

*FCC PART 15, SUBPART B and C  
TEST REPORT*

*for*

**VPx SENSOR 900 MHz WITH LCD**

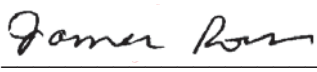
**MODEL: CM-000272**

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|       | REPORT<br>BODY | APPENDICES |   |   |    |    | TOTAL |
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## GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the federal government.

Device Tested: VPx Sensor 900 MHz with LCD  
Models: CM-000272  
S/N: N/A

Product Description: The EUT a wireless sensor system to monitor the storage of vaccines.

Modifications: The EUT was not modified in order to meet the specifications.

Customer: Mesa Labs, Inc.  
12100 West 6th Avenue  
Lakewood, Colorado 80228

Test Dates: July 27, 28, and 31, 2016; August 29, 2016; November 17, 2016; and January 31, 2017

Test Specification covered by accreditation:



Test Specifications: Emissions requirements  
CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247

Test Procedure: ANSI C63.4, ANSI C63.10

Test Deviations: The test procedure was not deviated from during the testing.

## SUMMARY OF TEST RESULTS

| TEST | DESCRIPTION                                                                | RESULTS                                                                                                                                                                                                                                             |
|------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | Conducted RF Emissions, 150 kHz - 30 MHz                                   | Complies with the <b>Class B</b> limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, section 15.207.<br>Highest reading in relation to spec limit: 24.44 dBuV @ 0.290 MHz (*U = 2.86 dB)                |
| 2    | Radiated RF Emissions, 10 kHz – 9300 MHz                                   | Complies with the <b>Class B</b> limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15 Subpart C, 15.205, 15.209 and 15.247 (d)<br>Highest reading in relation to spec limit: 44.94 dBuV @ 2706.75 MHz (*U = 3.70 dB) |
| 3    | 20 dB Bandwidth                                                            | Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i)                                                                                                                                               |
| 4    | Peak Power Output                                                          | Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (b)(2)                                                                                                                                                  |
| 5    | RF Conducted Antenna Test                                                  | Complies with the relevant requirements of FCC Title 47, Part 15, Subpart C, section 15.247 (d)                                                                                                                                                     |
| 6    | Carrier Frequency Separation                                               | Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)                                                                                                                                                  |
| 7    | Average Time of Occupancy                                                  | Complies with the relevant requirements of CFR Title 47, Part 15, Subpart C, section 15.247 (a)(1)(i)                                                                                                                                               |
| 8    | Peak Power Spectral Density from the International Radiator to the Antenna | This test was not performed because the EUT is a frequency hopper.                                                                                                                                                                                  |

## 1. PURPOSE

This document is a qualification test report based on the emissions tests performed on the VPx Sensor 900 MHz With LCD, Models: CM-000272. The emissions measurements were performed according to the measurement procedure described in ANSI C63.4 and ANSI C63.10. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the Class B specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.



### 3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this emissions Test Report.

| SPEC                                  | TITLE                                                                                                                                                                     |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCC Title 47,<br>Part 15<br>Subpart C | FCC Rules – Radio frequency devices (including digital devices) –<br>Intentional Radiators                                                                                |
| FCC Title 47,<br>Part 15<br>Subpart B | FCC Rules – Radio frequency devices (including digital devices) –<br>Unintentional Radiators                                                                              |
| EN 50147-2:<br>1997                   | Anechoic chambers. Alternative test site suitability with respect to site<br>attenuation                                                                                  |
| ANSI C63.4<br>2014                    | American National Standard for Methods of Measurement of Radio-Noise<br>Emissions from Low-Voltage Electrical and Electronic Equipment in the<br>Range of 9 kHz to 40 GHz |
| ANSI C63.10<br>2013                   | American National Standard for Testing Unlicensed Wireless Devices                                                                                                        |

#### 4. DESCRIPTION OF TEST CONFIGURATION

**AC Power Mode:** The VPx Sensor 900 MHz with LCD, Model: CM-000272 (EUT) was connected to (2) RTD probes, I2C temperature-humidity sensor, and power supply via its J1 and J2; J4; and power ports, respectively. The J3 port of the EUT was also connected to an unterminated cable.

**Battery Mode:** The VPx Sensor 900 MHz with LCD, Model: CM-000272 (EUT) was connected to (2) RTD probes and I2C temperature-humidity sensor via its J1 and J2; and J4 ports, respectively. The J3 port of the EUT was also connected to an unterminated cable.

For both modes, the USB port is only for diagnostic purposes only and thus left unterminated.

**For operating the EUT for the intentional radiator portion of the test:** The EUT was connected to a laptop that had a program that locked one channel at a time so that the low, middle, and high channels could be tested. The EUT was tested in two orthogonal axis. The carrier was modulated in the same way it would be when the EUT was in its normal operating mode.

**For operating the EUT for the unintentional radiator and conducted emission portion of the test:** The EUT was connected to a laptop that allowed the EUT to function as normal.

**For operating the EUT in receive mode:** The EUT was connected to a laptop that had a program that locked one channel at a time so that the low, middle, and high channel could be tested. The EUT was tested in two orthogonal axis. The LO of the receiver for the low, middle, and high channels were then tested.

**Note:** The laptop was only connected to the EUT to program the correct configuration and then was removed during the testing.

The X-Axis is when the EUT is parallel to the ground reference plane. The Y-Axis is when the EUT is perpendicular to the ground reference plane.

The final radiated data for the EUT as well as the conducted data was taken in modes above. Please see Appendix E for the data sheets.

#### 4.1.1 Description of Test Configuration – Emissions

##### Cable 1 (For AC Mode Only)

This is a 2-meter unshielded cable connecting the power supply to the EUT. The cable is hard wired at the power supply end and has a 1/8 inch power connector at the EUT end. The cable was bundled to a length of 1-meter.

Cable 2 This is a 3.65-meter unshielded cable connecting the EUT to the RTD sensor #1. The cable has a 4-pin terminal block at the EUT end and is hard wired into RTD sensor #1. The cable was bundled to so that it remained 40-centimeters above the ground plane.

Cable 3 This is a 3.65-meter unshielded cable connecting the EUT to the RTD sensor #2. The cable has a 4-pin terminal block at the EUT end and is hard wired into RTD sensor #2. The cable was bundled to so that it remained 40-centimeters above the ground plane.

Cable 4 This a 2-meter unshielded, unterminated cable connected to the EUT. The cable has a 2-pin terminal block at the EUT end. The cable was bundled to so that it remained 40-centimeters above the ground plane.

Cable 5 This is a 10-centimeter cable connecting the EUT to the I2C temperature-humidity sensor. The cable has an RJ-11 connector at the EUT end and is hard wired into the I2C temperature-humidity sensor.

