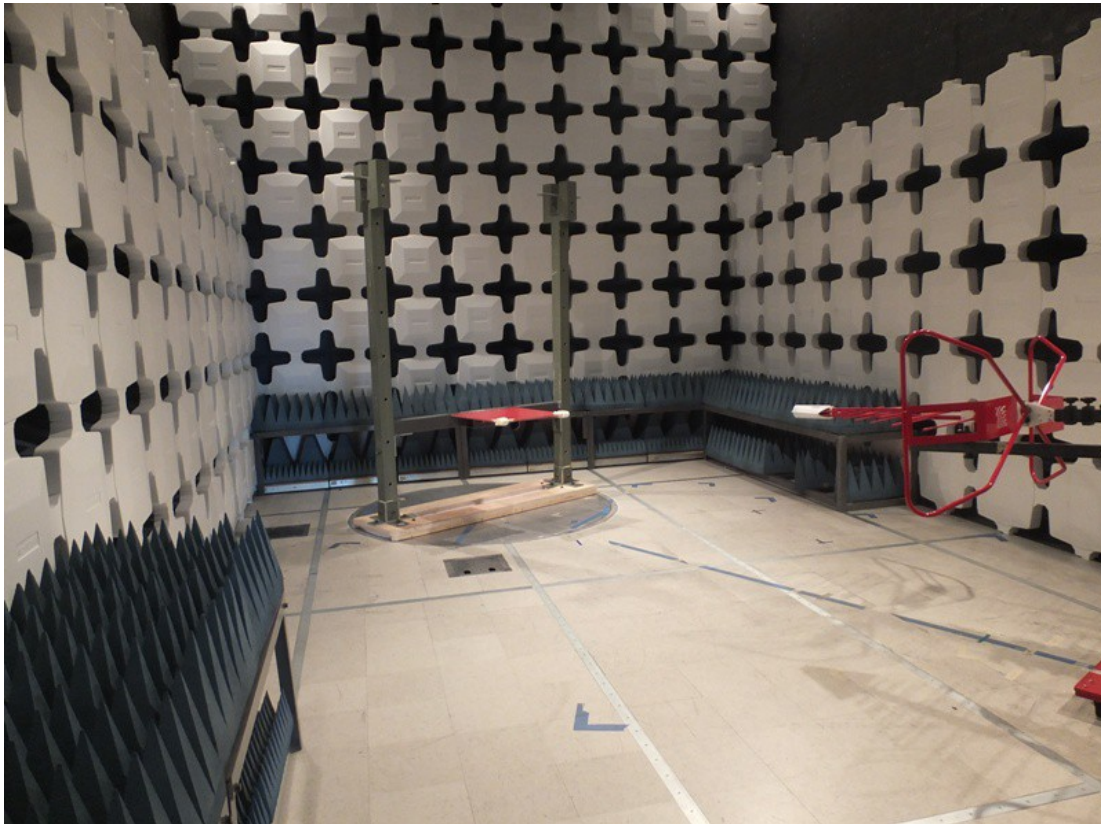
**Note:** Unless otherwise specified, ATL performs the tests using standard test methods to evaluate the EUT for compliance to the defined International standards. However, the report is not to be used to claim compliance, certification or endorsement by FCC or Industry Canada or any other government agency unless specifically submitted to such agency for such purpose.



### 3.1 Semi-Anechoic Chamber Test Site Description

The Semi-Anechoic Chamber Test Site consists of a 6.24 x 9.144 x 5.79 (m) shielded enclosure. The chamber is lined with SAMWAH Ferrite Grid Absorber, model number SN-20. The ferrite tile grid is 100 x 100x 6.7 (mm) thick and weighs approximately 200 (grams). These tiles are mounted on steel panels and installed directly on the inner walls of the chamber. Inner side Wall is lined by 600H Foam Absorber with White Cap. Chamber is illuminated by set of 12 Incandescent Bulbs.

The turntable is 198 (cm) in diameter and is located 160 (cm) from the back wall of the chamber. The chamber is grounded via Utility Ground installed at the side of the back East wall, it is bound to the Chamber ground Stud using 1/2" copper braided cable.

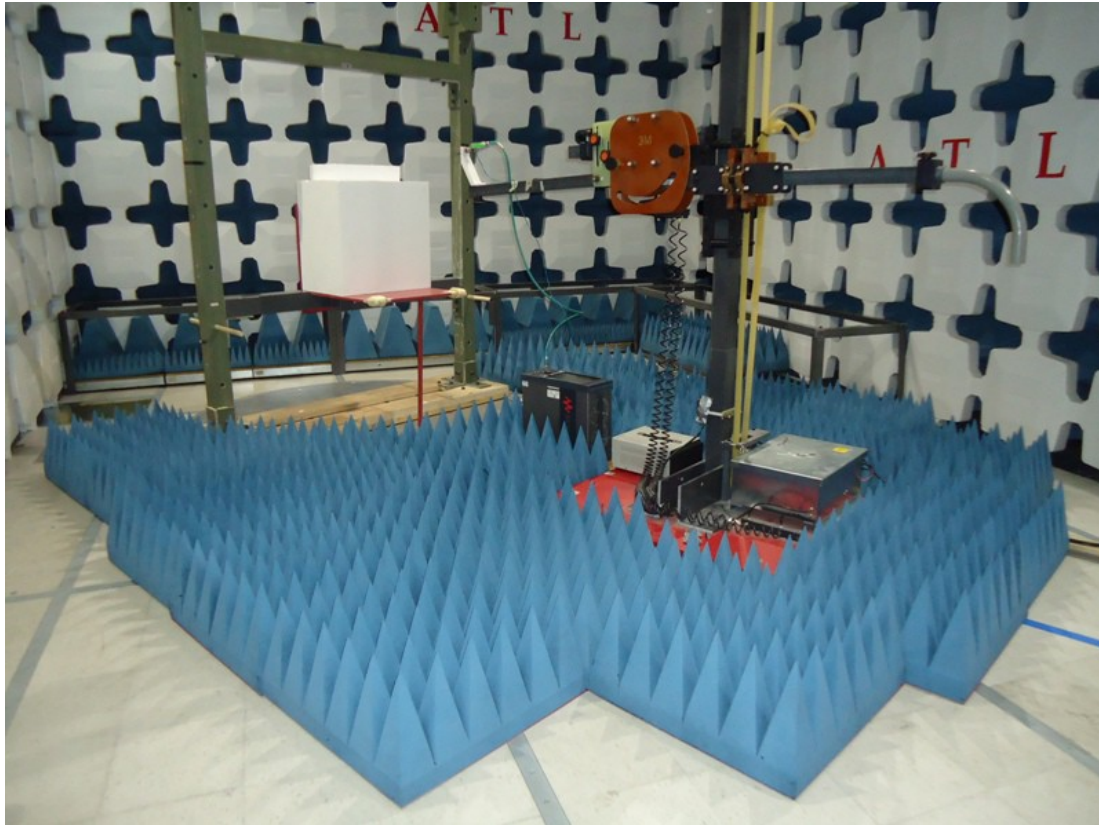


**Figure 3.1** - Test Facility (Setup for 30MHz - 1000MHz)



**Figure 3.2** - Test Facility (Setup for 1GHz - 18GHz)

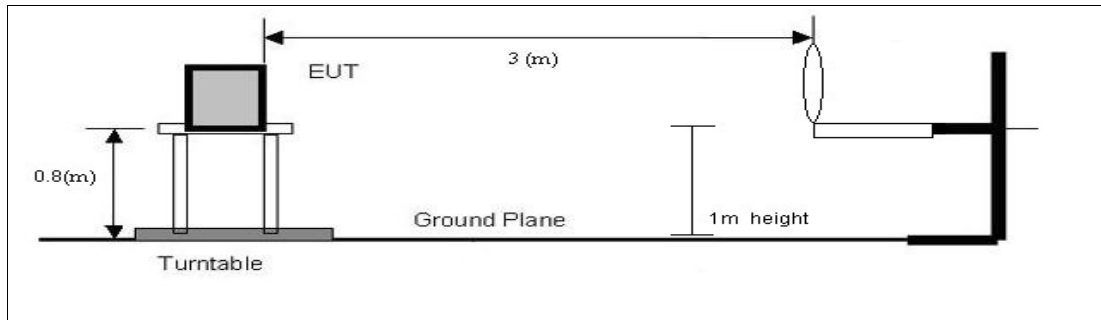
The turntable is all aluminum, flush mounted table installed in an all steel frame. The table is remotely operated from the control area located outside the Semi Anechoic Chamber. The turntable is electrically bonded to the surrounding ground plane via steel fingers installed on the edge of the turn table. The steel fingers make constant contact with the ground plane during operation.



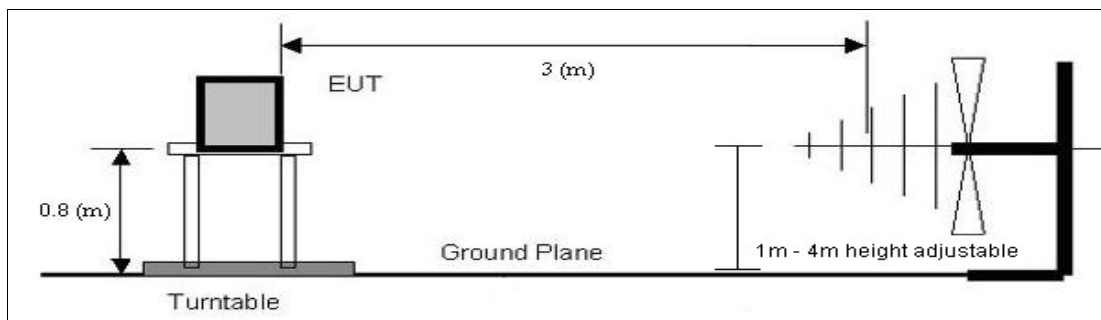
**Figure 3.3 - Test Facility (Setup for 18GHz - 26GHz)**



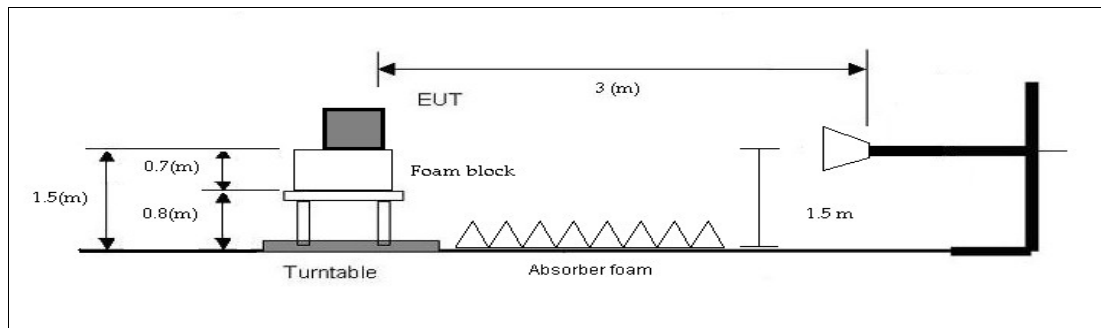
### 3.2 A diagram of the Semi-Anechoic Chamber Test Site



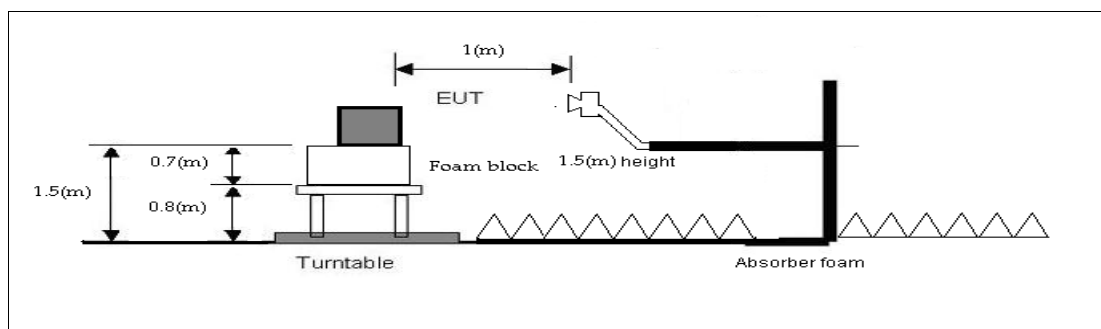
**Figure 3.4** - Semi- Anechoic chamber diagram(0.009MHz - 30MHz)



**Figure 3.5** - Semi- Anechoic chamber diagram(30MHz - 1000MHz)



**Figure 3.6** - Semi- Anechoic chamber diagram(1000MHz - 18000MHz)



**Figure 3.7** - Semi- Anechoic chamber diagram(18000MHz - 26000MHz)



### 3.3 Test Equipment List

**Table 3.1** - Test Equipment used for Radiated Emission

| Description                      | Manufacturer          | Model Number                   | Serial Number             | Next Cal          |
|----------------------------------|-----------------------|--------------------------------|---------------------------|-------------------|
| Bi-Log antenna                   | ETS Lindgren          | 3142E                          | 144760                    | April 29, 2018    |
| Double Ridged Horn               | ETS Lindgren          | 3117                           | 143094                    | May 5, 2019       |
| Spectrum Analyzer                | Hewlett Packard       | Hp8593EM                       | 3639A00172                | February 18, 2018 |
| EMI Receiver & RF filter section | Hewlett Packard       | 8546A, 85460A                  | 3448A00267,<br>3448A00245 | May 13, 2018      |
| MXA Signal Analyzer              | Keysight              | N9020B-526                     | SG56080714                | October 13, 2019  |
| Cable                            | Micro Coax UTIFLEX    | UFB293C                        | 303                       | PV                |
| Cable                            | Micro Coax UTIFLEX    | UFB311A                        | SFC220863                 | PV                |
| Cable                            | Micro Coax UTIFLEX    | UFA210B-0-0120-50250           | 96G1557                   | PV                |
| Turntable                        | ETS Lindgren          | 2187                           | NA                        | NCR               |
| Antenna Bore-sight Mast          | ETS Lindgren          | 2071B                          | 136243                    | NCR               |
| Multi Device Controller          | ETS Lindgren          | ETS 2090                       | 148017                    | NCR               |
| 3 Meter chamber                  | ETS Lindgren          | FACT 3-2.0                     | N/A                       | March 27, 2018    |
| LNA                              | MITEQ                 | AMF-7D-01001800-22-10P         | 1782797                   | PV                |
| LNA                              | Wenteq Microwave CORP | ABL0300-00-4030                | N/A                       | PV                |
| DC power supply                  | Instek                | PC-3030                        | 9503310                   | PV                |
| Test SW                          | DVT Solutions Inc     | REDvtAtIV3p29.exe - (20170610) |                           |                   |

**NOTE:** The measurement uncertainty is less than +/- 4.4 (dB) which is evaluated as per the NAMAS NIS 81 and CISPR 16-4-2

**NCR:** No Calibration required.

**PV:** Periodic Verification

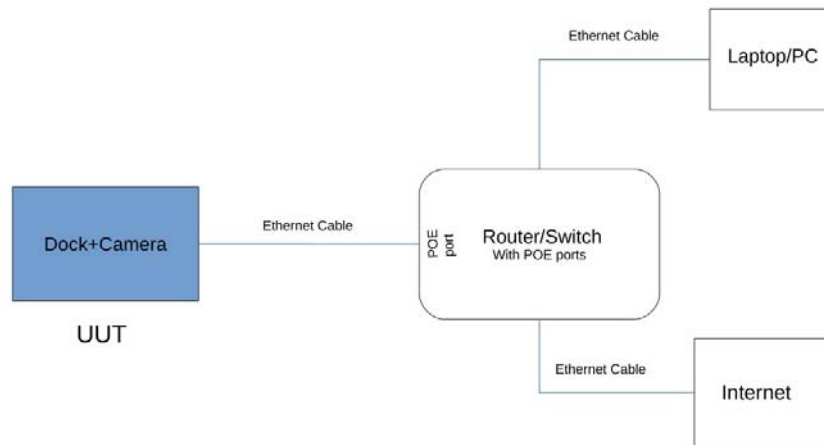


## 4.0 Test Setup Description

### 4.1 EUT System Block Diagram and Support Equipment

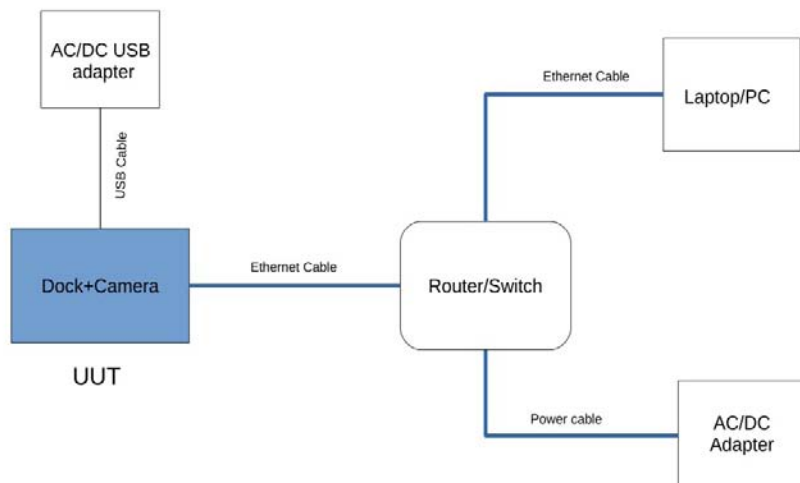
☐ Applicable

#### UUT powered with POE (Power-Over-Ethernet)



**Figure 4.1a** - EUT System Block Diagram and Support Equipment

#### UUT connected with Standard AC/DC USB Adapters



**Figure 4.1b** - EUT System Block Diagram and Support Equipment



## 5.0 Test Methodology

### 5.1 Method of measurement of conducted disturbance

Conducted Emission measurements were made over the frequency range of 150 (kHz) to 30 (MHz). The software is programmed to perform a peak sweep of the frequency band using the max hold function. This sweep is performed for every power conductor of the power line. During the sweep measurement the Spectrum Analyzer/Receiver's resolution bandwidth set to 9 (kHz) and the video bandwidth set to 30 (kHz). Although not a fully maximized scan, this type of scan provides emission data with a good indication of pass or fail.

Quasi- Peak measurements are taken with the Spectrum Analyzer/Receiver's resolution bandwidth set to 9 (kHz) and Video Bandwidth set to 30 (kHz). Average measurements are taken with the resolution bandwidth set to 9 (kHz) and the video bandwidth set to 30 (kHz): The calculation for the radiated emission field strength is as follows:

$$\begin{aligned}\text{Corrected Reading (dBuV)} &= \text{Analyzer/Receiver Reading(dBuV)} + \text{Correction Factor (dB)} \\ \text{Correction Factor (dB)} &= \text{LISN Insertion Loss(dB)} + \text{Cable Insertion Loss(dB)} + \text{Transient Limiter Insertion Loss(dB)} \\ \text{Margin(dB)} &= \text{Corrected Reading(dBuV)} - \text{Applicable Limit(dBuV)}\end{aligned}$$

### 5.2 Method of measurement of radiated disturbance

#### Measurement below 1 (GHz)

Measurements shall be made with a quasi-peak measuring receiver in the frequency range 30 (MHz) to 1000 (MHz). To reduce the testing time, a peak measuring receiver may be used instead of a quasi-peak measuring receiver. In case of dispute, measurement with a quasi-peak measuring receiver will take precedence.

The quasi-peak measuring receiver shall be in accordance with Clause 4 of CISPR 16-1-1. Receivers with peak detectors shall be in accordance with Clause 5 of CISPR 16-1-1 and shall have a 6 (dB) bandwidth in accordance with Clause 4 of CISPR 16-1-1. The antenna shall be a balanced dipole. For frequencies of 80 (MHz) or above, the antenna shall be resonant in length, and for frequencies below 80 (MHz) it shall have a length equal to the 80 (MHz) resonant length. Further detailed information is given in Clause 4 of CISPR 16-1-4.

Of those disturbances above ( $L - 20$  dB), where  $L$  is the limit level in logarithmic units, record at least the disturbance levels and the frequencies of the six highest disturbances. Record the antenna polarization for each reported disturbance.

The software is programmed to perform a peak sweep of the frequency band using the max hold function. This sweep is performed every 22.5 (deg) in both horizontal and vertical polarities and at antenna heights of 100, 200 300 and 400 (cm). Although not a fully maximized scan, this type of scan provides emission data with a good indication of pass or fail.



### Measurement above 1 (GHz)

The measurement instrumentation shall be as specified in CISPR 16-1-1.

The measuring antennas shall be as specified in 4.6 of CISPR 16-1-4.

The measuring site shall be as specified in 8 of CISPR 16-1-4.

The measurement method shall be as specified in 7.3 of CISPR 16-2-3.

The peak detector limits shall not be applied to disturbances produced by arcs or sparks that are high voltage breakdown events. Such disturbances arise when ITE devices contain or control mechanical switches that control current in inductors, or when ITE devices contain or control subsystems that create static electricity (such as paper handling devices). The average limits apply to disturbances from arcs or sparks, and both peak and average limits will apply to other disturbances from such ITE devices.

### Compliance Scans

Radiated emission measurements were made over the frequency range of 30 (MHz) to 1000 (MHz). Quasi-peak measurements are taken with the Spectrum Analyzer/Receiver 's Resolution Bandwidth set to 120 (kHz) and Video Bandwidth set to 300 (kHz) for measurements below 1 (GHz). Average measurements are taken with the Resolution Bandwidth set to 1 (MHz) and the Video Bandwidth set to 1 (MHz) for measurements above 1000 (MHz). For unintentional radiators other than ITE, for each of the frequencies to which the device is tuned, the frequency and amplitude of the six highest radiated emissions relative to the limit and the operating frequency, or frequency to which the EUT is tuned (if appropriate), shall be reported unless such emissions are more than 20 (dB) below the limit. If less than the specified number (less than six) emissions are within 20 (dB) of the limit, the noise level of the measuring instrument at representative frequencies shall be reported.

The polarization of the measurement antenna (horizontal or vertical) shall be identified for each of the reported emissions. Radiated emission measurements taken at alternative distances are to be converted to the limit distance using the inverse distance relationship, unless data can be presented to validate a different conversion. At a reported frequency, the polarization with the highest level shall be reported. The calculation for the radiated emission field strength is as follows:

$$\text{Corrected Reading (dBuV/m)} = \text{Analyzer/Receiver Reading(dBuV)} + \text{Correction Factor(dB/m)}$$

$$\text{Correction Factor (dB/m)} = \text{Cable Loss(dB)} + \text{Antenna Factor(dB/m)}$$

$$\text{Margin (dB)} = \text{Corrected Reading(dBuV/m)} - \text{Applicable Limit(dBuV/m)}$$



### 5.3 Test Criteria

#### 5.3.1 Conducted Emission Limits FCC 15.107

**Class A:** An ITE meeting the conditions for Class A operation shall comply with the Class A conducted limits set out in Table 5.1. ☐ **Applicable**

**Table 5.1 - Class A Conducted Emission Limits (FCC)**

| Emission Type      | Frequency Range (MHz) | FCC (dBuV) |         |
|--------------------|-----------------------|------------|---------|
|                    |                       | Quasi-peak | Average |
| Conducted Emission | 0.15 - 0.5            | 79         | 66      |
|                    | 0.5 - 30              | 73         | 60      |

**Class B:** An ITE meeting the conditions for Class B operation shall comply with the Class B conducted limits set out in Table 5.2. ☐ **Applicable**

**Table 5.2 - Class B Conducted Emission Limits (FCC)**

| Emission Type      | Frequency Range (MHz) | FCC (dBuV)      |                 |
|--------------------|-----------------------|-----------------|-----------------|
|                    |                       | Quasi-peak      | Average         |
| Conducted Emission | 0.15 - 0.5            | 66 linear to 56 | 56 linear to 46 |
|                    | 0.5 - 5               | 56              | 46              |
|                    | 5 - 30                | 60              | 50              |

**5.3.2 Radiated Emission Limits FCC 15.109 at a distance of 3 (m)**

Radiated emission from an ITE shall be measured from the lowest frequency generated, or used, in the device or 30 (MHz), whichever is higher, up to the frequency determined in accordance with Table 5.3

**Table 5.3 - Frequency Range of Measurement**

| Highest Frequency Generated or Used in Device | Upper Frequency of Radiated Measurement                                   |
|-----------------------------------------------|---------------------------------------------------------------------------|
| Below 1.705 MHz                               | No radiated testing required                                              |
| 1.705 MHz - 108 MHz                           | 1000 (MHz)                                                                |
| 108 MHz - 500 MHz                             | 2000 (MHz)                                                                |
| 500 MHz - 1000 MHz                            | 5000 (MHz)                                                                |
| Above 1000M Hz                                | 5th harmonic of the highest frequency or 40000 (MHz), whichever is lower. |

**Class A:** An ITE meeting the conditions for Class A operation defined in Section 1.3 shall comply with the Class A radiated limits set out in Table 5.4 determined at a distance of 3 (m).

☐ **Applicable****Table 5.4 - Class A Radiated Emission Limits(FCC)**

| Emission Type     | Frequency Range (MHz) | FCC @ 3 (m) (dBuV/m) |         |
|-------------------|-----------------------|----------------------|---------|
|                   |                       | Quasi-peak           | Average |
| Radiated Emission | 30 - 88               | 49.54                | -       |
|                   | 88 - 216              | 53.98                | -       |
|                   | 216 - 960             | 56.90                | -       |
|                   | 960 - 1000            | 60                   | -       |
|                   | Above 1000            | -                    | 60      |

**Class B:** An ITE that does not meeting the conditions for Class A operation shall comply with the Class B radiated limits set out in Table 5.5 determined at a distance of 3 (m).

☐ **Applicable****Table 5.5 - Class B Radiated Emission Limits (FCC)**

| Emission Type     | Frequency Range (MHz) | FCC @ 3 (m) (dBuV/m) |         |
|-------------------|-----------------------|----------------------|---------|
|                   |                       | Quasi-peak           | Average |
| Radiated Emission | 30 - 88               | 40                   | -       |
|                   | 88 - 216              | 43.52                | -       |
|                   | 216 - 960             | 46.02                | -       |
|                   | 960 - 1000            | 53.89                | -       |
|                   | Above 1000            | -                    | 53.98   |

**5.3.3 Radiated Emission Limits FCC Part 15.209/15.247(d) at a distance of 3 (m)****Frequency range of radiated measurements.**

(a) Unless otherwise noted in the specific rule section under which the equipment operates for an intentional radiator the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in this paragraph:

- (1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
- (2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
- (3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.
- (4) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a)(1)-(a)(3) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this Section, whichever is the higher frequency range of investigation.

☐ **Applicable****Table 5.6 - Radiated Emission Part 15.209 Limits(FCC)**

| Emission Type     | Frequency Range (MHz) | FCC @ 3 (m)<br>(dBuV/m) |                |
|-------------------|-----------------------|-------------------------|----------------|
|                   |                       | Quasi-peak              | Average        |
| Radiated Emission | 0.009 - 0.490         | -                       | 128.52 to 93.8 |
|                   | 0.490 – 1.705         | -                       | 73.8 to 62.97  |
|                   | 1.705 - 30            | -                       | 69.54          |
|                   | 30 - 88               | 40                      | -              |
|                   | 88 - 216              | 43.52                   | -              |
|                   | 216 - 960             | 46.02                   | -              |
|                   | 960 - 1000            | 53.98                   | -              |
|                   | Above 1000            | -                       | 53.98          |
|                   | 2400 – 2483.5         | -                       | 137            |



## 6.0 Test Results

### 6.1 FCC 15.247(b)(3) Power Output (2400-2483.5MHz DTS)

☐ Applicable

Table 6.1 – Power Output(2400-2483.5MHz DTS) information

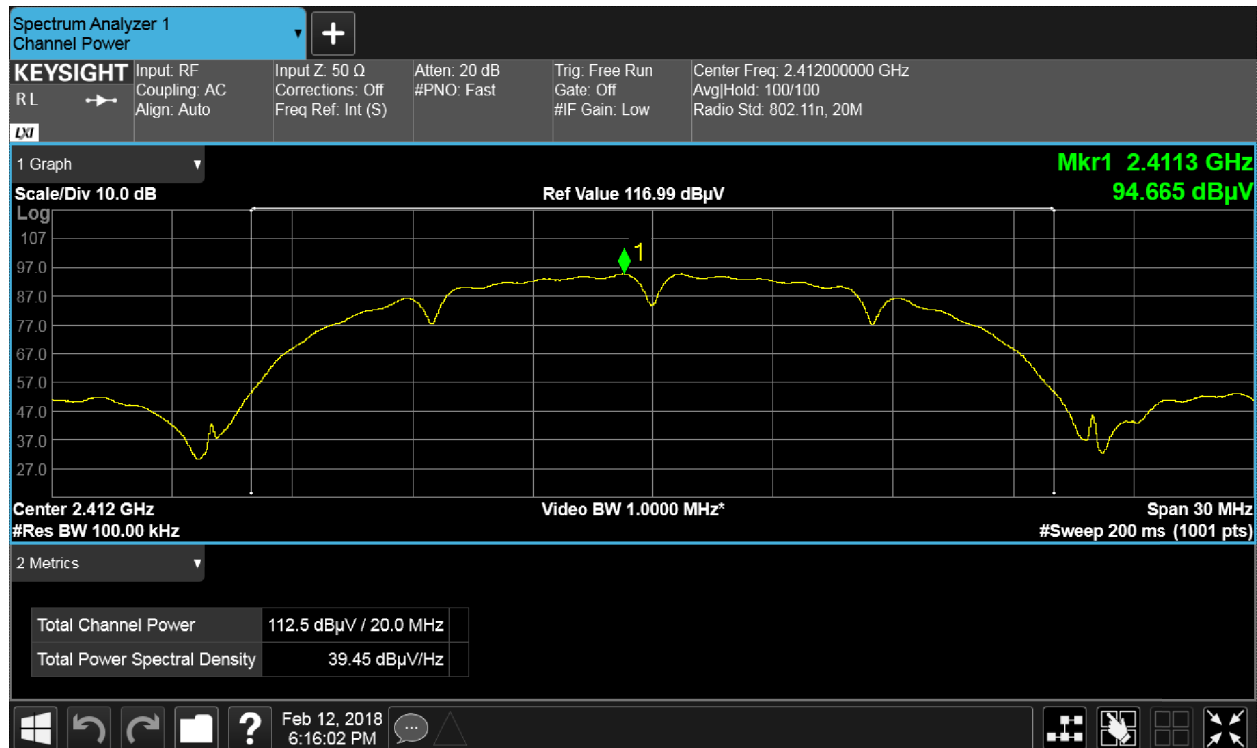
|                        |                                                                                                                                                                                                                                                                                     |                |                    |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------|
| CLIENT:                | L3 Mobile-Vision Inc.                                                                                                                                                                                                                                                               | TEST STANDARD: | FCC 15.247(b)(3)   |
| MODEL NUMBER:          | BWX-100 Camera System                                                                                                                                                                                                                                                               | PRODUCT:       | Body Camera + Dock |
| SERIAL NUMBER:         | Camera:214, Dock:307                                                                                                                                                                                                                                                                | CLASS:         | FCC 15.247         |
| TEMPERATURE:           | 20°C                                                                                                                                                                                                                                                                                | HUMIDITY:      | 20%                |
| TESTED BY:             | Taekyun Kim                                                                                                                                                                                                                                                                         | DATE OF TEST:  | 2018-02-12         |
| TEST REFERENCE:        | ANSI C63.10(2013), KDB 558074(April 5, 2017)                                                                                                                                                                                                                                        |                |                    |
| TEST VOLTAGE:          | 3.42VDC, 3.85VDC, 4.2VDC                                                                                                                                                                                                                                                            |                |                    |
| SETUP:                 | The EUT is DC powered through a DC power supply.<br><br>The EUT is continuously transmitting. Low, Mid and High channels as well as all data rates were investigated, worst case data reported. The EUT was fitted with a temporary antenna port for direct conducted measurements. |                |                    |
| FREQUENCY RANGE        | Fundamental                                                                                                                                                                                                                                                                         |                |                    |
| FREQUENCY TESTED:      | 2412MHz, 2437MHz, 2462MHz                                                                                                                                                                                                                                                           |                |                    |
| FIRMWARE POWER SETTING | Max power                                                                                                                                                                                                                                                                           |                |                    |
| EUT FIRMWARE           | 1.5.95                                                                                                                                                                                                                                                                              |                |                    |
| MODULATION/DATA RATE   | All data rates were investigated, 1Mbps data rate was found to be worst case.                                                                                                                                                                                                       |                |                    |
| ANTENNA TYPE/GAIN      | Antenna 1<br>Chip antenna type, 1.6 dBi<br>Antenna 2<br>Not installed                                                                                                                                                                                                               |                |                    |
| DUTY CYCLE             | 100%                                                                                                                                                                                                                                                                                |                |                    |
| RESULTS:               | PASS                                                                                                                                                                                                                                                                                |                |                    |


**Table 6.2 – Test Data Summary – Voltage Variations**

| Voltage Variations |              |               |               |              |                                 |
|--------------------|--------------|---------------|---------------|--------------|---------------------------------|
| Frequency (MHz)    | Modulation   | 3.42VDC (dBm) | 3.85VDC (dBm) | 4.2VDC (dBm) | Max Deviation from 3.85VDC (dB) |
| 2412               | 1M Data Rate | 15.60         | 15.69         | 15.79        | 0.1                             |
| 2437               | 1M Data Rate | 15.90         | 15.93         | 15.87        | -0.06                           |
| 2462               | 1M Data Rate | 15.93         | 16.08         | 16.01        | -0.15                           |