**5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT****5.1 EUT and Accessory List**

| EQUIPMENT                                    | MANUFACTURER    | MODEL NUMBER  | SERIAL NUMBER  | FCC ID    |
|----------------------------------------------|-----------------|---------------|----------------|-----------|
| VPx SENSOR 900 MHz WITH LCD (EUT)            | MESA LABS, INC. | CM-000272     | 52000001       | UUYVPX900 |
| RTD SENSOR #1                                | MESA LABS, INC. | CM-000186     | 132394         | N/A       |
| RTD SENSOR #2                                | MESA LABS, INC. | CM-000186     | 132377         | N/A       |
| I2C TEMPERATURE-HUMIDITY SENSOR              | N/A             | N/A           | N/A            | N/A       |
| POWER SUPPLY FOR VPx SENSOR 900 MHz WITH LCD | V-INFINITY      | EPS050100     | NA             | N/A       |
| AC ADAPTER FOR LAPTOP                        | HEWLETT PACKARD | PPP012D-S     | WCNXF0ACX3OCXS | N/A       |
| LAPTOP                                       | HEWLETT PACKARD | PROBOOK 6560B | N/A            | N/A       |

## 5.2 Emissions Test Equipment

| EQUIPMENT TYPE                              | MANU-FACTURER              | MODEL NUMBER | SERIAL NUMBER | CALIBRATION DATE  | CAL. CYCLE |
|---------------------------------------------|----------------------------|--------------|---------------|-------------------|------------|
| GENERAL TEST EQUIPMENT USED IN LAB D        |                            |              |               |                   |            |
| TDK TestLab                                 | TDK RF Solutions, Inc.     | 9.22         | 700145        | N/A               | N/A        |
| Computer                                    | Hewlett Packard            | p6716f       | MXX1030PX0    | N/A               | N/A        |
| LCD Monitor                                 | Hewlett Packard            | 52031a       | 3CQ046N3MG    | N/A               | N/A        |
| EMI Receiver, 20 Hz – 26.5 GHz              | Agilent Technologies       | N9038A       | MY51100115    | April 3, 2015     | 2 Year     |
| RF RADIATED EMISSIONS TEST EQUIPMENT        |                            |              |               |                   |            |
| CombiLog Antenna                            | Com-Power                  | AC-220       | 61060         | September 3, 2015 | 1 Year     |
| Preamplifier                                | Com-Power                  | PAM-118A     | 551024        | May 12, 2016      | 1 Year     |
| Loop Antenna                                | Com-Power                  | AL-130       | 17089         | February 6, 2015  | 2 Year     |
| Horn Antenna                                | Com-Power                  | AH-118       | 071175        | February 26, 2016 | 2 Year     |
| Antenna Mast                                | Com Power                  | AM-100       | N/A           | N/A               | N/A        |
| System Controller                           | Sunol Sciences Corporation | SC110V       | 112213-1      | N/A               | N/A        |
| Turntable                                   | Sunol Sciences Corporation | 2011VS       | N/A           | N/A               | N/A        |
| Antenna-Mast                                | Sunol Sciences Corporation | TWR95-4      | 112213-3      | N/A               | N/A        |
| RF CONDUCTED EMISSIONS TEST EQUIPMENT       |                            |              |               |                   |            |
| LISN                                        | Com-Power                  | LI-215A      | 191951        | June 9, 2015      | 2 Year     |
| Transient Limiter                           | Com-Power                  | 252A910      | N/A           | October 14, 2015  | 1 Year     |
| VARIATION OF THE INPUT POWER TEST EQUIPMENT |                            |              |               |                   |            |
| Variable Auto Transformer                   | Staco Energy Products      | 3PN1010      | N/A           | N/A               | N/A        |
| Multimeter                                  | Fluke                      | 87           | 58450372      | March 17, 2016    | 1 Year     |

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**6. TEST SITE DESCRIPTION****6.1 Test Facility Description**

Please refer to section 2.1 and 7.1 of this report for emissions test location.

**6.2 EUT Mounting, Bonding and Grounding**

**For frequencies 1 GHz and below:** The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

**For frequencies above 1 GHz:** The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 1.5 meters above the ground plane.

The EUT was not grounded.

## 7. CHARACTERISTICS OF THE TRANSMITTER

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

### 7.1 Channel Number and Frequencies

The FHSS uses at least a minimum of 50 channels minimum using a pseudo random technique. It uses GFSK modulation. The channels are separated by approximately 250 kHz.

The three subbands that the EUT can operate on are:

1. 906.12 MHz to 924.12 MHz, which contains 60 channels
2. 902.62 MHz to 914.87 MHz, which contains 50 channels
3. 914.87 MHz to 927.62 MHz, which contains 52 channels

See Appendix E for the each plot showing the total number of channels in each subband.

### 7.2 Antenna

The antenna is a chip antenna which is located on the PCB.

## 8. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

### 8.1 RF Emissions

#### 8.1.1 Conducted Emissions Test

The EMI Receiver was used as a measuring meter. A quasi-peak and/or average reading was taken only where indicated in the data sheets. A transient limiter was used for the protection of the EMI Receiver input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the EMI Receiver. The output of the second LISN was terminated by a 50-ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding, and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI 63:4. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by computer software. The final qualification data is located in Appendix E.

The EUT was tested at 120 VAC. The six highest emissions are listed in Table 1.0.

#### Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and the limits of CFR Title 47, Part 15, Subpart C, Section 15.207 for conducted emissions. Please see Appendix E for the data sheets.

## 8.1.2 Radiated Emissions Test

The EMI Receiver was used as the measuring meter. A built-in, internal preamplifier was used to increase the sensitivity of the instrument. The EMI Receiver was initially used with the Analyzer mode feature activated. In this mode, the EMI receiver can then record the actual frequency to be measured. This final reading is then taken accurately in the EMI Receiver mode, which takes into account the cable loss, amplifier gain and antenna factors, so that a true reading is compared to the true limit. A quasi-peak reading was taken only for those readings, which are marked accordingly on the data sheets. The effective measurement bandwidth used for the radiated emissions test was according to the frequency measured (200 Hz for 10 kHz to 150 kHz, 9 kHz for 150 kHz to 30 MHz, 120 kHz for 30 MHz to 1 GHz and 1 MHz for 1 GHz to 9.3 GHz).

The frequencies above 1 GHz were averaged by using duty cycle correction factor.

The EMI test chamber of Compatible Electronics, Inc. was used for radiated emissions testing. This test site is in full compliance with ANSI C63.4. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results.

The EUT was tested at a 3-meter test distance. The six highest emissions are listed in Table 2.0.

The measurement bandwidths and transducers used for the radiated emissions test were:

| FREQUENCY RANGE   | EFFECTIVE MEASUREMENT BANDWIDTH | TRANSDUCER       |
|-------------------|---------------------------------|------------------|
| 10 kHz to 150 kHz | 200 Hz                          | Loop Antenna     |
| 150 kHz to 30 MHz | 9 kHz                           | Loop Antenna     |
| 30 MHz to 1 GHz   | 120 kHz                         | CombiLog Antenna |
| 1 GHz to 9.3 GHz  | 1 MHz                           | Horn Antenna     |

### Test Results:

The EUT complies with the **Class B** limits of **CFR** Title 47, Part 15, Subpart B; and Subpart C sections 15.205, 15.209, and 15.247 (d) for radiated emissions.