**Table 6.3 – Power Output Test Data Summary – RF Conducted Measurement**

| Power Output Test Data Summary – RF Conducted Measurement |              |                       |                |             |        |
|-----------------------------------------------------------|--------------|-----------------------|----------------|-------------|--------|
| Frequency                                                 | Modulation   | Ant. Type/ Gain (dBi) | Measured (dBm) | Limit (dBm) | Result |
| 2412                                                      | 1M Data Rate | 1.6                   | 15.69          | 30          | PASS   |
| 2437                                                      | 1M Data Rate | 1.6                   | <b>15.93</b>   | 30          | PASS   |
| 2462                                                      | 1M Data Rate | 1.6                   | 16.08          | 30          | PASS   |


**Figure 6.1 – Channel 1, Data rate 1M Data.**

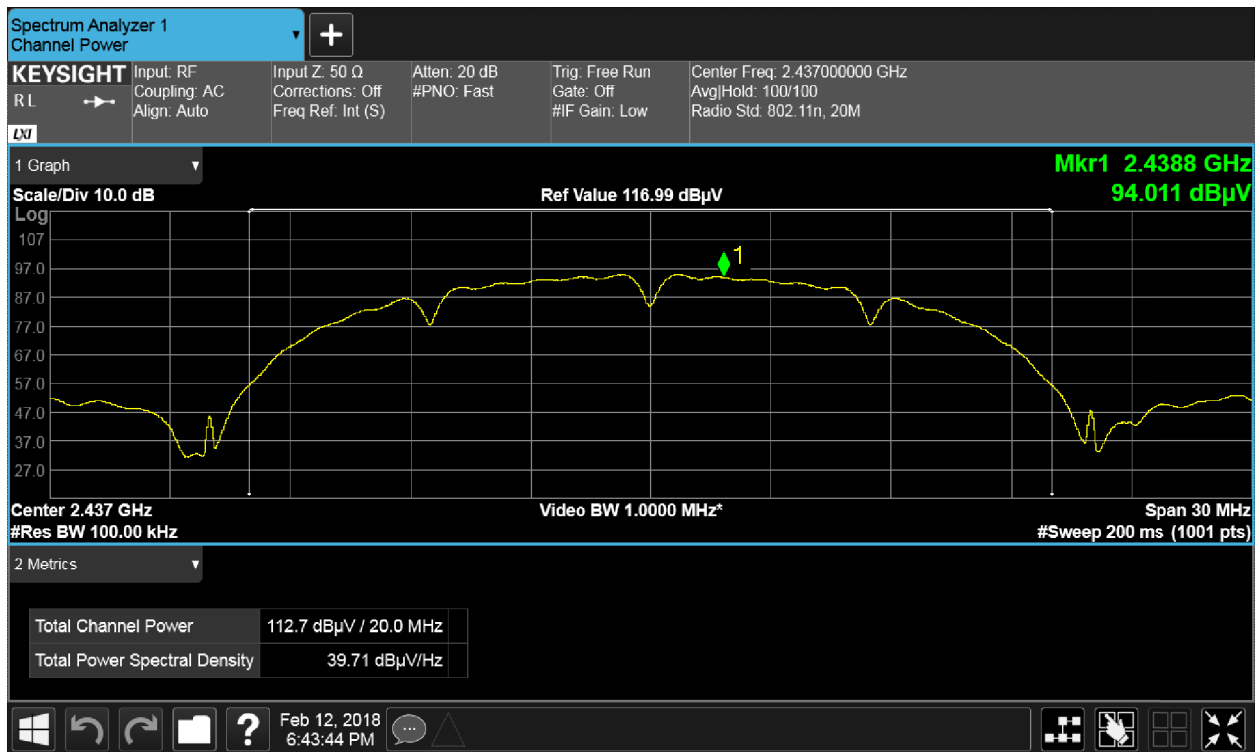


Figure 6.2 - Channel 6, Data rate 1M Data.

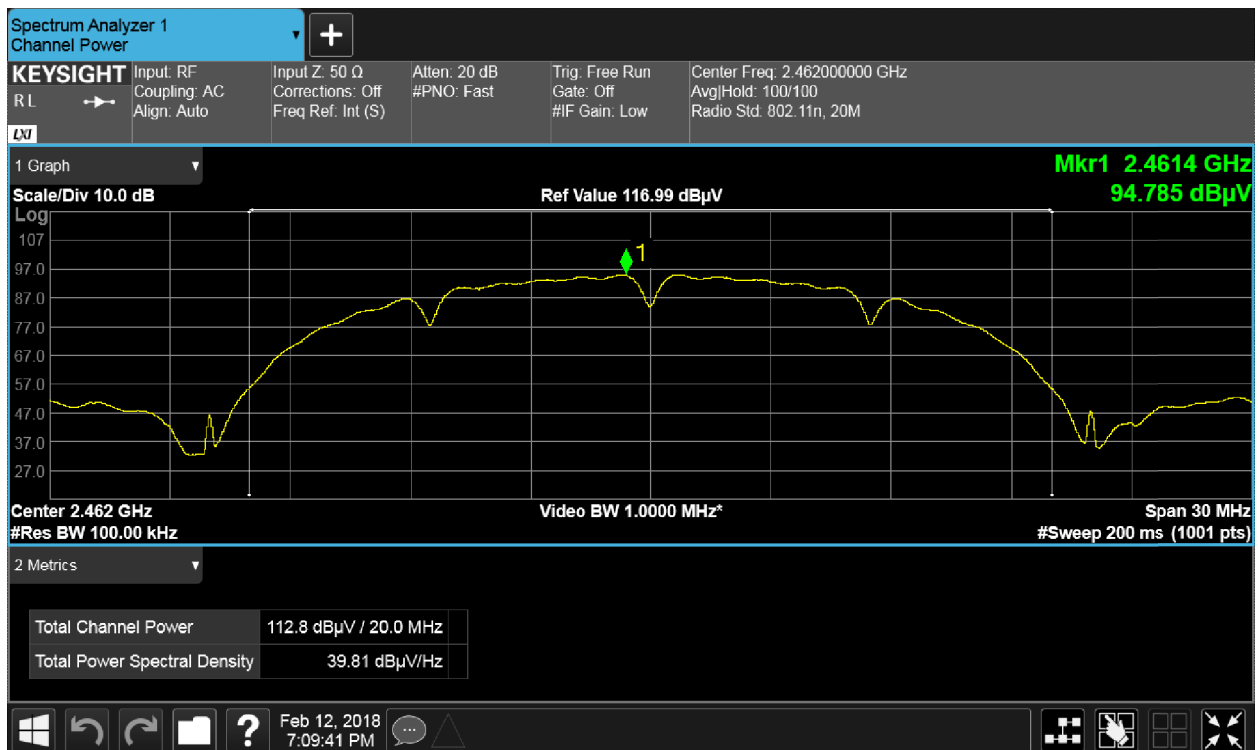
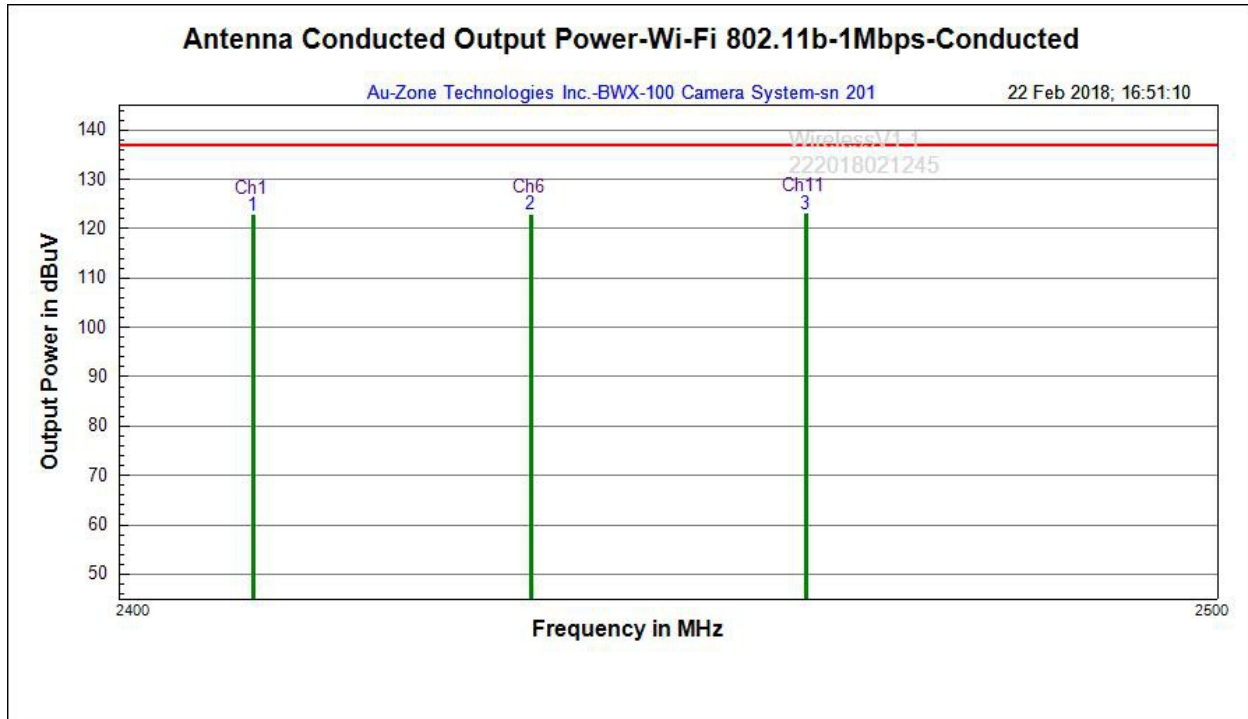


Figure 6.3 – Channel 11, Data rate 1M Data.



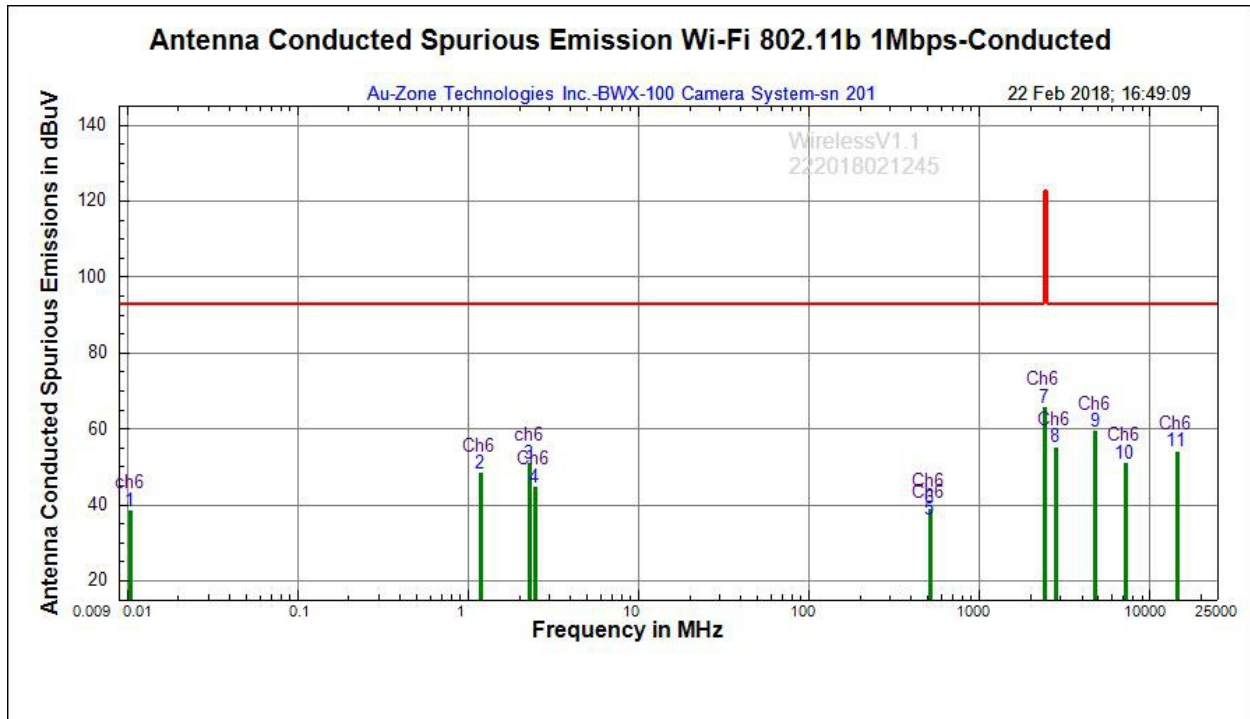
**Figure 6.4 - Conducted Out Put Power Emission(2400MHz - 2500MHz)**

**Table 6.4 – Conducted Output Power Emission measurement**

| Frequency (MHz) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV) | FCC 15.247(d) Limit (dBuV) | Margin (dB) |
|-----------------|-------------------------|------------------------|--------------------------|----------------------------|-------------|
| 2412            | 112.49                  | 10.2                   | 122.69                   | 137.00                     | -14.31      |
| 2437            | 112.73                  | 10.2                   | 122.93                   | 137.00                     | -14.07      |
| 2462            | 112.88                  | 10.2                   | 123.08                   | 137.00                     | -13.92      |

**6.2 FCC 15.247(d) RF Conducted Emissions & Band Edge**☐ **Applicable****Table 6.5** - Conducted Emission information (FCC 15.247(d))

|                               |                                                                                                                                                                                                                                                                                     |                       |                      |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|
| <b>CLIENT:</b>                | <b>L3 Mobile-Vision Inc.</b>                                                                                                                                                                                                                                                        | <b>TEST STANDARD:</b> | <b>FCC 15.247(d)</b> |
| <b>MODEL NUMBER:</b>          | <b>BWX-100 Camera System</b>                                                                                                                                                                                                                                                        | <b>PRODUCT:</b>       | Body Camera + Dock   |
| <b>SERIAL NUMBER:</b>         | <b>Camera:214, Dock:307</b>                                                                                                                                                                                                                                                         | <b>CLASS:</b>         | <b>FCC 15.247</b>    |
| <b>TEMPERATURE:</b>           | 20.5°C                                                                                                                                                                                                                                                                              | <b>HUMIDITY:</b>      | 14%                  |
| <b>TESTED BY:</b>             | Taekyun Kim                                                                                                                                                                                                                                                                         | <b>DATE OF TEST:</b>  | 2018-02-16           |
| <b>TESTREFERENCE:</b>         | ANSI C63.10(2013), KDB 558074(April 5, 2017)                                                                                                                                                                                                                                        |                       |                      |
| <b>TEST VOLTAGE:</b>          | 3.85VDC                                                                                                                                                                                                                                                                             |                       |                      |
| <b>SETUP:</b>                 | The EUT is DC powered through a DC power supply.<br><br>The EUT is continuously transmitting. Low, Mid and High channels as well as all data rates were investigated, worst case data reported. The EUT was fitted with a temporary antenna port for direct conducted measurements. |                       |                      |
| <b>FREQUENCY RANGE</b>        | Fundamental                                                                                                                                                                                                                                                                         |                       |                      |
| <b>FREQUENCY TESTED:</b>      | 2412MHz, 2437MHz, 2462MHz                                                                                                                                                                                                                                                           |                       |                      |
| <b>FIRMWARE POWER SETTING</b> | Max power                                                                                                                                                                                                                                                                           |                       |                      |
| <b>EUT FIRMWARE</b>           | 1.5.95                                                                                                                                                                                                                                                                              |                       |                      |
| <b>MODULATION/DATA RATE</b>   | All data rates were investigated, 1Mbps data rate was found to be worst case. (Conducted Spurious emission test case)<br>All data rates were investigated, MCS07-HT40 Data rate data rate was found to be worst case. (Conducted Band Edge test case)                               |                       |                      |
| <b>ANTENNA TYPE/GAIN</b>      | Antenna 1<br>Chip antenna type, 1.6 dBi<br>Antenna 2<br>Not installed                                                                                                                                                                                                               |                       |                      |
| <b>DUTY CYCLE</b>             | 100%                                                                                                                                                                                                                                                                                |                       |                      |
| <b>RESULTS:</b>               | <b>PASS</b>                                                                                                                                                                                                                                                                         |                       |                      |



**Figure 6.5 - Conducted Emission(9kHz - 25GHz)**

**Table 6.6 -Conducted Emission measurement information (FCC 15.247(d) )**

| Frequency (MHz) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV/m) | FCC 15.247(d) Limit (dBuV/m) | Margin (dB) |
|-----------------|-------------------------|------------------------|----------------------------|------------------------------|-------------|
| 0.0105          | 28.34                   | 10.2                   | 38.54                      | 88.61                        | -50.07      |
| 1.18            | 38.12                   | 10.2                   | 48.32                      | 88.61                        | -40.29      |
| 2.3008          | 40.84                   | 10.2                   | 51.04                      | 88.61                        | -37.57      |
| 2.4966          | 44.64                   | 10.2                   | 54.84                      | 88.61                        | -33.77      |
| 513.51          | 26.02                   | 10.2                   | 36.22                      | 88.61                        | -52.39      |
| 515.54          | 28.83                   | 10.2                   | 39.03                      | 88.61                        | -49.58      |
| 2411.29         | 55.59                   | 10.2                   | 65.79                      | 88.61                        | -22.82      |
| 2812.3          | 44.96                   | 10.2                   | 55.16                      | 88.61                        | -33.45      |
| 4824.119        | 49.14                   | 10.2                   | 59.34                      | 88.61                        | -29.27      |
| 7237.1949       | 40.88                   | 10.2                   | 51.08                      | 88.61                        | -37.53      |
| 14472.171       | 43.85                   | 10.2                   | 54.05                      | 88.61                        | -34.56      |



Table 6.7 – Band Edge information (FCC 15.247(d))

| Frequency (MHz) | Modulation           | Measured (dBm) | Limit (dBm) | Result |
|-----------------|----------------------|----------------|-------------|--------|
| 2390            | MCS07-HT40 Data rate | -48.32         | -31.4       | PASS   |
| 2400            | MCS07-HT40 Data rate | -37.11         | -31.4       | PASS   |
| 2483.5          | MCS07-HT40 Data rate | -49.75         | -31.4       | PASS   |

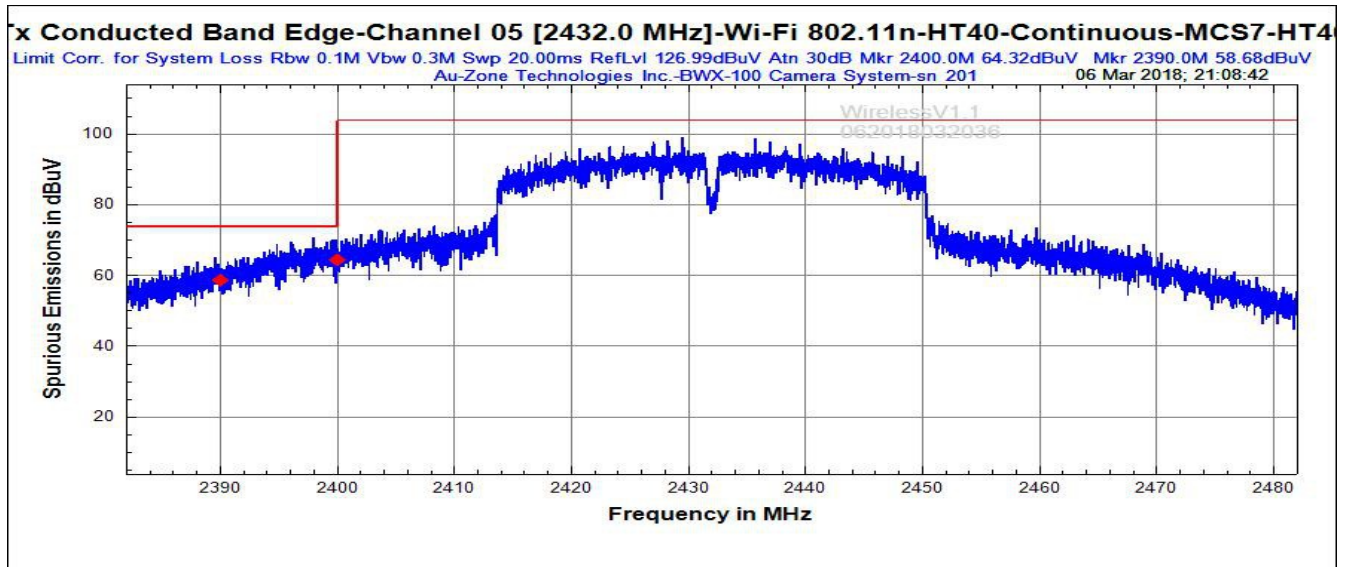


Figure 6.6 – Conducted Spurious Emissions(FCC Part 15,247(d))

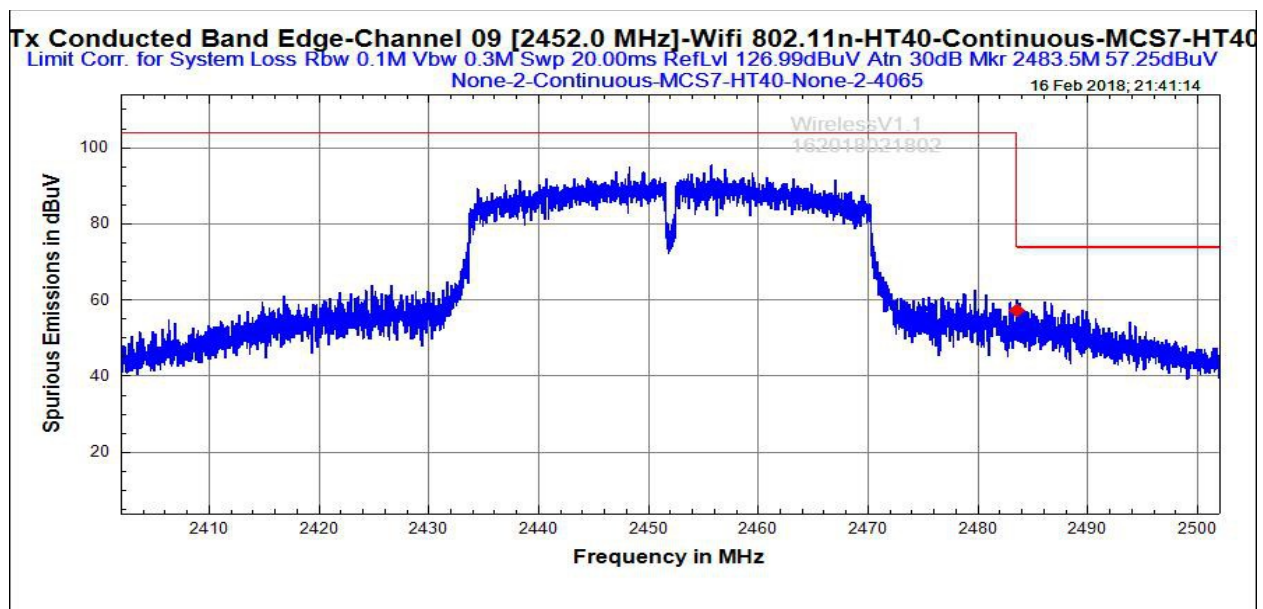


Figure 6.7 - Conducted Spurious Emissions(FCC Part 15,247(d))

**Table 6.8 - Conducted Spurious Emission information (FCC 15.247(d))**

|                               |                                                                                                                                                                                                                                                                                |                       |                      |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|
| <b>CLIENT:</b>                | <b>L3 Mobile-Vision Inc.</b>                                                                                                                                                                                                                                                   | <b>TEST STANDARD:</b> | <b>FCC 15.247(d)</b> |
| <b>MODEL NUMBER:</b>          | <b>BWX-100 Camera System</b>                                                                                                                                                                                                                                                   | <b>PRODUCT:</b>       | Body Camera + Dock   |
| <b>SERIAL NUMBER:</b>         | <b>Camera:214, Dock:307</b>                                                                                                                                                                                                                                                    | <b>CLASS:</b>         | <b>FCC 15.247</b>    |
| <b>TEMPERATURE:</b>           | 20.5°C                                                                                                                                                                                                                                                                         | <b>HUMIDITY:</b>      | 14%                  |
| <b>TESTED BY:</b>             | Taekyun Kim                                                                                                                                                                                                                                                                    | <b>DATE OF TEST:</b>  | 2018-02-16           |
| <b>TEST VOLTAGE:</b>          | 3.85VDC                                                                                                                                                                                                                                                                        |                       |                      |
| <b>SETUP:</b>                 | The EUT is DC powered through a DC power supply.<br><br>The EUT is continuously transmitting. Low and High channels as well as all data rates were investigated, worst case data reported. The EUT was fitted with a temporary antenna port for direct conducted measurements. |                       |                      |
| <b>FREQUENCY RANGE</b>        | Fundamental                                                                                                                                                                                                                                                                    |                       |                      |
| <b>FREQUENCY TESTED:</b>      | 2412MHz, 2462MHz                                                                                                                                                                                                                                                               |                       |                      |
| <b>FIRMWARE POWER SETTING</b> | Max power                                                                                                                                                                                                                                                                      |                       |                      |
| <b>EUT FIRMWARE</b>           | 1.5.95                                                                                                                                                                                                                                                                         |                       |                      |
| <b>MODULATION/DATA RATE</b>   | All data rates were investigated, 1M data rate was found to be worst case.                                                                                                                                                                                                     |                       |                      |
| <b>ANTENNA TYPE/GAIN</b>      | Antenna 1<br>Chip antenna type, 1.6 dBi)<br>Antenna 2<br>Not installed                                                                                                                                                                                                         |                       |                      |
| <b>DUTY CYCLE</b>             | 100%                                                                                                                                                                                                                                                                           |                       |                      |
| <b>RESULTS:</b>               | <b>PASS</b>                                                                                                                                                                                                                                                                    |                       |                      |

**Table 6.9 - Conducted Spurious Emission measurement**

| <b>Frequency (MHz)</b> | <b>Measured Reading (dBuV)</b> | <b>Correction Factor (dB)</b> | <b>Corrected Reading (dBuV)</b> | <b>FCC 15.247(d) Limit (dBuV)</b> | <b>Margin (dB)</b> |
|------------------------|--------------------------------|-------------------------------|---------------------------------|-----------------------------------|--------------------|
| 2400                   | 69.89                          | 10.2                          | 80.09                           | 75.6                              | -5.71              |
| 2483.5                 | 62.58                          | 10.2                          | 72.78                           | 75.6                              | -13.02             |

**6.3 FCC 15.247(d) Radiated Emission & Band Edge**☐ **Applicable****Table 6.10** - Radiated Spurious Emission information (FCC 15.247(d)/15.209)

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |                              |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------|
| <b>CLIENT:</b>                | <b>L3 Mobile-Vision Inc.</b>                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>TEST STANDARD:</b> | <b>FCC 15.247(d)/ 15.209</b> |
| <b>MODEL NUMBER:</b>          | <b>BWX-100 Camera System</b>                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>PRODUCT:</b>       | Body Camera + Dock           |
| <b>SERIAL NUMBER:</b>         | <b>Camera:214, Dock:307</b>                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>CLASS:</b>         | <b>FCC 15.247</b>            |
| <b>TEMPERATURE:</b>           | 23.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>HUMIDITY:</b>      | 20%                          |
| <b>TESTED BY:</b>             | Taekyun Kim                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>DATE OF TEST:</b>  | 2018-02-21                   |
| <b>TESTREFERENCE:</b>         | ANSI C63.10(2013), KDB 558074(April 5, 2017)                                                                                                                                                                                                                                                                                                                                                                                                         |                       |                              |
| <b>TEST VOLTAGE:</b>          | 3.85VDC                                                                                                                                                                                                                                                                                                                                                                                                                                              |                       |                              |
| <b>SETUP:</b>                 | The EUT is DC powered through AC/DC adapter.<br><br>The EUT is continuously transmitting. Low, Mid and High channels as well as all data rates were investigated, worst case data was reported. The EUT is fully exercised with communication and data transfer between the EUT and support laptop. Below 1GHz, the EUT is on the test table 80cm high. Above 1GHz, the EUT is on the test table 150cm high connected to the internal trace antenna. |                       |                              |
| <b>FREQUENCY RANGE</b>        | 9k - 26GHz                                                                                                                                                                                                                                                                                                                                                                                                                                           |                       |                              |
| <b>FREQUENCY TESTED:</b>      | 2412MHz, 2437MHz, 2462MHz                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |                              |
| <b>FIRMWARE POWER SETTING</b> | Max Power                                                                                                                                                                                                                                                                                                                                                                                                                                            |                       |                              |
| <b>EUT FIRMWARE</b>           | 1.5.95                                                                                                                                                                                                                                                                                                                                                                                                                                               |                       |                              |
| <b>MODULATION/DATA RATE</b>   | All data rates were investigated, 1Mbps data rate was found to be worst case. (Radiated Spurious emission case)<br>All data rates were investigated, MCS7-HT40, 2Mbps data rate was found to be worst case.(Radiated Band Edge case)                                                                                                                                                                                                                 |                       |                              |
| <b>ANTENNA TYPE/GAIN</b>      | Antenna 1<br>Chip antenna type, 1.6 dBi)<br>Antenna 2<br>Not installed                                                                                                                                                                                                                                                                                                                                                                               |                       |                              |
| <b>DUTY CYCLE</b>             | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |                              |
| <b>RESULTS:</b>               | <b>PASS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |                              |

**Table 6.11 - Radiated Emission - Horizontal Polarization Quasi-peak**

| Frequency (MHz) | Azimuth Angle (deg) | Antenna Height (cm) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV/m) | FCC 15.209 Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|---------------------|-------------------------|------------------------|----------------------------|---------------------------|-------------|
| 500             | 243.3               | 100                 | 1.59                    | 26.67                  | 28.26                      | 46.02                     | -17.76      |
| 550             | 312.3               | 160.3               | 2.22                    | 28.96                  | 31.18                      | 46.02                     | -14.84      |
| 952.1           | 23.4                | 141.3               | 1.45                    | 34.28                  | 35.73                      | 46.02                     | -10.29      |

**Table 6.12 - Radiated Emission - Vertical Polarization Quasi-peak**

| Frequency (MHz) | Azimuth Angle (deg) | Antenna Height (cm) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV/m) | FCC 15.209 Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|---------------------|-------------------------|------------------------|----------------------------|---------------------------|-------------|
| 500             | 172                 | 100                 | 5.12                    | 26.67                  | 31.79                      | 46.02                     | -14.23      |
| 550             | 12.4                | 100                 | 7.83                    | 28.96                  | 36.79                      | 46.02                     | -9.23       |
| 952.1           | 281.6               | 100                 | 1.56                    | 34.28                  | 35.84                      | 46.02                     | -10.18      |

**Table 6.13 - Radiated Emission - Horizontal Polarization AVG**

| Frequency (MHz) | Azimuth Angle (deg) | Antenna Height (cm) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV/m) | FCC 15. 209 Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|---------------------|-------------------------|------------------------|----------------------------|----------------------------|-------------|
| 2132.07         | 88.8                | 185                 | 56.76                   | -22.07                 | 34.69                      | 53.98                      | -19.29      |
| 4873.97         | 133.3               | 149.4               | 59.37                   | -17.7                  | 41.67                      | 53.98                      | -12.31      |

**Table 6.14 - Radiated Emission - Vertical Polarization AVG**

| Frequency (MHz) | Azimuth Angle (deg) | Antenna Height (cm) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV/m) | FCC 15. 209 Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|---------------------|-------------------------|------------------------|----------------------------|----------------------------|-------------|
| 2132.06         | 81.8                | 198.5               | 53.72                   | -22.07                 | 31.65                      | 53.98                      | -22.33      |
| 4873.97         | 249.1               | 170.8               | 57.09                   | -17.7                  | 39.39                      | 53.98                      | -14.59      |