### 8.1.3 RF Emissions Test Results

Table 1.0 CONDUCTED EMISSION RESULTS  
VPx Sensor 900 MHz with LCD  
Models: CM-000272

| Frequency MHz   | Average Corrected Reading* dBuV | Average Specification Limit dBuV | Delta (Cor. Reading – Spec. Limit) dB |
|-----------------|---------------------------------|----------------------------------|---------------------------------------|
| 0.342 (BL) (Tx) | 37.99 (Average)                 | 49.16                            | -11.17                                |
| 0.346 (BL) (Tx) | 36.86 (Average)                 | 49.28                            | -12.42                                |
| 0.350 (BL) (Tx) | 36.68 (Average)                 | 49.14                            | -12.46                                |
| 0.338 (BL) (Tx) | 36.68 (Average)                 | 49.17                            | -12.49                                |
| 0.358 (BL) (Tx) | 36.57 (Average)                 | 49.13                            | -12.57                                |
| 0.174 (WL) (Rx) | 41.93 (Average)                 | 55.02                            | -13.09                                |

Table 2.0 RADIATED EMISSION RESULTS  
VPx Sensor 900 MHz with LCD  
Models: CM-000272

| Frequency MHz             | EMI Reading (dBuV) | Specification Limit (dBuV) | Delta (Cor. Reading – Spec. Limit) dB |
|---------------------------|--------------------|----------------------------|---------------------------------------|
| 7320.96 (H) (Y-Axis) (AC) | 49.07 (Average)    | 53.97                      | -4.90                                 |
| 248.00 (V) (Tx) (AC)      | 40.59 (Quasi-Peak) | 46.00                      | -5.41                                 |
| 211.30 (H) (Tx) (AC)      | 37.43 (Quasi-Peak) | 43.50                      | -6.07                                 |
| 212.00 (H) (Tx) (AC)      | 36.75 (Quasi-Peak) | 43.50                      | -6.75                                 |
| 7420.96 (V)(X-Axis)(AC)   | 46.31 (Average)    | 53.97                      | -7.66                                 |
| 200.90 (V)(Tx)(AC)        | 35.62 (Quasi-Peak) | 43.50                      | -7.88                                 |

Notes:

- \* The complete emissions data is given in Appendix E of this report.
- (BL) Black Lead
- (WL) White Lead
- (V) Vertical
- (H) Horizontal

## 8.2 20 dB Bandwidth

The 20 dB Bandwidth was measured using the EMI Receiver. The bandwidth was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was  $\geq 1\%$  of the bandwidth and the video bandwidth was  $\geq$  RBW.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1)(i). The 20 dB bandwidth is less than the separation between channels. Please see the data sheets located in Appendix E.

## 8.3 Peak Output Power

The Peak Output Power was measured using the EMI Receiver. The peak output power was measured using a direct connection from the RF output of the EUT. The resolution bandwidth was greater than 20 dB bandwidth and the video bandwidth was  $\geq$  RBW. The cable loss was also added back into the reading using the reference level offset.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (b)(2). The maximum peak output power is less than 1 Watt. Please see the data sheets located in Appendix E.

## 8.4 RF Antenna Conducted Test

The RF antenna conducted test was performed using the EMI Receiver. The RF antenna conducted test measured using a direct connection from the RF out on the EUT into the input of the EMI Receiver. The resolution bandwidth was 100 kHz, and the video bandwidth was 300 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the intentional radiator.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power that is produced by the intentional radiator is at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of desired power. Please see the radiated emission data sheets located in Appendix E.

## 8.5 RF Band Edges

The RF band edges were taken at the edges of the ISM spectrum (902 MHz when the EUT was on the low channel and 928 MHz when the EUT was on the high channel) using the EMI Receiver. The RBW was set to 100 kHz and the VBW was set to 300 kHz. Plots of the fundamental were taken to ensure the amplitude at the band edges were at least 20 dB down from the peak of the fundamental emission. The plots were taken in both frequency hopping mode and single channel mode.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). The RF power at the band edges at 902 MHz and 928 MHz meet the requirements of FCC Title 47, Part 15, Subpart C section 15.247 (d). Please see the data sheets located in Appendix E.

## 8.6 Carrier Frequency Separation

The Channel Hopping Separation Test was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was approximately 30% of the channel spacing, and the video bandwidth  $\geq$  RBW. The frequency span was wide enough to include the peaks of two adjacent channels.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1). The Channel Hopping Separation is greater than the 20 dB bandwidth. Please see the data sheets located in Appendix E.

## 8.7 Number of Hopping Frequencies

The Number of Hopping Frequencies was measured using the EMI Receiver. The EUT was operating in its normal operating mode. The resolution bandwidth was set to approximately 30% of the channel spacing, and the video bandwidth was  $\geq$  RBW. The frequency span was wide enough to include all of the peaks in the frequency band of operation.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1) and 15.247 (a)(1)(i). Please see the data sheets located in Appendix E.

## 8.8 Average Time of Occupancy Test

The Average Time of Occupancy Test was measured using the EMI Receiver. The EUT was operating in normal operating mode. The frequency span was taken to 0 Hz to determine the time for each transmission and the number of transmissions over a 20 second period. The RBW was set to be less than the channel spacing. The low hop band table was determined to be the worst case because this mode results in the pulses appearing more frequently.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.247 (a)(1)(i). Please see the data sheets located in Appendix E.

## 8.9 Fundamental Field Strength (Duty Cycle Calculations)

The Peak Transmit Radiated Field Strength was measured at a 3-meter test distance. The EMI Receiver was used to obtain the duty cycle. The data sheets are located in Appendix E.

Where

$$\delta(\text{dB}) = 20 \log \left[ \frac{\sum (nt_1 + mt_2 + \dots + \xi t_x)}{T} \right]$$

$n$  is the number of pulses of duration  $t_1$

$m$  is the number of pulses of duration  $t_2$

$\xi$  is the number of pulses of duration  $t_x$

$T$  is the period of the pulse train or 100 ms if the pulse train length is greater than 100 ms

Duty Cycle Correction Factor = -20.00dB

Pulse = 1 \* 9 mS

Total On Time = 9 mS

Duty Cycle Train was longer than 100mS; therefore 100mS span was used.

9 mS / 100 mS = 9%

20 log (0.09) = -20.92 dB correction factor

**Max Duty Cycle Correction Factor = -20.00dB**

## 8.10 Variation of the Input Power

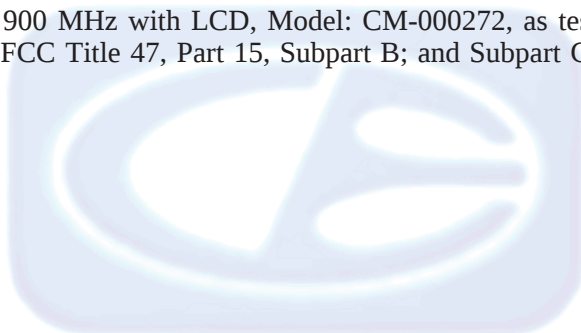
The variation of the input power test was performed using the EMI Receiver. The EUT input power was varied between 85% and 115% of the nominal rated supply voltage. The carrier frequency was monitored for any change in amplitude.

### Test Results:

The EUT complies with the relevant requirements of FCC Title 47, Part 15, Subpart C section 15.31(e).

## 9. CONCLUSIONS

The VPx Sensor 900 MHz with LCD, Model: CM-000272, as tested, meets all of the specification limits defined in FCC Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.207, 15.209, and 15.247.





**APPENDIX A**

***LABORATORY ACCREDITATIONS AND RECOGNITIONS***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Agoura Division**  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

**Silverado Division**  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

## LABORATORY ACCREDITATIONS AND RECOGNITIONS



NVLAP LAB CODE 200528-0

For US, Canada, Australia/New Zealand, Japan, Taiwan, Korea, and the European Union, Compatible Electronics is currently accredited by NVLAP to ISO/IEC 17025.

**For the most up-to-date version of our scopes and certificates please visit**

**<http://celectronics.com/quality/scope/>**

Quote from ISO-ILAC-IAF Communiqué on 17025:

"A laboratory's fulfilment of the requirements of ISO/IEC 17025:2005 means the laboratory meets both the technical competence requirements and management system requirements that are necessary for it to consistently deliver technically valid test results and calibrations. The management system requirements in ISO/IEC 17025:2005 (Section 4) are written in language relevant to laboratory operations and meet the principles of ISO 9001:2008 Quality Management Systems — Requirements."

ANSI listing [CETCB](#)

Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for EMC under the US/EU Mutual Recognition Agreement (MRA).

**US/EU MRA list** [NIST MRA site](#)



Compatible Electronics has been nominated as a Conformity Assessment Body (CAB) for Taiwan/BSMI under the US/APEC (Asia-Pacific Economic Cooperation) Mutual Recognition Agreement (MRA).

**APEC MRA list** [NIST MRA site](#)

We are also listed for IT products by the following country/agency:



VCCI Support member: Please visit [http://www.vcci.jp/vcci\\_e/](http://www.vcci.jp/vcci_e/)



FCC Listing, from FCC OET site

[FCC test lab search](https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm) <https://fjallfoss.fcc.gov/oetcf/eas/reports/TestFirmSearch.cfm>



Compatible Electronics IC listing can be found at:

<http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home>

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Agoura Division**  
2337 Troutdale Drive  
Agoura, CA 91301  
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19121 El Toro Road  
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Lake Forest, CA 92630  
(949) 587-0400



**APPENDIX B**

***MODIFICATIONS TO THE EUT***

## MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Subpart B and FCC 15.247 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.





**APPENDIX C**

***ADDITIONAL MODELS COVERED  
UNDER THIS REPORT***

---

**Brea Division**  
114 Olinda Drive  
Brea, CA 92823  
(714) 579-0500

**Agoura Division**  
2337 Troutdale Drive  
Agoura, CA 91301  
(818) 597-0600

**Silverado Division**  
19121 El Toro Road  
Silverado, CA 92676  
(949) 589-0700

**Lake Forest Division**  
20621 Pascal Way  
Lake Forest, CA 92630  
(949) 587-0400

## ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

VPx Sensor 900 MHz With LCD  
Models: CM-000272  
S/N: N/A

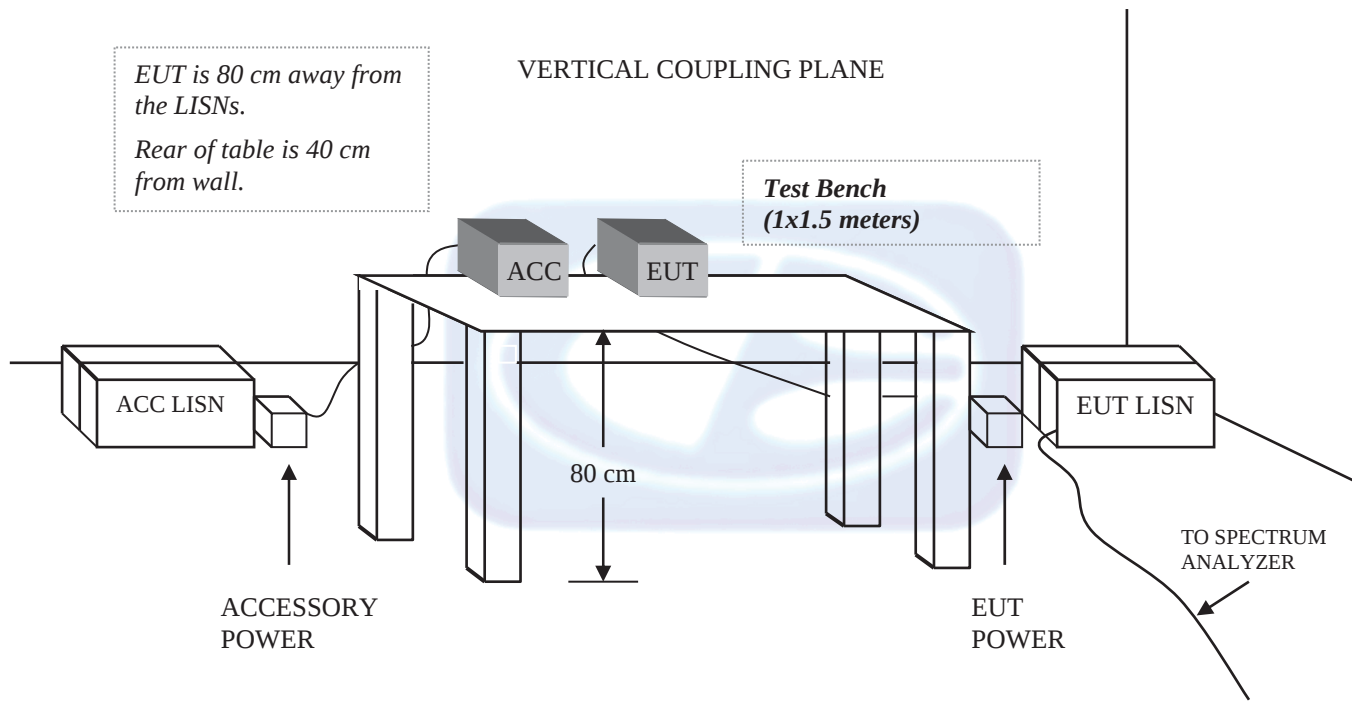
There are no additional models covered under this report.