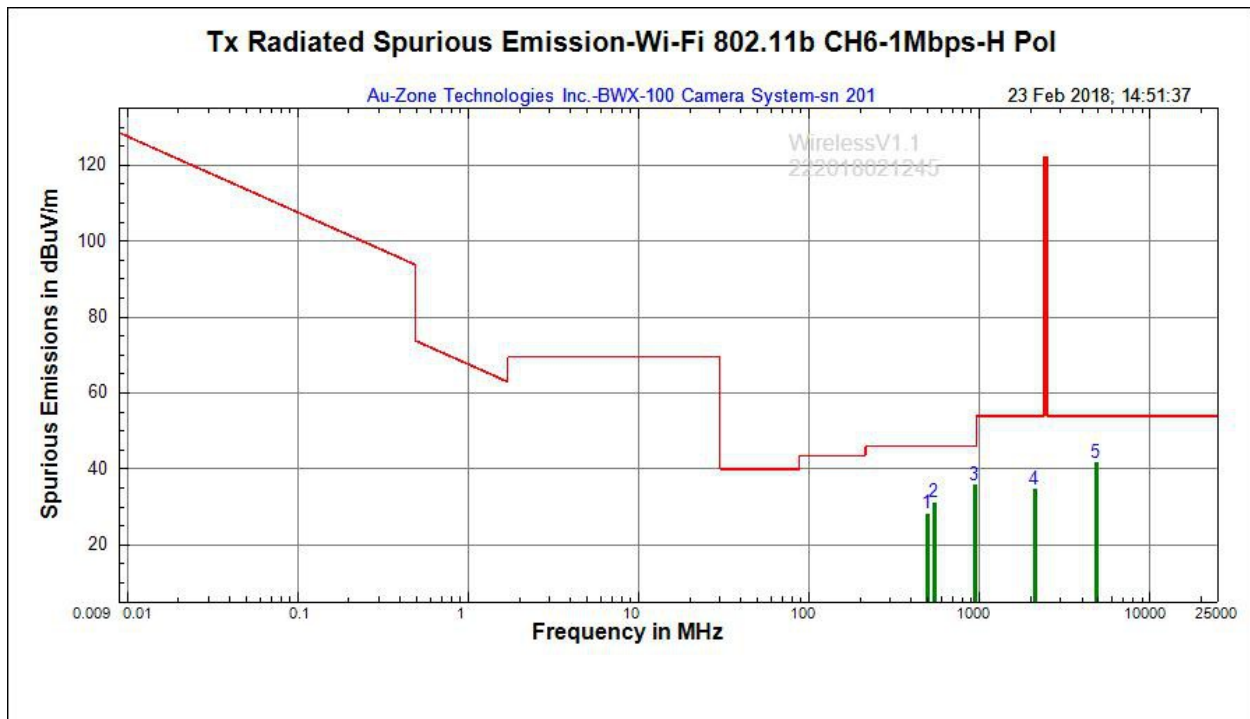


Figure 6.8 - Radiated Emission data(Ch 6, 1Mbps) -H-Pol

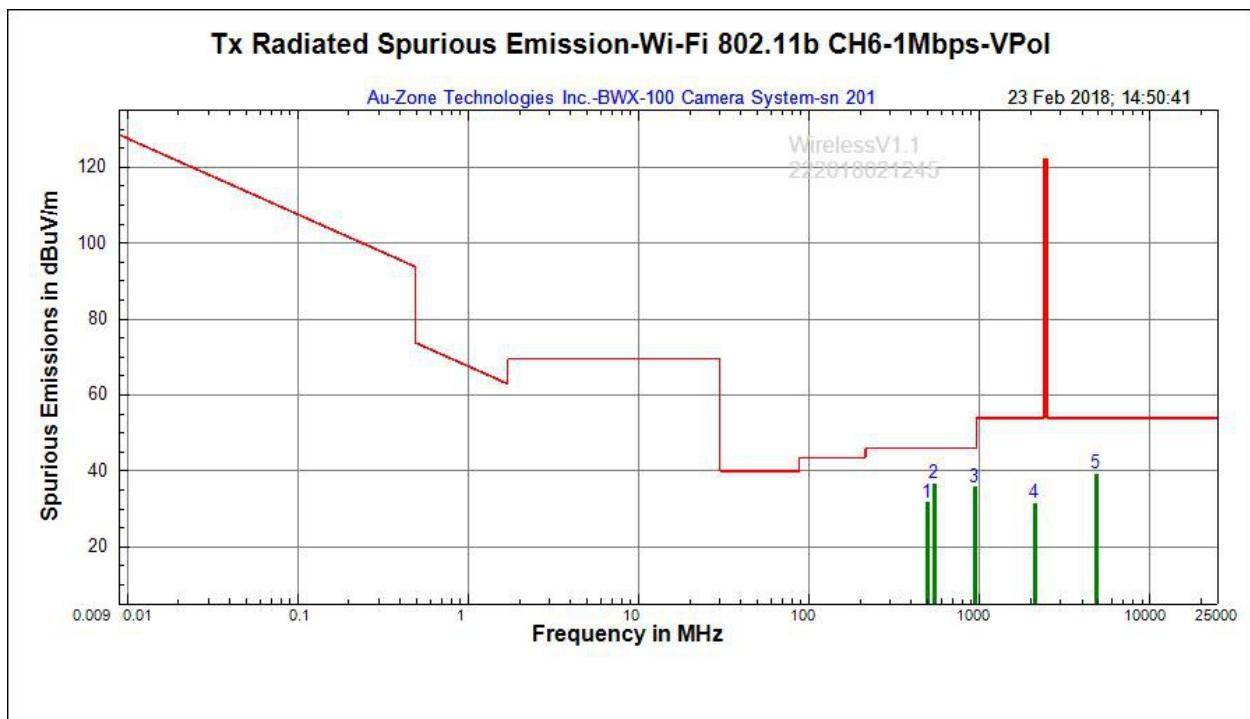


Figure 6.9 - Radiated Emission data(Ch 6, 1Mbps) – V-pol.

**Table 6.15a** – Band Edge information (FCC 15.247(d)) – MCS7-HT40, 2Mbps data

| Frequency (MHz) | Measurement (dBuV) | Factor (dB) | Field Strength (dBuV/m@ 3m) | Limit (dBuV/m @ 3m) | Margin (dB) | Detector | Result |
|-----------------|--------------------|-------------|-----------------------------|---------------------|-------------|----------|--------|
| 2390            | 56.06              | 4.11        | 60.17                       | 74                  | -13.83      | Peak     | PASS   |
| 2400            | 61.43              | 4.11        | 65.54                       | 97.8                | -32.26      | Peak     | PASS   |
| 2483.5          | 46.14              | 5.32        | 51.46                       | 74                  | -22.54      | Peak     | PASS   |
| 2390            | 46.46              | 4.11        | 50.57                       | 54                  | -3.43       | AVG      | PASS   |
| 2400            | 52.15              | 4.11        | 56.26                       | 77.8                | -21.54      | AVG      | PASS   |
| 2483.5          | 38.88              | 5.32        | 44.2                        | 54                  | -9.8        | AVG      | PASS   |

[NOTE] All data rates were investigated, worst case data (MCS7-HT40, 2Mbps) was reported.

**Table 6.15b** – Band Edge information (FCC 15.247(d)) – MCS7-HT40, 2Mbps data

| Frequency (MHz) | Measurement (dBuV) | Channel Peak Level (dBuV) | Band Edge Level (dBc) | Limit (dBc) | Margin (dB) | Detector | Result |
|-----------------|--------------------|---------------------------|-----------------------|-------------|-------------|----------|--------|
| 2390            | 56.06              | 91.56                     | -35.5                 | -30         | -5.5        | Peak     | PASS   |
| 2400            | 61.43              | 91.56                     | <b>-30.13</b>         | -30         | -0.13       | Peak     | PASS   |
| 2483.5          | 46.14              | 91.56                     | -45.42                | -30         | -15.42      | Peak     | PASS   |
| 2390            | 46.46              | 84.86                     | -38.4                 | -30         | -8.4        | AVG      | PASS   |
| 2400            | 52.15              | 84.86                     | <b>-32.71</b>         | -30         | -2.71       | AVG      | PASS   |
| 2483.5          | 38.88              | 84.86                     | -45.98                | -30         | -15.98      | AVG      | PASS   |

[NOTE] All data rates were investigated, worst case data (MCS7-HT40, 2Mbps) was reported.



☐ Applicable

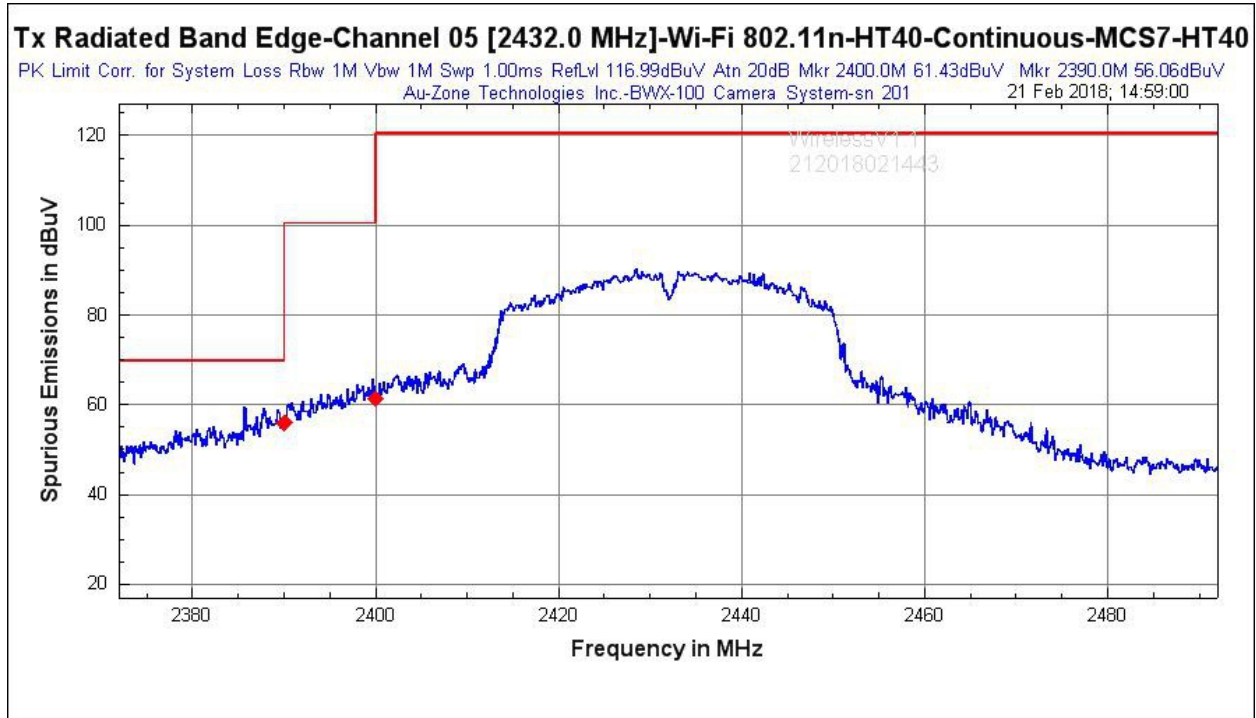


Figure 6.10 – Band edge data (Channel 5, MCS7-HT40, Peak)

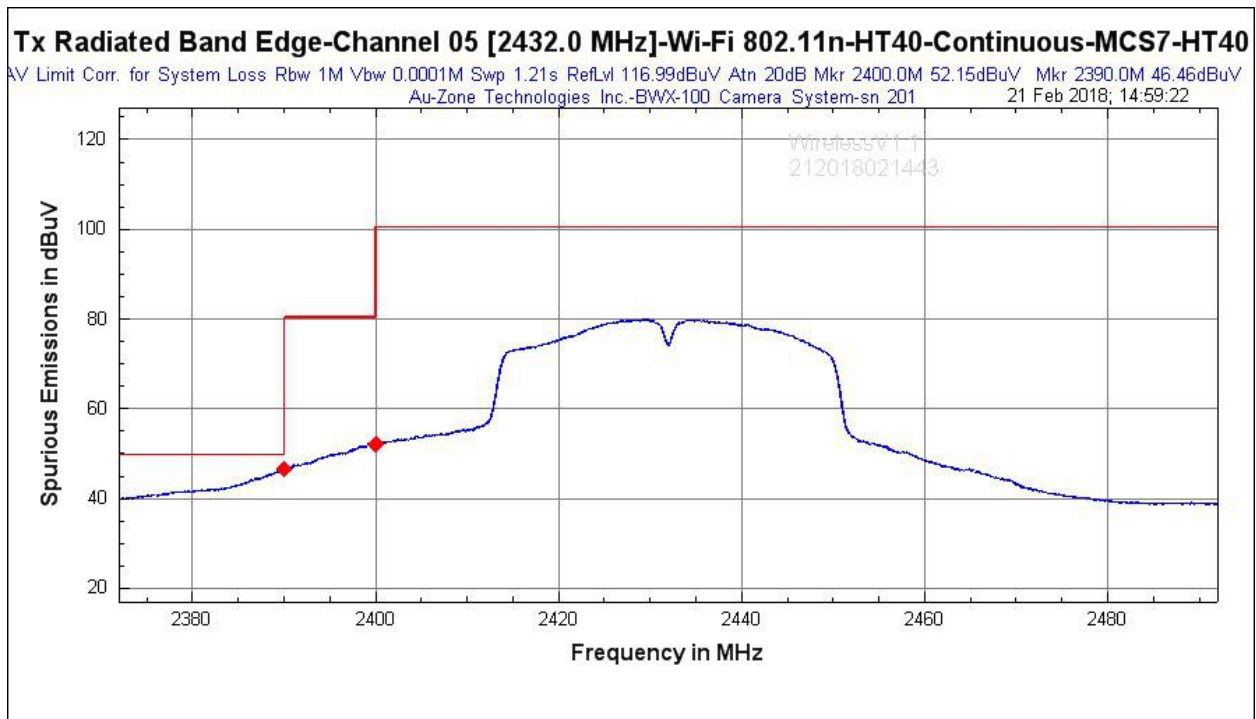


Figure 6.11 - Band edge data (Channel 5, MCS7-HT40, Average)

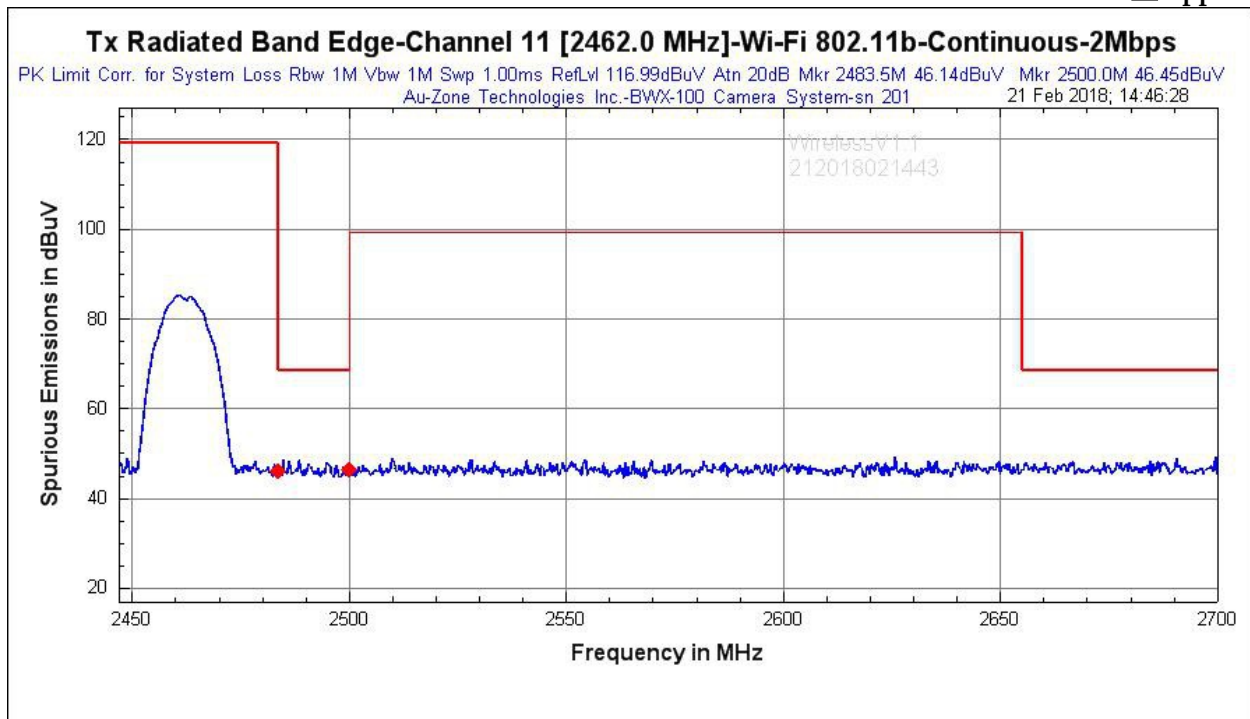
☐ Applicable

Figure 6.12 – Band edge data (Channel 11, 2Mbps, Peak)

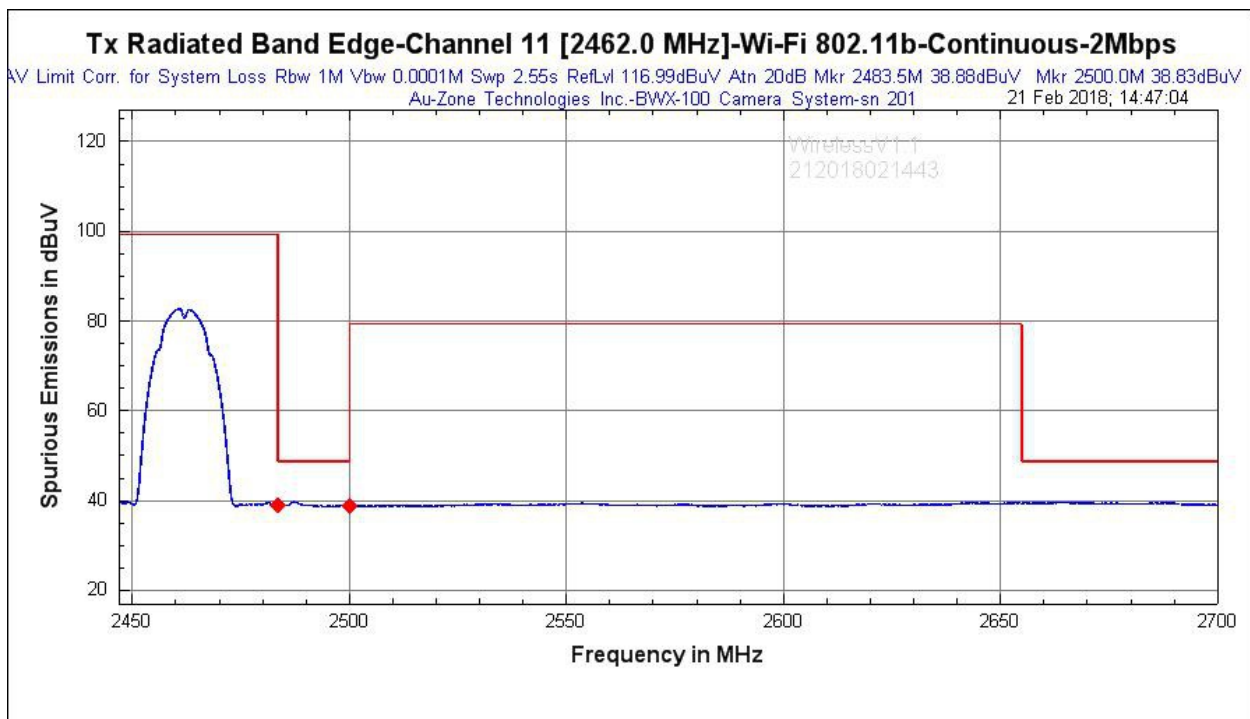


Figure 6.13 - Band edge data (Channel 11, 2Mbps, Average)