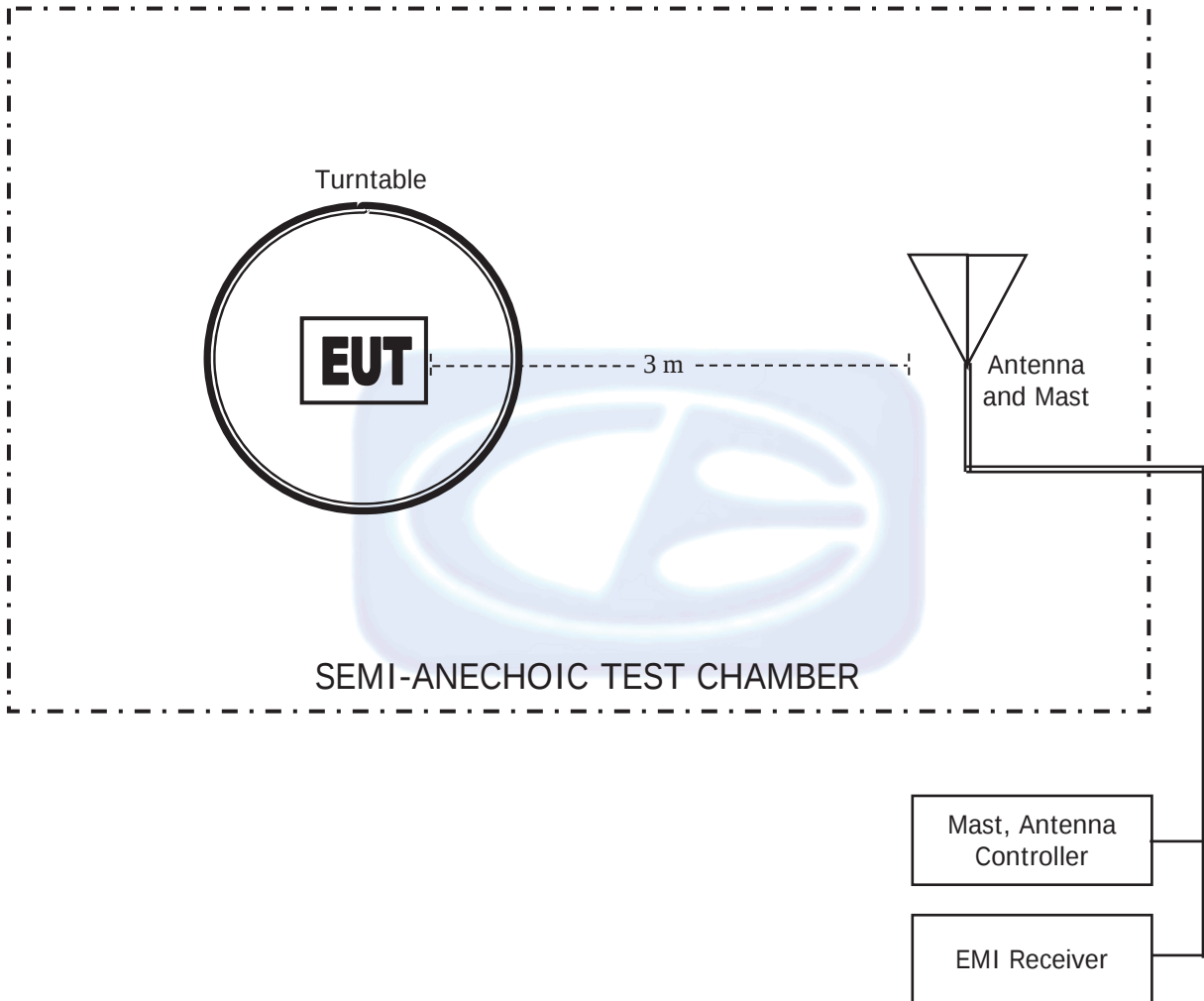


**APPENDIX D**

***DIAGRAMS AND CHARTS***

**FIGURE 1: CONDUCTED EMISSIONS TEST SETUP**

**FIGURE 2: LAYOUT OF THE SEMI MI-ANECHOIC TEST CHAMBER**



**COM-POWER AL-130****LOOP ANTENNA****S/N: 17089****CALIBRATION DATE: FEBRUARY 6, 2015**

| <b>FREQUENCY<br/>(MHz)</b> | <b>MAGNETIC<br/>(dB/m)</b> | <b>ELECTRIC<br/>(dB/m)</b> |
|----------------------------|----------------------------|----------------------------|
| 0.009                      | -33.18                     | 18.32                      |
| 0.01                       | -34.10                     | 17.40                      |
| 0.02                       | -38.65                     | 12.85                      |
| 0.03                       | -39.28                     | 12.22                      |
| 0.04                       | -40.09                     | 11.41                      |
| 0.05                       | -40.85                     | 10.65                      |
| 0.06                       | -40.88                     | 10.62                      |
| 0.07                       | -41.07                     | 10.43                      |
| 0.08                       | -41.04                     | 10.46                      |
| 0.09                       | -41.19                     | 10.31                      |
| 0.1                        | -41.20                     | 10.30                      |
| 0.2                        | -41.52                     | 9.98                       |
| 0.3                        | -41.53                     | 9.97                       |
| 0.4                        | -41.42                     | 10.08                      |
| 0.5                        | -41.53                     | 9.97                       |
| 0.6                        | -41.53                     | 9.97                       |
| 0.7                        | -41.43                     | 10.07                      |
| 0.8                        | -41.23                     | 10.27                      |
| 0.9                        | -41.13                     | 10.37                      |
| 1                          | -41.14                     | 10.36                      |
| 2                          | -40.80                     | 10.70                      |
| 3                          | -40.66                     | 10.84                      |
| 4                          | -40.61                     | 10.89                      |
| 5                          | -40.33                     | 11.17                      |
| 6                          | -40.53                     | 10.97                      |
| 7                          | -40.47                     | 11.03                      |
| 8                          | -40.48                     | 11.02                      |
| 9                          | -39.93                     | 11.57                      |
| 10                         | -39.81                     | 11.69                      |
| 15                         | -43.35                     | 8.15                       |
| 20                         | -39.16                     | 12.34                      |
| 25                         | -40.24                     | 11.26                      |
| 30                         | -43.18                     | 8.32                       |

**COM-POWER AC-220****COMBILOG ANTENNA****S/N: 61060****CALIBRATION DATE: SEPTEMBER 3, 2015**

| <b>FREQUENCY<br/>(MHz)</b> | <b>FACTOR<br/>(dB)</b> | <b>FREQUENCY<br/>(MHz)</b> | <b>FACTOR<br/>(dB)</b> |
|----------------------------|------------------------|----------------------------|------------------------|
| 30                         | 24.00                  | 200                        | 13.00                  |
| 35                         | 24.30                  | 250                        | 15.30                  |
| 40                         | 25.40                  | 300                        | 18.20                  |
| 45                         | 21.50                  | 350                        | 17.90                  |
| 50                         | 22.50                  | 400                        | 18.60                  |
| 60                         | 15.40                  | 450                        | 19.80                  |
| 70                         | 12.70                  | 500                        | 21.60                  |
| 80                         | 11.10                  | 550                        | 22.40                  |
| 90                         | 13.40                  | 600                        | 23.70                  |
| 100                        | 13.80                  | 650                        | 24.30                  |
| 120                        | 15.40                  | 700                        | 24.00                  |
| 125                        | 15.40                  | 750                        | 24.50                  |
| 140                        | 13.10                  | 800                        | 24.30                  |
| 150                        | 17.20                  | 850                        | 26.30                  |
| 160                        | 13.20                  | 900                        | 26.90                  |
| 175                        | 14.20                  | 950                        | 26.00                  |
| 180                        | 14.30                  | 1000                       | 25.60                  |

**COM POWER AH-118****HORN ANTENNA****S/N: 071175****CALIBRATION DATE: FEBRUARY 26, 2016**

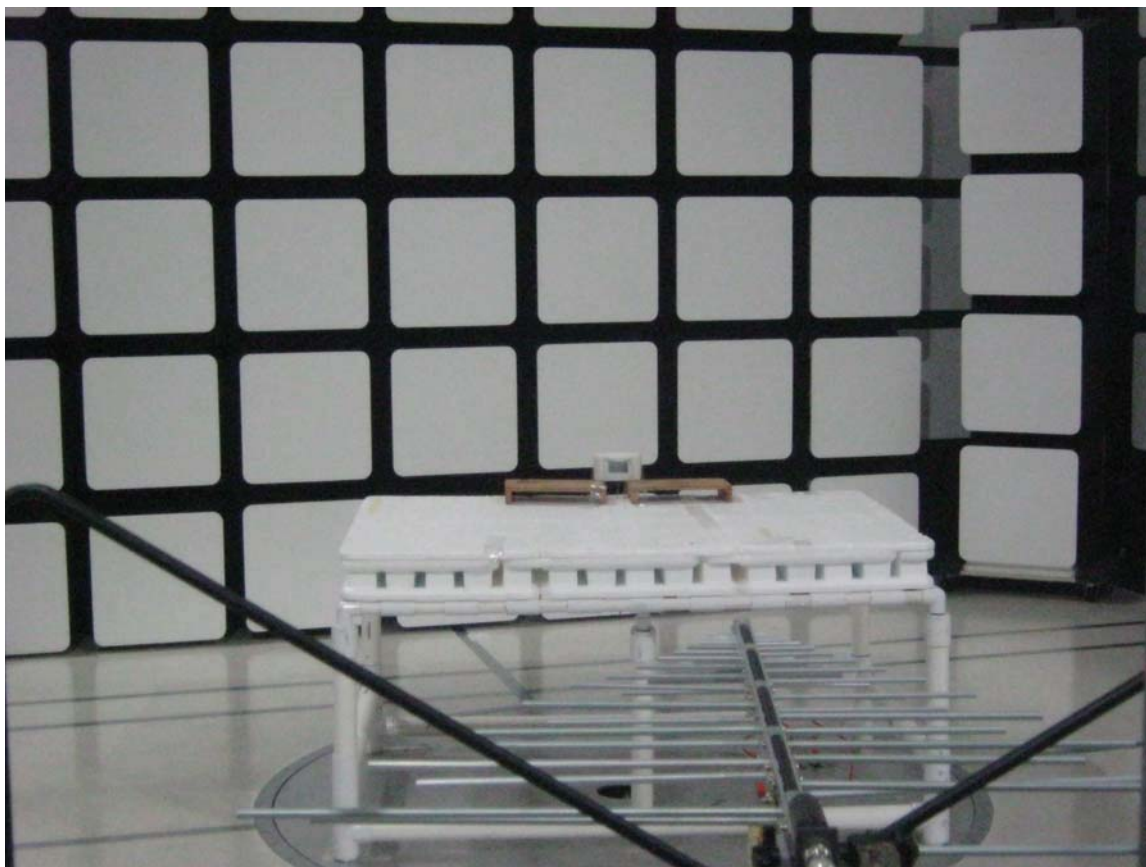
| <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> | <b>FREQUENCY<br/>(GHz)</b> | <b>FACTOR<br/>(dB)</b> |
|----------------------------|------------------------|----------------------------|------------------------|
| 1.0                        | 23.93                  | 10.0                       | 39.33                  |
| 1.5                        | 25.54                  | 10.5                       | 39.64                  |
| 2.0                        | 28.09                  | 11.0                       | 41.04                  |
| 2.5                        | 30.21                  | 11.5                       | 44.29                  |
| 3.0                        | 30.15                  | 12.0                       | 41.22                  |
| 3.5                        | 30.17                  | 12.5                       | 41.50                  |
| 4.0                        | 31.90                  | 13.0                       | 41.62                  |
| 4.5                        | 33.51                  | 13.5                       | 40.63                  |
| 5.0                        | 33.87                  | 14.0                       | 39.94                  |
| 5.5                        | 35.08                  | 14.5                       | 41.84                  |
| 6.0                        | 34.81                  | 15.0                       | 42.69                  |
| 6.5                        | 34.26                  | 15.5                       | 39.03                  |
| 7.0                        | 36.33                  | 16.0                       | 39.07                  |
| 7.5                        | 37.03                  | 16.5                       | 41.40                  |
| 8.0                        | 37.56                  | 17.0                       | 43.18                  |
| 8.5                        | 40.07                  | 17.5                       | 47.01                  |
| 9.0                        | 38.92                  | 18.0                       | 46.48                  |
| 9.5                        | 38.21                  |                            |                        |

**COM-POWER PA-118****PREAMPLIFIER**

S/N: 551024

CALIBRATION DATE: MAY 12, 2016

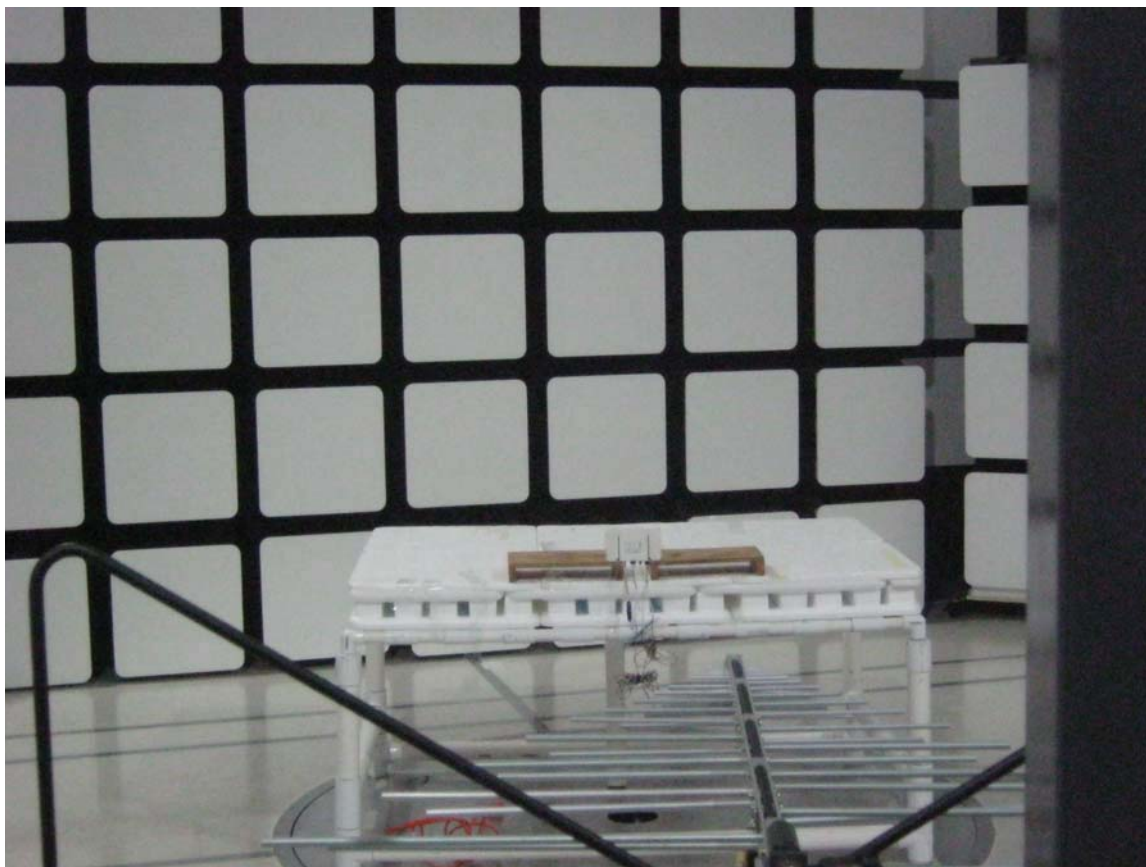
| FREQUENCY<br>(GHz) | FACTOR<br>(dB) | FREQUENCY<br>(GHz) | FACTOR<br>(dB) |
|--------------------|----------------|--------------------|----------------|
| 1.0                | 39.84          | 6.0                | 39.05          |
| 1.1                | 39.40          | 6.5                | 38.94          |
| 1.2                | 39.58          | 7.0                | 39.25          |
| 1.3                | 39.68          | 7.5                | 39.09          |
| 1.4                | 39.91          | 8.0                | 39.01          |
| 1.5                | 39.78          | 8.5                | 38.60          |
| 1.6                | 39.50          | 9.0                | 38.64          |
| 1.7                | 39.81          | 9.5                | 39.67          |
| 1.8                | 39.89          | 10.0               | 39.30          |
| 1.9                | 39.94          | 11.0               | 39.15          |
| 2.0                | 39.57          | 12.0               | 39.24          |
| 2.5                | 40.39          | 13.0               | 39.49          |
| 3.0                | 40.63          | 14.0               | 39.44          |
| 3.5                | 40.80          | 15.0               | 39.94          |
| 4.0                | 40.86          | 16.0               | 40.09          |
| 4.5                | 39.94          | 17.0               | 40.06          |
| 5.0                | 34.47          | 18.0               | 39.76          |
| 5.5                | 39.32          |                    |                |



**FRONT VIEW**

MESA LABS, INC.  
VPX SENSOR 900 MHz WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz – BATTERY MODE