☐ Applicable**Table 6.16** - Radiated Spurious Emissions AVG(FCC 15.247(d)/15.209)

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |                              |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------|
| CLIENT:                | <b>L3 Mobile-Vision Inc.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                | TEST STANDARD: | <b>FCC 15.247(d)/ 15.209</b> |
| MODEL NUMBER:          | <b>BWX-100 Camera System</b>                                                                                                                                                                                                                                                                                                                                                                                                                                | PRODUCT:       | Body Camera + Dock           |
| SERIAL NUMBER:         | <b>Camera:214, Dock:307</b>                                                                                                                                                                                                                                                                                                                                                                                                                                 | CLASS:         | <b>FCC 15.247</b>            |
| TEMPERATURE:           | 23.5°C                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HUMIDITY:      | 20%                          |
| TESTED BY:             | Taekyun Kim                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DATE OF TEST:  | 2018-01-18                   |
| TESTREFERENCE:         | ANSI C63.10(2013), KDB 558074(April 5, 2017)                                                                                                                                                                                                                                                                                                                                                                                                                |                |                              |
| TEST VOLTAGE:          | 3.85VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |                              |
| SETUP:                 | <p>The EUT is DC powered through AC/DC adapter.</p> <p>The EUT is continuously transmitting. Low, Mid and High channels as well as all data rates were investigated, worst case data was reported. The EUT is fully exercised with communication and data transfer between the EUT and support laptop. Below 1GHz, the EUT is on the test table 80cm high. Above 1GHz, the EUT is on the test table 150cm high connected to the internal trace antenna.</p> |                |                              |
| FREQUENCY RANGE        | 2.38GHz – 2.7GHz                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                              |
| FREQUENCY TESTED:      | 2412MHz, 2462MHz                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |                              |
| FIRMWARE POWER SETTING | Max Power                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                |                              |
| EUT FIRMWARE           | 1.5.95                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                |                              |
| MODULATION/DATA RATE   | All data rates were investigated, 1Mbps data rate was found to be worst case.                                                                                                                                                                                                                                                                                                                                                                               |                |                              |
| ANTENNA TYPE/GAIN      | Antenna 1<br>Chip antenna type, 1.6 dBi)<br>Antenna 2<br>Not installed                                                                                                                                                                                                                                                                                                                                                                                      |                |                              |
| DUTY CYCLE             | 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |                              |
| RESULTS:               | <b>PASS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |                              |

**Table 6.17** - Radiated Emission - Vertical Polarization AVG FCC

| Frequency (MHz) | Azimuth Angle (deg) | Antenna Height (cm) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV/m) | FCC 15. 209 Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|---------------------|-------------------------|------------------------|----------------------------|----------------------------|-------------|
| 2400            | 229.9               | 215.1               | 52.15                   | 5.32                   | 57.47                      | 54                         | 3.47        |
| 2483.5          | 299.3               | 208.1               | 38.88                   | 5.32                   | 44.20                      | 54                         | -9.80       |

**6.4 FCC 15.107 AC Conducted Emission Measurement**☐ **Applicable****Table 6.18 – AC Conducted Emission information**

|                       |                                                                                                                                                      |                       |                    |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------|
| <b>CLIENT:</b>        | <b>L3 Mobile-Vision Inc.</b>                                                                                                                         | <b>TEST STANDARD:</b> | <b>FCC 15.107</b>  |
| <b>MODEL NUMBER:</b>  | <b>BWX-100 Camera System</b>                                                                                                                         | <b>PRODUCT:</b>       | Body Camera + Dock |
| <b>SERIAL NUMBER:</b> | <b>Camera:214, Dock:307</b>                                                                                                                          | <b>CLASS:</b>         | <b>Class B</b>     |
| <b>TEMPERATURE:</b>   | 22.5°C                                                                                                                                               | <b>HUMIDITY:</b>      | 21%                |
| <b>TESTED BY:</b>     | Taekyun Kim                                                                                                                                          | <b>DATE OF TEST:</b>  | January 07, 2018   |
| <b>TESTREFERENCE:</b> | ANSI C63.10(2013), FCC 15.107                                                                                                                        |                       |                    |
| <b>TESTED RANGE:</b>  | 0.15MHz - 30MHz                                                                                                                                      |                       |                    |
| <b>TEST VOLTAGE:</b>  | 120VAC 60Hz AC/DC adapter used 3.85VDC                                                                                                               |                       |                    |
| <b>TEST SETUP:</b>    | The EUT is DC powered through a USB AC/DC power Adapter.<br>The USB AV/DC power adapter connected to LISN.<br>The EUT performed 10/100Mbps Download. |                       |                    |
| <b>RESULTS:</b>       | <b>PASS</b>                                                                                                                                          |                       |                    |

**Table 6.19 - Conducted Emission Line 1 – AVG FCC**

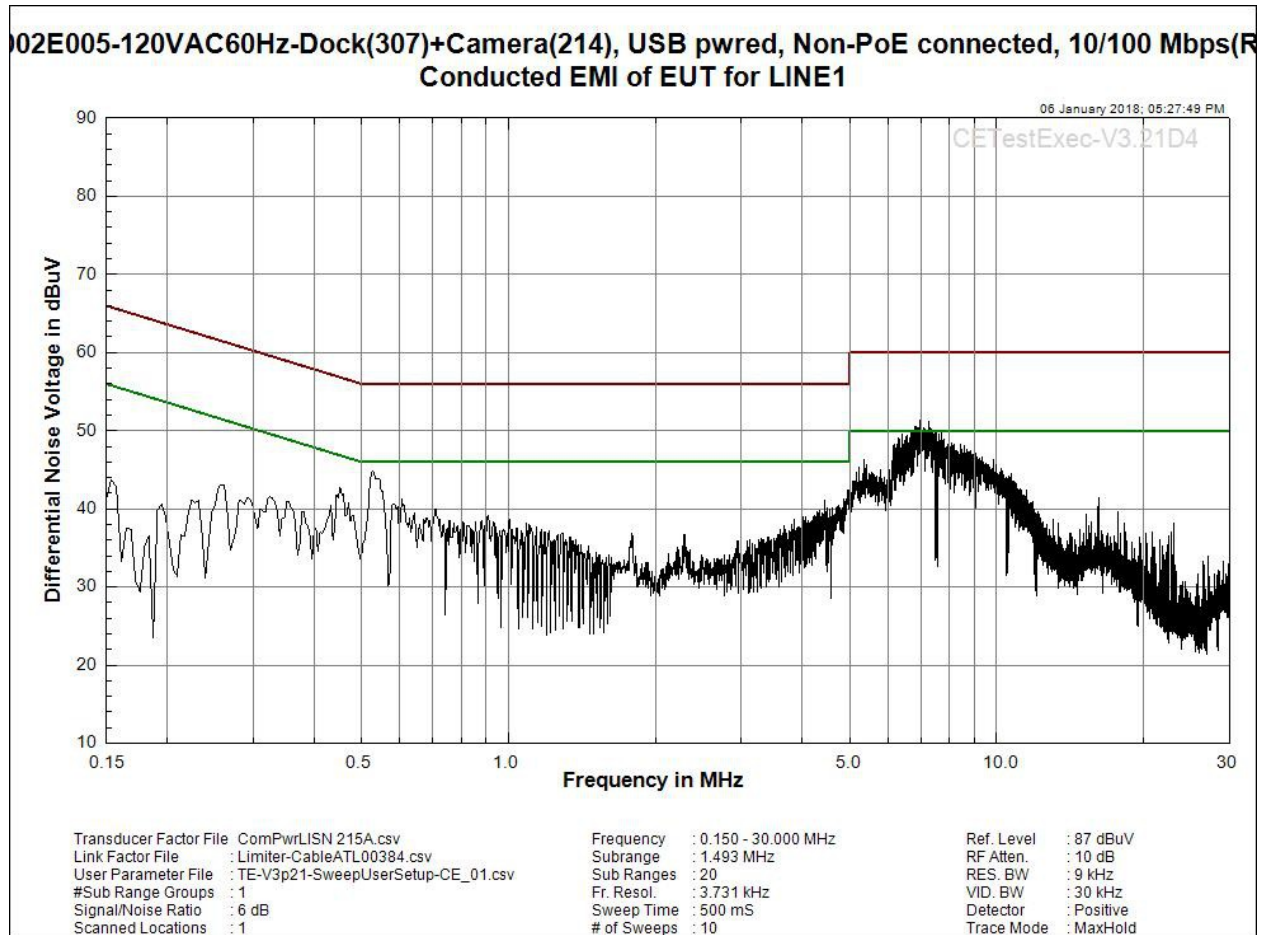
| Emission Type      | Frequency (MHz) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV) | FCC AVG Limit (dBuV) | FCC Margin (dB) |
|--------------------|-----------------|-------------------------|------------------------|--------------------------|----------------------|-----------------|
| Conducted Emission | 0.209           | 39.1                    | 10.21                  | 49.31                    | 54.29                | -4.98           |
|                    | 0.419           | 25.95                   | 10.18                  | 36.13                    | 48.32                | -12.19          |
|                    | 0.539           | 28.08                   | 10.18                  | 38.26                    | 46                   | -7.74           |
|                    | 1.799           | 20.38                   | 10.21                  | 30.59                    | 46                   | -15.41          |
|                    | 2.095           | 24.76                   | 10.22                  | 34.98                    | 46                   | -11.02          |
|                    | 4.395           | 24.58                   | 10.26                  | 34.84                    | 46                   | -11.16          |
|                    | 7.141           | 23.51                   | 10.29                  | 33.8                     | 50                   | -16.2           |

**Table 6.20 - Conducted Emission Line 2 – AVG FCC**

| Emission Type      | Frequency (MHz) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV) | FCC AVG Limit (dBuV) | FCC Margin (dB) |
|--------------------|-----------------|-------------------------|------------------------|--------------------------|----------------------|-----------------|
| Conducted Emission | 0.209           | 39.46                   | 10.21                  | <b>49.67</b>             | 54.29                | <b>-4.62</b>    |
|                    | 0.419           | 24                      | 10.18                  | 34.18                    | 48.32                | -14.14          |
|                    | 0.539           | 26.71                   | 10.18                  | 36.89                    | 46                   | -9.11           |
|                    | 1.799           | 24.86                   | 10.21                  | 35.07                    | 46                   | -10.93          |
|                    | 2.095           | 20.63                   | 10.22                  | 30.85                    | 46                   | -15.15          |
|                    | 4.395           | 20.22                   | 10.26                  | 30.48                    | 46                   | -15.52          |
|                    | 7.141           | 22.48                   | 10.29                  | 32.77                    | 50                   | -17.23          |



☐ Applicable



**Figure 6.14 - Conducted Emission Scan Line 1 (Line L)**

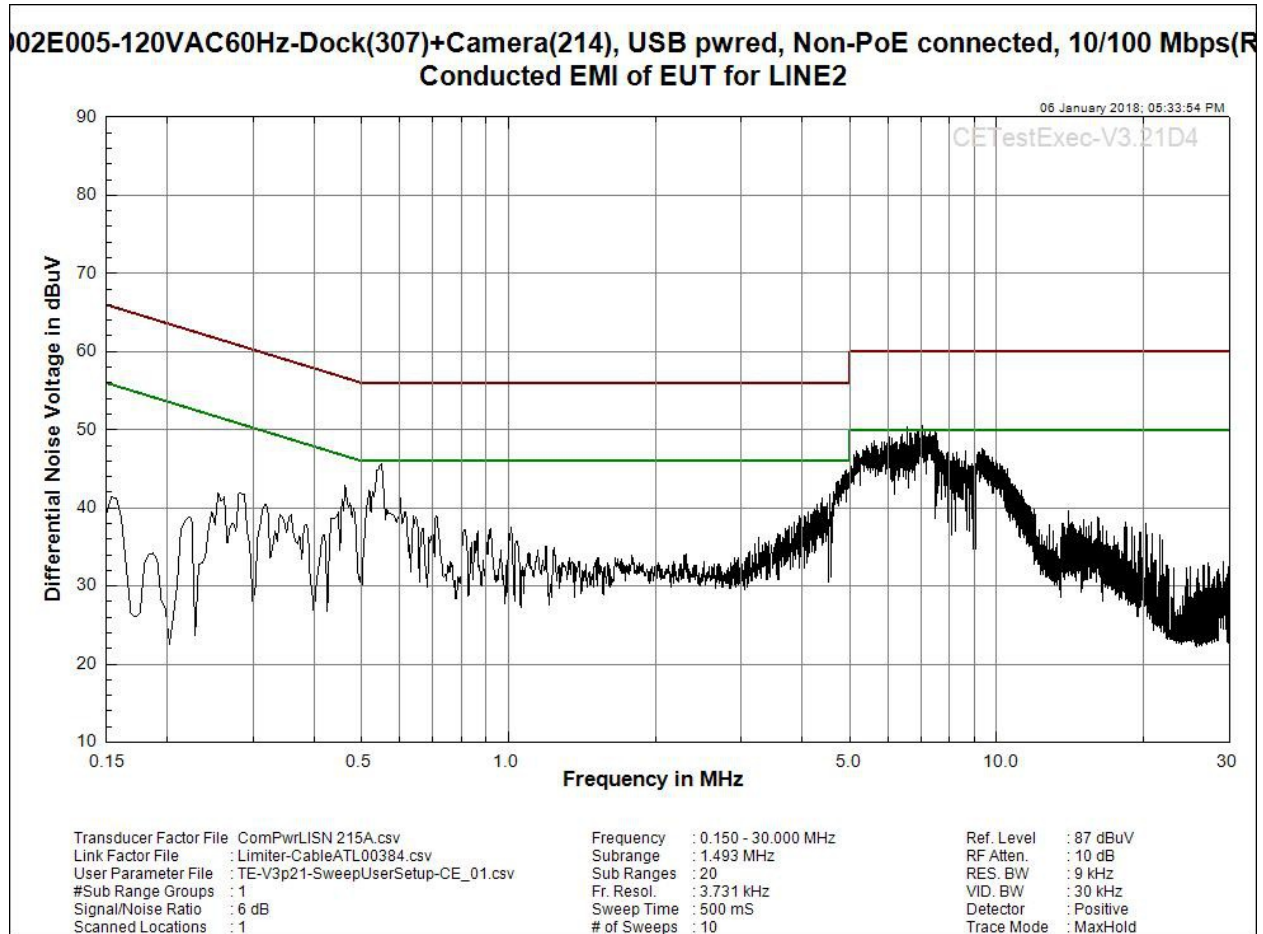


Figure 6.15 - Conducted Emission Scan Line 2 (Line N)

**Table 6.21 – AC Conducted Emission information**

|                       |                                                                                                                                                 |                       |                    |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------|
| <b>CLIENT:</b>        | <b>L3 Mobile-Vision Inc.</b>                                                                                                                    | <b>TEST STANDARD:</b> | <b>FCC 15.107</b>  |
| <b>MODEL NUMBER:</b>  | <b>BWX-100 Camera System</b>                                                                                                                    | <b>PRODUCT:</b>       | Body Camera + Dock |
| <b>SERIAL NUMBER:</b> | <b>Camera:214, Dock:307</b>                                                                                                                     | <b>CLASS:</b>         | <b>Class B</b>     |
| <b>TEMPERATURE:</b>   | 22.5°C                                                                                                                                          | <b>HUMIDITY:</b>      | 21%                |
| <b>TESTED BY:</b>     | Taekyun Kim                                                                                                                                     | <b>DATE OF TEST:</b>  | January 07, 2018   |
| <b>TESTREFERENCE:</b> | ANSI C63.10(2013), FCC 15.107                                                                                                                   |                       |                    |
| <b>TESTED RANGE:</b>  | 0.15MHz - 30MHz                                                                                                                                 |                       |                    |
| <b>TEST VOLTAGE:</b>  | 120VAC 60Hz AC/DC adapter used 3.85VDC                                                                                                          |                       |                    |
| <b>TEST SETUP:</b>    | The EUT is DC powered through a USB AC/DC power Adapter.<br>The USB AV/DC power adapter connected to LISN.<br>The EUT performed 1Gbps Download. |                       |                    |
| <b>RESULTS:</b>       | <b>PASS</b>                                                                                                                                     |                       |                    |