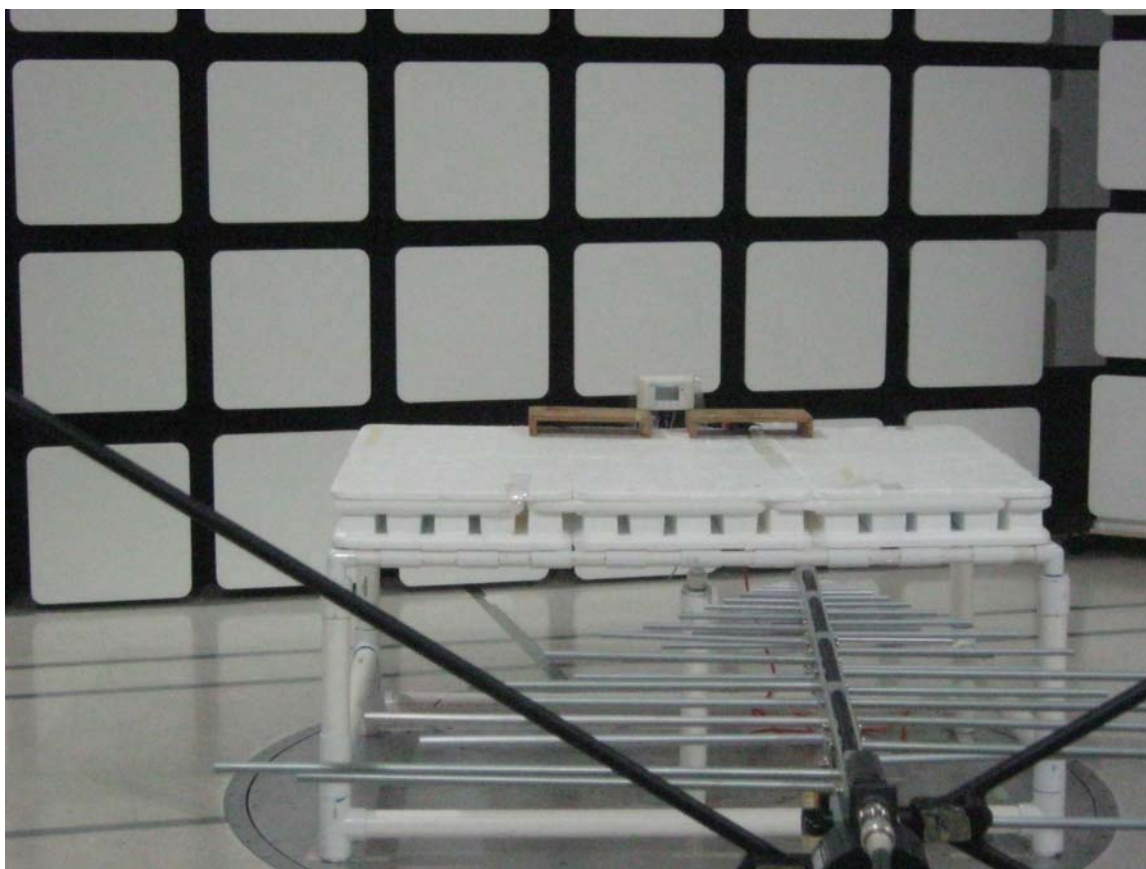
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

MESA LABS, INC.  
VPX SENSOR 900 MHz WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz – BATTERY MODE

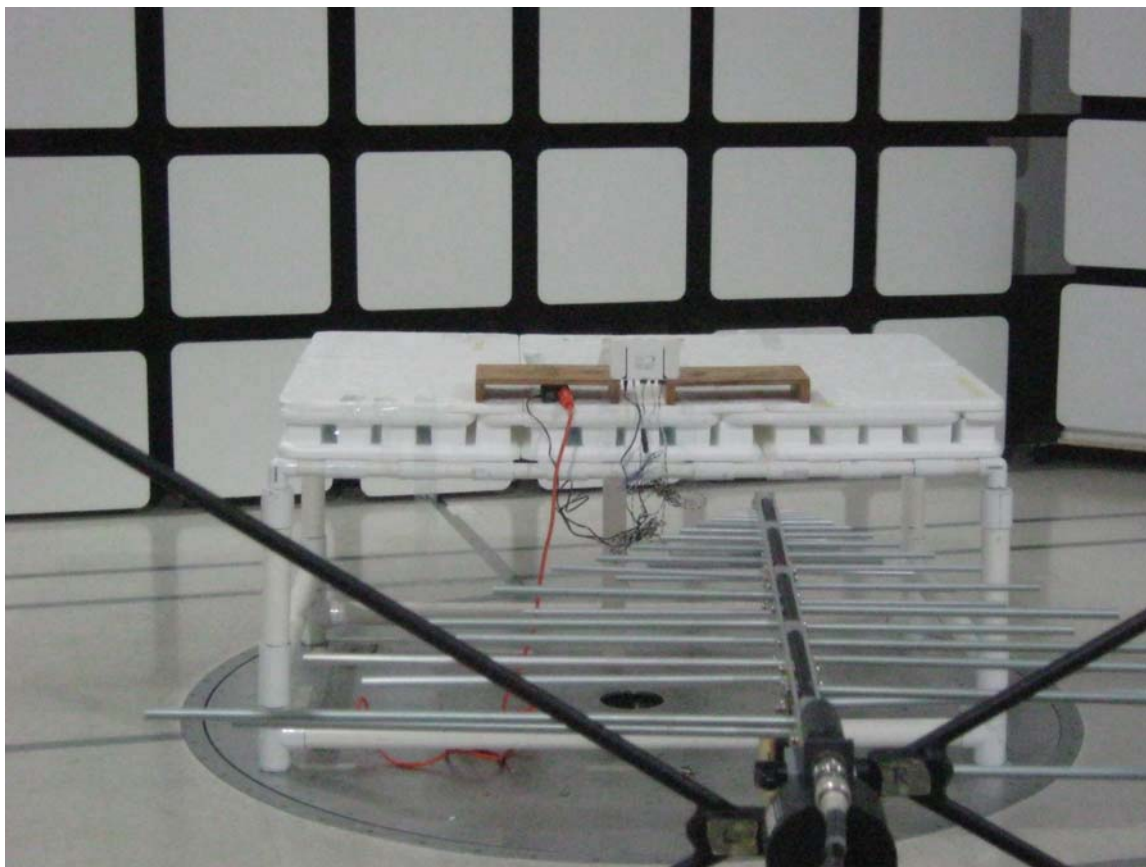
**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

MESA LABS, INC.  
VPX SENSOR 900 MHz WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz – AC MODE

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

MESA LABS, INC.  
VPX SENSOR 900 MHz WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – RADIATED EMISSIONS – BELOW 1 GHz – AC MODE

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

MESA LABS, INC.  
VPx SENSOR 900 MHz WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

MESA LABS, INC.  
VPx SENSOR 900 MHz WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – CONDUCTED EMISSIONS

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

MESA LABS, INC.  
VPX SENSOR 900 MHZ WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – RADIATED EMISSIONS – BATTERY MODE – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

MESA LABS, INC.  
VPX SENSOR 900 MHZ WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – RADIATED EMISSIONS – BATTERY MODE – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**FRONT VIEW**

MESA LABS, INC.  
VPX SENSOR 900 MHz WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – RADIATED EMISSIONS – AC MODE – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**REAR VIEW**