**Table 6.22 - Conducted Emission Line 1 – AVG FCC**

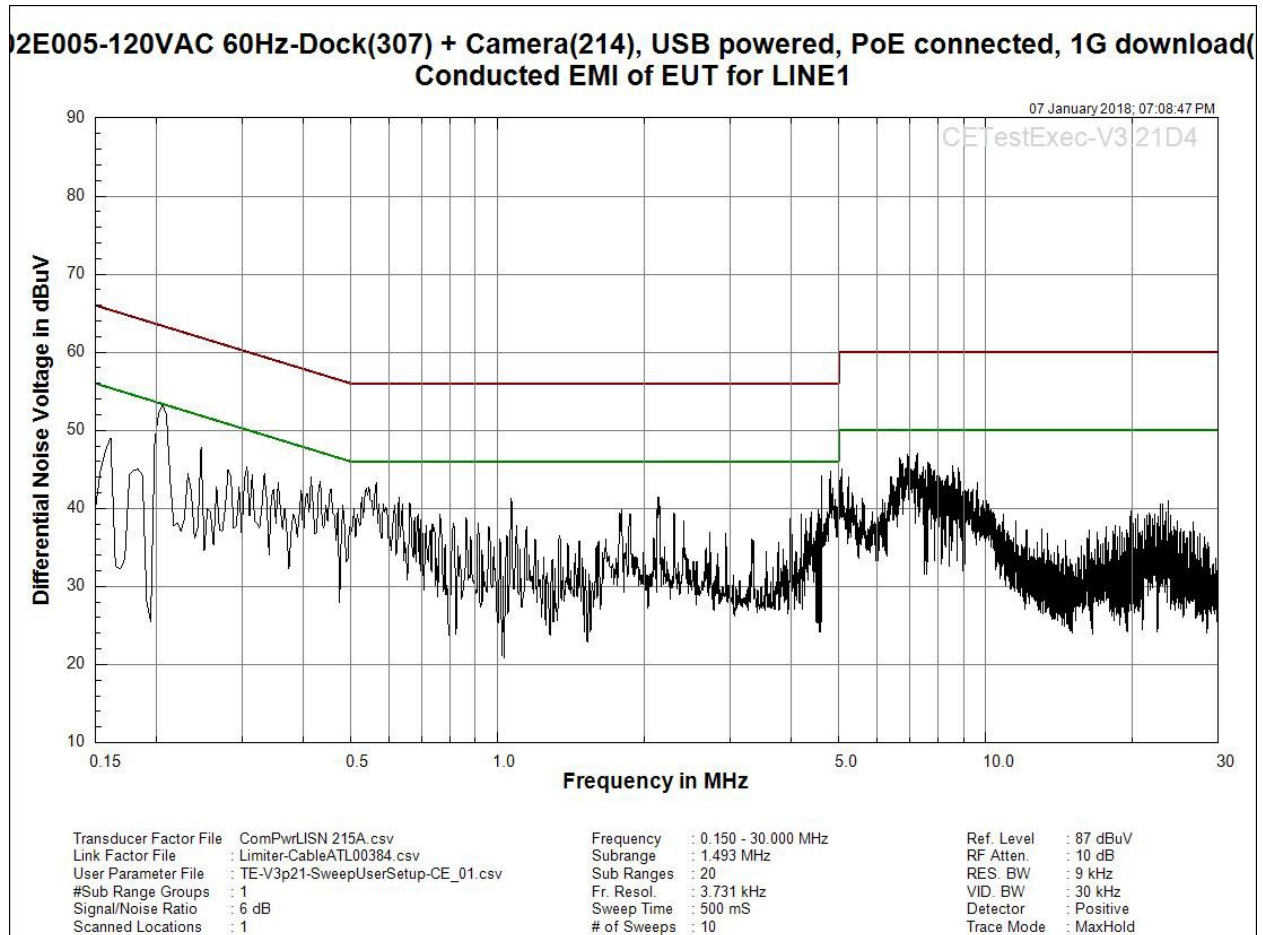
| Emission Type      | Frequency (MHz) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV) | FCC AVG Limit (dBuV) | FCC Margin (dB) |
|--------------------|-----------------|-------------------------|------------------------|--------------------------|----------------------|-----------------|
| Conducted Emission | 0.209           | 35.11                   | 10.21                  | 45.32                    | 54.29                | -8.97           |
|                    | 1.799           | 19.63                   | 10.21                  | 29.84                    | 46                   | -16.16          |

**Table 6.23 - Conducted Emission Line 2 – AVG FCC**

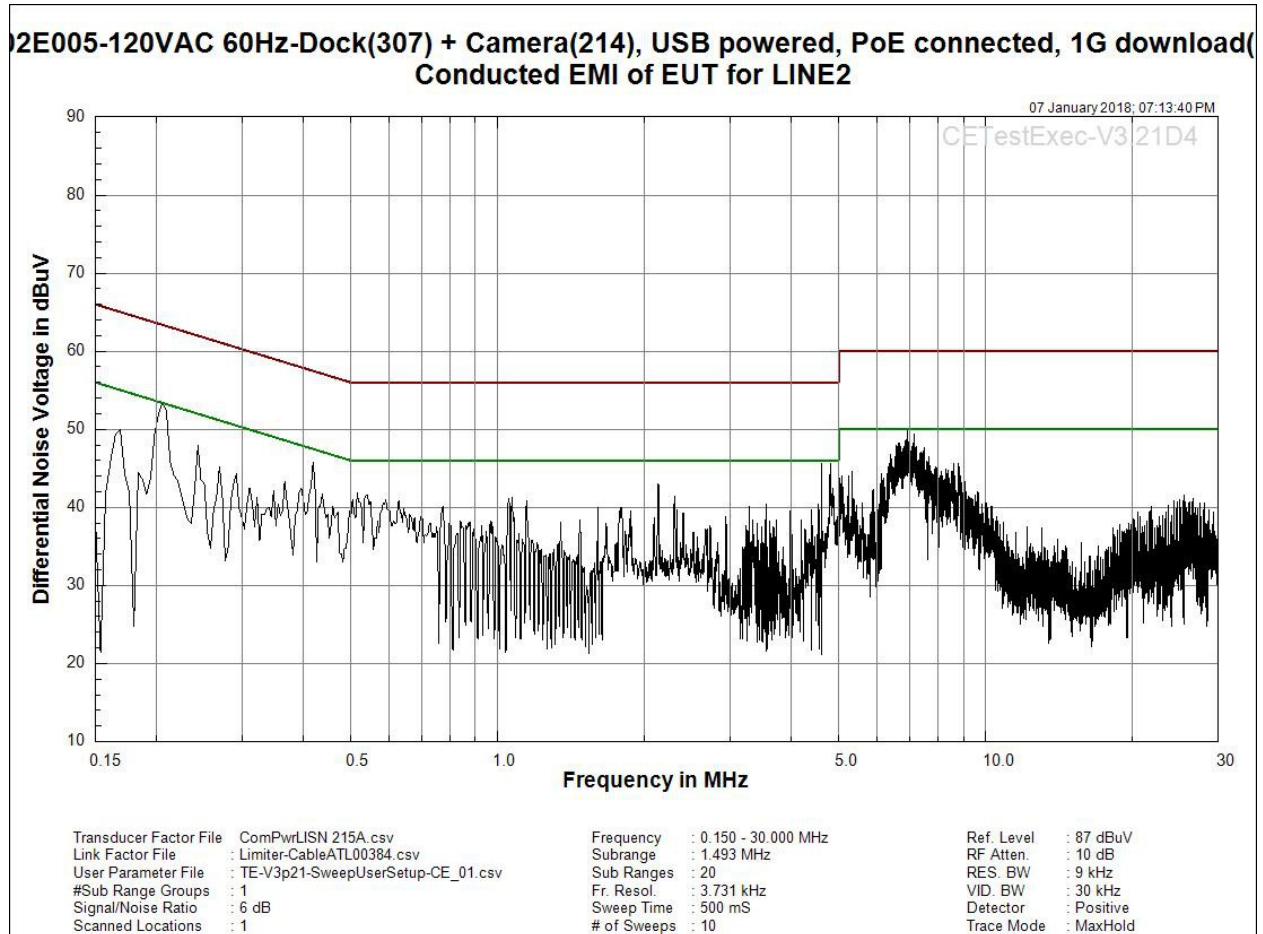
| Emission Type      | Frequency (MHz) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV) | FCC AVG Limit (dBuV) | FCC Margin (dB) |
|--------------------|-----------------|-------------------------|------------------------|--------------------------|----------------------|-----------------|
| Conducted Emission | 0.209           | 34.20                   | 10.21                  | 44.4                     | 54.29                | -9.89           |
|                    | 1.799           | 19.51                   | 10.21                  | 29.72                    | 46                   | -16.28          |



☐ Applicable



**Figure 6.16 - Conducted Emission Scan Line 1 (Line L)**



**Figure 6.17 - Conducted Emission Scan Line 2 (Line N)**



## 6.5 FCC 15.109 Radiated Emission(30MHz - 1000MHz)

Several pre-scans may have been performed in an effort to mitigate any non-compliance and ultimately to identify the six highest offending Emission. The final compliance scan graph is shown below in figure 6.18 to figure 6.19.

☐ Applicable

**Table 6.24** - Radiated Emission information (FCC)

|                           |                                        |                |                    |
|---------------------------|----------------------------------------|----------------|--------------------|
| CLIENT:                   | <b>L3 Mobile-Vision Inc.</b>           | TEST STANDARD: | <b>FCC 15.109</b>  |
| MODEL NUMBER:             | <b>BWX-100 Camera System</b>           | PRODUCT:       | Body Camera + Dock |
| SERIAL NUMBER:            | <b>Camera:214, Dock:307</b>            | CLASS:         | <b>FCC 15.247</b>  |
| TEMPERATURE:              | 22°C                                   | HUMIDITY:      | 22%                |
| TESTED BY:                | Taekyun Kim                            | DATE OF TEST:  | 2017-12-14         |
| TESTREFERENCE:            | FCC Part 15.109                        |                |                    |
| TESTED RANGE:             | 30MHz - 1000MHz                        |                |                    |
| TEST VOLTAGE:             | 120VAC 60Hz AC/DC adapter used 3.85VDC |                |                    |
| RESULTS:                  | <b>PASS</b>                            |                |                    |
| CHANGES OR MODIFICATIONS: | N/A                                    |                |                    |

**Table 6.25 - Radiated Emission - Horizontal Polarization Quasi-peak FCC**

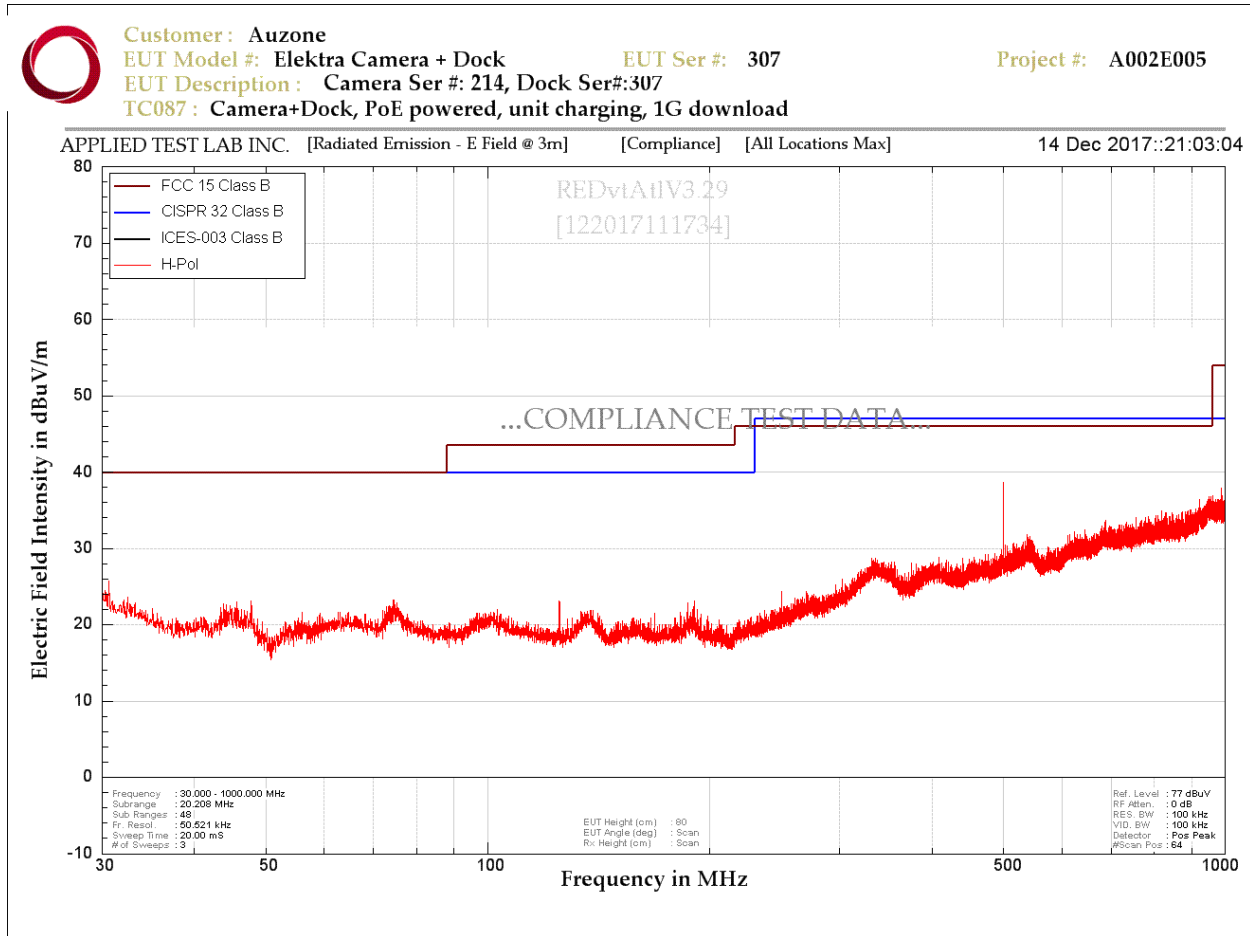
| Frequency (MHz) | Azimuth Angle (deg) | Antenna Height (cm) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV/m) | FCC Limit (dBuV/m) | Margin (dB) |
|-----------------|---------------------|---------------------|-------------------------|------------------------|----------------------------|--------------------|-------------|
| 47.83           | 126                 | 300                 | 6.16                    | 13.87                  | 20.03                      | 40                 | -19.97      |
| 73.66           | 180                 | 400                 | 6.93                    | 13.68                  | 20.61                      | 40                 | -19.39      |
| 103.048         | 159.8               | 373.8               | 2.18                    | 15.27                  | 17.45                      | 43.52              | -26.07      |
| 374.99          | 125.8               | 200                 | 4.69                    | 23.36                  | 28.05                      | 46.06              | 28.05       |
| 500.02          | 88.9                | 162.4               | 12.16                   | 26.67                  | 38.83                      | 46.02              | -7.19       |
| 625             | 0                   | 181.3               | 9.9                     | 29.9                   | 39.80                      | 46.02              | -6.22       |

**Table 6.26 - Radiated Emission - Vertical Polarization Quasi-peak FCC**

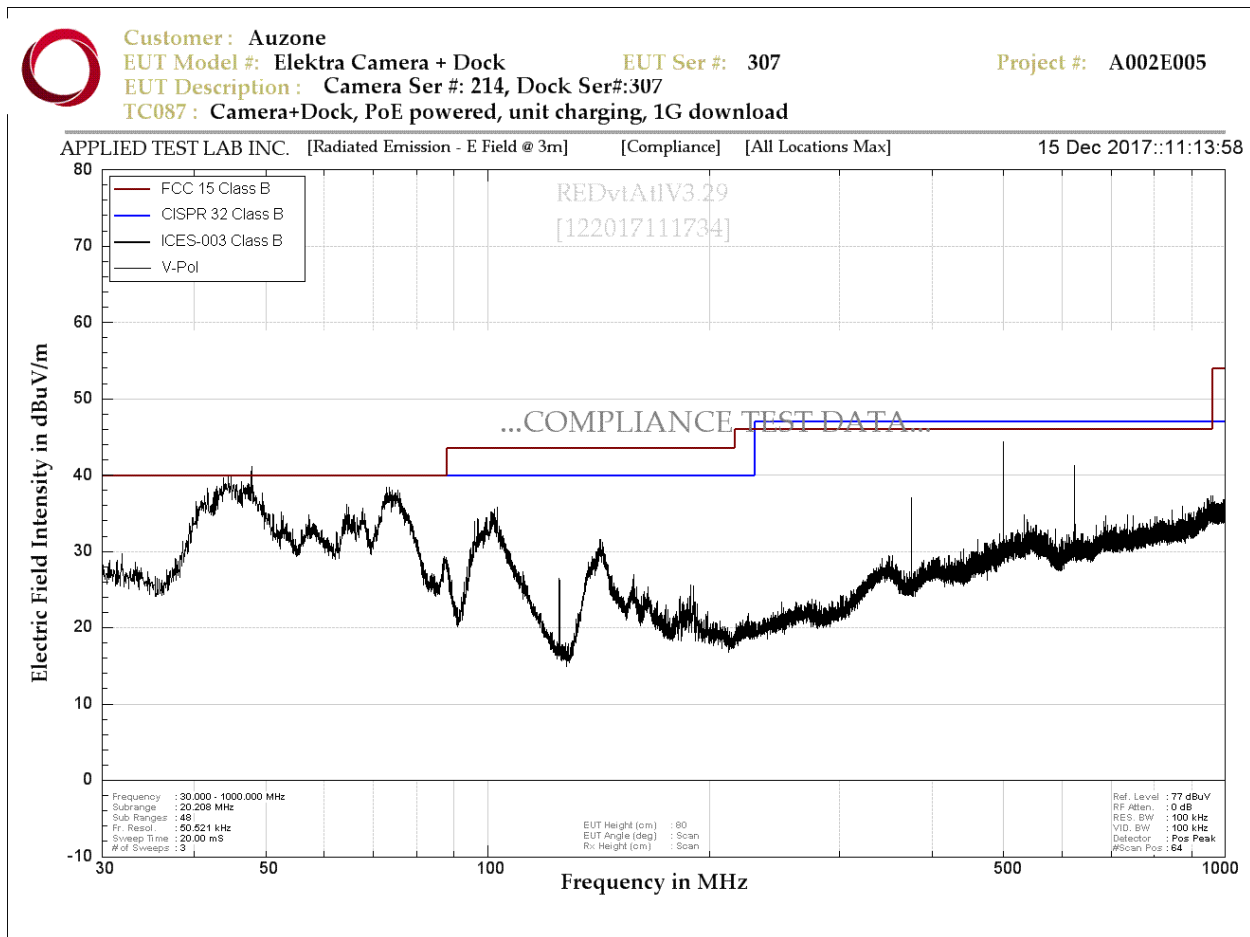
| Frequency (MHz) | Azimuth Angle (deg) | Antenna Height (cm) | Measured Reading (dBuV) | Correction Factor (dB) | Corrected Reading (dBuV/m) | FCC Limit (dBuV/m) | Margin (dB)  |
|-----------------|---------------------|---------------------|-------------------------|------------------------|----------------------------|--------------------|--------------|
| 47.83           | 135                 | 100                 | 23.73                   | 13.87                  | <b>37.60</b>               | 40                 | <b>-2.40</b> |
| 73.66           | 340                 | 100                 | 22.33                   | 13.68                  | 36.01                      | 40                 | -3.99        |
| 103.048         | 135.3               | 100                 | 18.29                   | 15.27                  | 33.56                      | 43.52              | -9.96        |
| 374.99          | 25.6                | 199.2               | 11.95                   | 23.36                  | 35.31                      | 46.06              | -10.75       |
| 500.02          | 67.4                | 100                 | 17.2                    | 26.67                  | 43.87                      | 46.02              | -2.15        |
| 625             | 0                   | 100                 | 9.5                     | 29.9                   | 39.40                      | 46.02              | -6.62        |



☐ Applicable



**Figure 6.18 - Radiated Emission (FCC) - Scan Horizontal Polarization (30MHz - 1000MHz)**



**Figure 6.19 - Radiated Emission (FCC) - Scan Vertical Polarization (30MHz - 1000MHz)**

**6.6 FCC 15.109 Radiated Emission(Above 1000MHz)**☐ **Applicable****Table 6.27 - Radiated Emission information (FCC)**

|                                  |                                        |                       |                    |
|----------------------------------|----------------------------------------|-----------------------|--------------------|
| <b>CLIENT:</b>                   | <b>L3 Mobile-Vision Inc.</b>           | <b>TEST STANDARD:</b> | <b>FCC 15.109</b>  |
| <b>MODEL NUMBER:</b>             | <b>BWX-100 Camera System</b>           | <b>PRODUCT:</b>       | Body Camera + Dock |
| <b>SERIAL NUMBER:</b>            | <b>Camera:214, Dock:307</b>            | <b>CLASS:</b>         | <b>FCC 15.247</b>  |
| <b>TEMPERATURE:</b>              | 23.5°C                                 | <b>HUMIDITY:</b>      | 24%                |
| <b>TESTED BY:</b>                | Taekyun Kim                            | <b>DATE OF TEST:</b>  | 2018-01-02         |
| <b>TESTREFERENCE:</b>            | FCC part 15.109                        |                       |                    |
| <b>TESTED RANGE:</b>             | 1000MHz - 6000MHz                      |                       |                    |
| <b>TEST VOLTAGE:</b>             | 120VAC 60Hz AC/DC adapter used 3.85VDC |                       |                    |
| <b>RESULTS:</b>                  | <b>PASS</b>                            |                       |                    |
| <b>CHANGES OR MODIFICATIONS:</b> | N/A                                    |                       |                    |



☐ Applicable

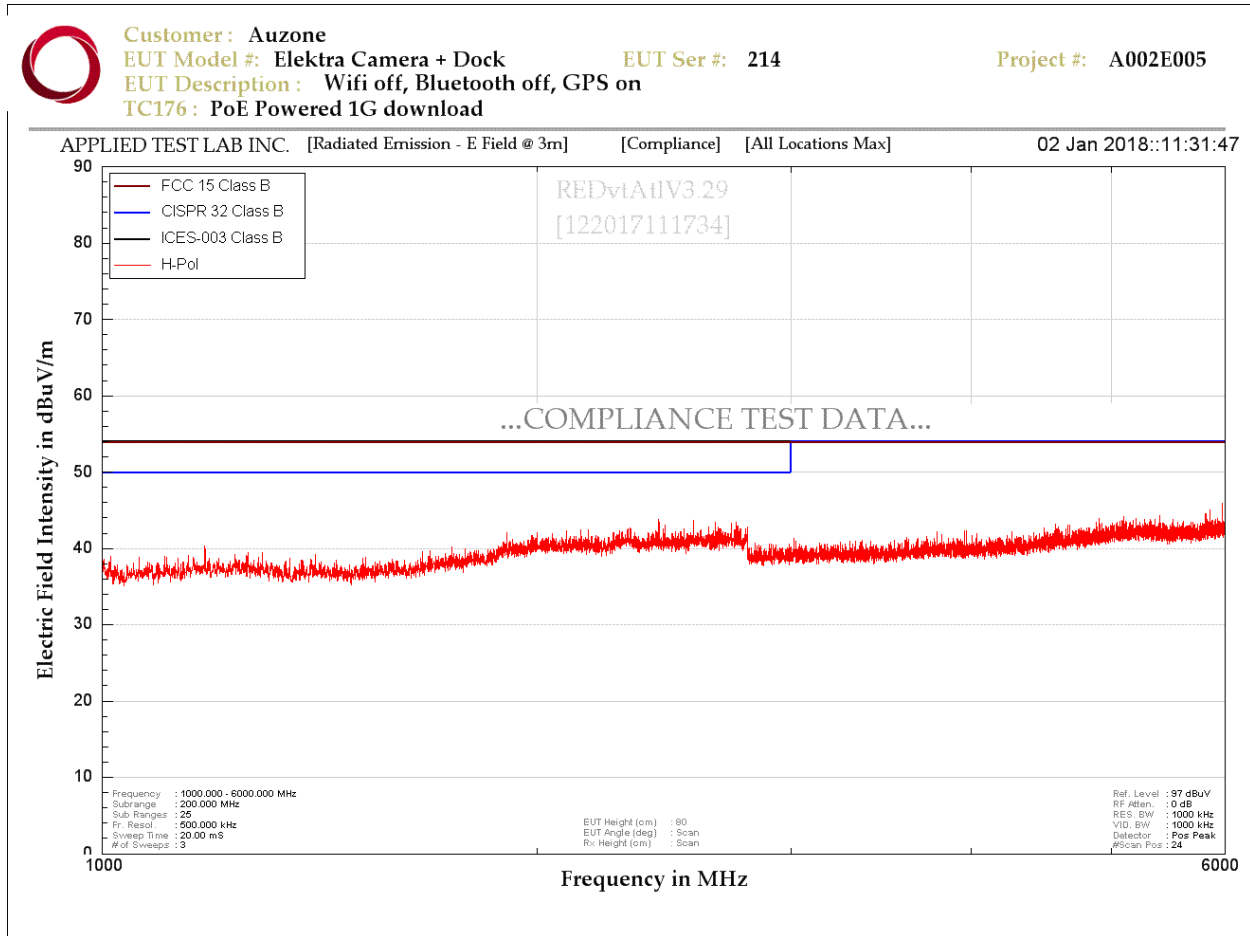
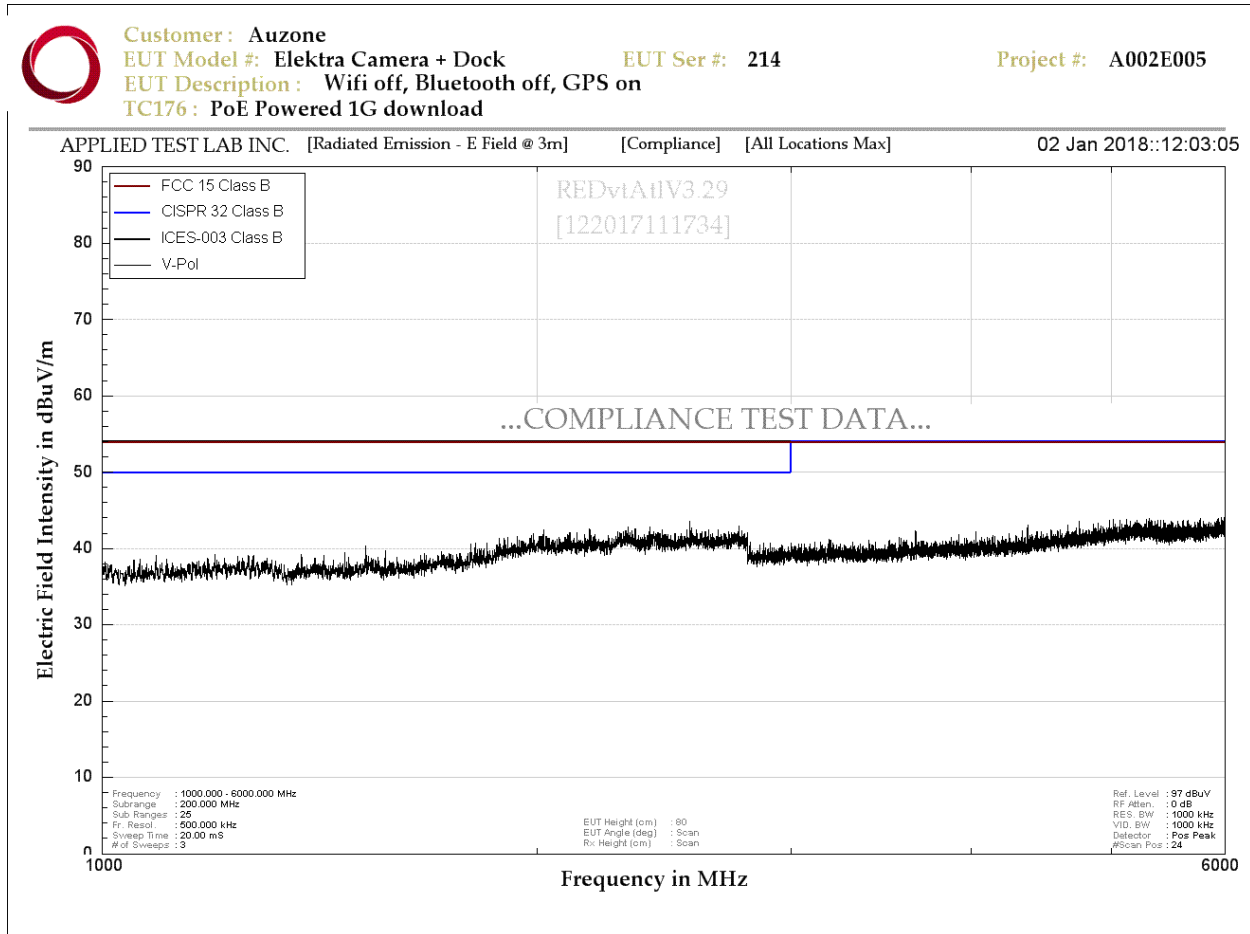


Figure 6.20 - Radiated Emission (FCC) - Scan Horizontal Polarization (1000MHz - 6000MHz)



**Figure 6.21** - Radiated Emission (FCC) - Scan Vertical Polarization (1000MHz - 6000MHz)



## 7.0 Appendix

### 7.1 Appendix A – Test Sample Description

(From Data Provided by the Customer)

#### **BWX-100 Camera System:**

##### **Camera:**

BWX-100 is a small, body worn digital video recorder that can be used to capture high definition video with audio. After recording video, you can upload it to your Mobile-Vision video management software by simply placing the device in a docking station connected to the internet.

BWX-100 features include:

- 10.5 hours of video recording in full high definition (1920 x 1080)
- A 129° field of view
- Bi-directional record triggering between BWX-100 devices
- Mobile App for IOS and Android devices
- Built-in WiFi, Bluetooth, and GPS

**Note:** In Wi-Fi, Lower Channels 3 and 4 in HT40 mode is not being used due to current software driver limitations and the required throughput of the camera.

With BWX-100, you can:

- Tag video in the field
- Review video in the field
- Check device status in the field, such as remaining record time and battery power.
- Capture a still photo “snapshot” while a recording is in progress
- Insert a “tracepoint” place marker while a recording is in progress
- Record in “Covert Mode”, which deactivates all electronic audio/visual indicators
- Mute audio while a recording is in progress
- Easily upload video to PC/Laptop via a docking station connected to the internet
- Capture up to 90 seconds of pre-record activity (i.e., the activity that occurs just before a user initiates a recording)



## 7.2 Appendix B – System Changes

(From Data Provided by the Customer)

From: Ramasamy Ethiraj <ramasamy@au-zone.com>  
Sent: March 2, 2018 12:38 PM  
To: Trevor Zaharichuk; A.Nyshadham  
Cc: GREG LYTLER; 'Adi-G'  
Subject: RE: Draft FCC DTS 4.0 Report for Bluetooth LE

Hi Adi,

Here is the list of dock and camera changes that need to be added in all reports.

### Camera changes:

Camera changes before compliance test started  
R55 changed to 255 ohm

### Dock changes:

Dock changes before Dec 14, 2017. Test done from Dec 14 will have the following dock changes

- \* Changes for USB power as default power
- \* Connection from Q4.3 to U5 current limiter EN pin (U5.4) removed.
- \* Q4.3 is connected to U6.4 (POE current limiter EN pin)
- \* Q4.1 is changed to VBUS\_USB pullup from 5V\_POE pullup.
- \* ESD diode added on U2 buffer output (U2.4 to GND)
- \* ESD diode added on U1 buffer output (U1.4 to GND)
- \* 475 ohm resistor added between RJ45 connector pin(J2.10) and buffer U2.4
- \* 475 ohm resistor added between via (via connected to green led D2 and green led on RJ45 connector ) and buffer U1.4
- \* R26,R23 and R2 resistors removed and shorted.
- \* Snubber tuning circuit changes:
- \* C10 to 680pF
- \* C46 to 100pF
- \* R44 to 66.5R

### Cap changes:

- \* C17, C14 to 10nF
- \* C12 to 47nF
- \* C11 to 22nF
- \* R48 to 1k
- \* L2 – change back to Ferrite
- \* L1 – move L2 to L1.

### Test done from Dec 27, 2017 will have the following dock changes

- \* 0.1uF added between U5.10 (Fault) and GND
- \* 0.1uF added between U6.10(Fault) and GND
- \* 0.1uF added between U5.4(EN) and GND
- \* 0.1uF added between U6.4(EN) and GND
- \* R48 changed to 4.2k from 1k



And

- \* All changes done before Dec 27, 2017

**Test done from Jan 02,2018 will have the following dock changes**

- \* R11 - changed to 15ohm from 10ohm
- \* Q3 changed to SI3440 from FDC86244.

And

- \* All changes done before Jan 02,2018

Regards,  
Ramasamy



## 8.0 Appendix B – List of Abbreviations and Acronyms

### **Industrial, scientific and medical (ISM) applications (of radio frequency energy)**

operation of equipment or appliances designed to generate and use locally radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunications

### **ISM equipment and appliances**

equipment or appliances designed to generate and/or use locally radio-frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunications and information technology and other applications covered by other CISPR publications

### **Electromagnetic radiation**

1. phenomenon by which energy in the form of electromagnetic waves emanates from a source into space
2. energy transferred through space in the form of electromagnetic waves

### **Boundary of the equipment under test**

imaginary straight line periphery describing a simple geometric configuration encompassing the equipment under test. All interconnecting cables are included within this boundary

### **Electro-discharge machining (EDM) equipment**

all the necessary units for the spark erosion process including the machine tool, the generator, control circuits, the working fluid container and integral devices

### **Spark erosion**

removal of material in a dielectric working fluid by electro-discharges, which are separated in time and randomly distributed in space, between two electrically conductive electrodes (the tool electrode and the work piece electrode), and where the energy in the discharge is controlled

### **Arc welding equipment**

equipment for applying current and voltage and having the required characteristics suitable for arc welding and allied processes

### **Equipment for resistance welding and allied processes**

all equipment associated with carrying out the processes of resistance welding or allied processes consisting of e.g. power source, electrodes, tooling and associated control equipment, which may be a separate unit or part of a complex machine

### **Low voltage LV**

a set of voltage levels used for the distribution of electricity and whose upper limit is generally accepted to be 1 000 V a.c.



**End of document**