MESA LABS, INC.  
VPX SENSOR 900 MHZ WITH LCD  
MODEL: CM-000272  
FCC SUBPART B AND C – RADIATED EMISSIONS – AC MODE – ABOVE 1 GHz

**PHOTOGRAPH SHOWING THE EUT CONFIGURATION  
FOR MAXIMUM EMISSIONS**



**APPENDIX E**

***DATA SHEETS***



***RADIATED EMISSIONS  
DATA SHEETS***

**FCC 15.247**

Mesa Labs, Inc.  
 VPx Sensor 900 MHz with LCD  
 Model: CM-000272

Date: 07/28/2016  
 Lab: D  
 Tested By: Kyle Fujimoto

**Battery Mode**  
**Low Channel - X-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1805.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1805.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2707.86     | 54.39          | V         | 73.97 | -19.58 | Peak            | 81.50             | 142.83           |                        |
| 2707.86     | 34.39          | V         | 53.97 | -19.58 | Avg             | 81.50             | 142.83           |                        |
| 3610.48     | 48.90          | V         | 73.97 | -25.07 | Peak            | 90.25             | 111.31           |                        |
| 3610.48     | 28.90          | V         | 53.97 | -25.07 | Avg             | 90.25             | 111.31           |                        |
| 4513.1      | 57.58          | V         | 73.97 | -16.39 | Peak            | 72.00             | 142.89           |                        |
| 4513.1      | 37.58          | V         | 53.97 | -16.39 | Avg             | 72.00             | 142.89           |                        |
| 5415.72     | 48.91          | V         | 73.97 | -25.06 | Peak            | 100.75            | 110.95           |                        |
| 5415.72     | 28.91          | V         | 53.97 | -25.06 | Avg             | 100.75            | 110.95           |                        |
| 6318.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6318.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7220.96     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 7220.96     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 8123.58     | 50.42          | V         | 73.97 | -23.55 | Peak            | 151.25            | 159.25           |                        |
| 8123.58     | 30.42          | V         | 53.97 | -23.55 | Avg             | 151.25            | 159.25           |                        |
| 9026.2      | 43.85          | V         | 73.97 | -30.12 | Peak            | 48.25             | 249.25           |                        |
| 9026.2      | 23.85          | V         | 53.97 | -30.12 | Avg             | 48.25             | 249.25           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/28/2016  
Lab: D  
Tested By: Kyle Fujimoto

**Battery Mode**  
**Low Channel - Y-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1805.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1805.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2707.86     | 47.71          | V         | 73.97 | -26.26 | Peak            | 116.50            | 175.25           |                        |
| 2707.86     | 27.71          | V         | 53.97 | -26.26 | Avg             | 116.50            | 175.25           |                        |
| 3610.48     | 45.23          | V         | 73.97 | -28.74 | Peak            | 129.50            | 191.31           |                        |
| 3610.48     | 25.23          | V         | 53.97 | -28.74 | Avg             | 129.50            | 191.31           |                        |
| 4513.1      | 53.38          | V         | 73.97 | -20.59 | Peak            | 185.50            | 127.25           |                        |
| 4513.1      | 33.38          | V         | 53.97 | -20.59 | Avg             | 185.50            | 127.25           |                        |
| 5415.72     | 46.70          | V         | 73.97 | -27.27 | Peak            | 164.25            | 127.25           |                        |
| 5415.72     | 26.70          | V         | 53.97 | -27.27 | Avg             | 164.25            | 127.25           |                        |
| 6318.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6318.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7220.96     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 7220.96     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 8123.58     | 51.68          | V         | 73.97 | -22.29 | Peak            | 148.75            | 127.37           |                        |
| 8123.58     | 31.68          | V         | 53.97 | -22.29 | Avg             | 148.75            | 127.37           |                        |
| 9026.2      | 43.49          | V         | 73.97 | -30.48 | Peak            | 161.75            | 157.88           |                        |
| 9026.2      | 23.49          | V         | 53.97 | -30.48 | Avg             | 161.75            | 157.88           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/28/2016  
Lab: D  
Tested By: Kyle Fujimoto

**Battery Mode**  
**Low Channel - X-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1805.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1805.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2707.86     | 45.70          | H         | 73.97 | -28.27 | Peak            | 305.50            | 158.95           |                        |
| 2707.86     | 25.70          | H         | 53.97 | -28.27 | Avg             | 305.50            | 158.95           |                        |
| 3610.48     | 42.39          | H         | 73.97 | -31.58 | Peak            | 303.00            | 127.31           |                        |
| 3610.48     | 22.39          | H         | 53.97 | -31.58 | Avg             | 303.00            | 127.31           |                        |
| 4513.1      | 46.57          | H         | 73.97 | -27.40 | Peak            | 86.75             | 143.01           |                        |
| 4513.1      | 26.57          | H         | 53.97 | -27.40 | Avg             | 86.75             | 143.01           |                        |
| 5415.72     | 41.70          | H         | 73.97 | -32.27 | Peak            | 146.50            | 142.95           |                        |
| 5415.72     | 21.70          | H         | 53.97 | -32.27 | Avg             | 146.50            | 142.95           |                        |
| 6318.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6318.34     |                |           |       |        |                 |                   |                  | Done Via Conducted     |
| 7220.96     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 7220.96     |                |           |       |        |                 |                   |                  | Done Via Conducted     |
| 8123.58     | 47.36          | H         | 73.97 | -26.61 | Peak            | 358.50            | 223.13           |                        |
| 8123.58     | 27.36          | H         | 53.97 | -26.61 | Avg             | 358.50            | 223.13           |                        |
| 9026.2      | 45.66          | H         | 73.97 | -28.31 | Peak            | 4.75              | 127.01           |                        |
| 9026.2      | 25.66          | H         | 53.97 | -28.31 | Avg             | 4.75              | 127.01           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
 VPx Sensor 900 MHz with LCD  
 Model: CM-000272

Date: 07/28/2016  
 Lab: D  
 Tested By: Kyle Fujimoto

**Battery Mode**  
**Low Channel - Y-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1805.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1805.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2707.86     | 50.34          | H         | 73.97 | -23.63 | Peak            | 94.75             | 142.95           |                        |
| 2707.86     | 30.34          | H         | 53.97 | -23.63 | Avg             | 94.75             | 142.95           |                        |
| 3610.48     | 48.65          | H         | 73.97 | -25.32 | Peak            | 204.00            | 175.07           |                        |
| 3610.48     | 28.65          | H         | 53.97 | -25.32 | Avg             | 204.00            | 175.07           |                        |
| 4513.1      | 58.27          | H         | 73.97 | -15.70 | Peak            | 200.75            | 143.07           |                        |
| 4513.1      | 38.27          | H         | 53.97 | -15.70 | Avg             | 200.75            | 143.07           |                        |
| 5415.72     | 48.93          | H         | 73.97 | -25.04 | Peak            | 202.50            | 175.07           |                        |
| 5415.72     | 28.93          | H         | 53.97 | -25.04 | Avg             | 202.50            | 175.07           |                        |
| 6318.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6318.34     |                |           |       |        |                 |                   |                  | Done Via Conducted     |
| 7220.96     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 7220.96     |                |           |       |        |                 |                   |                  | Done Via Conducted     |
| 8123.58     | 55.09          | H         | 73.97 | -18.88 | Peak            | 165.50            | 175.07           |                        |
| 8123.58     | 35.09          | H         | 53.97 | -18.88 | Avg             | 165.50            | 175.07           |                        |
| 9026.2      | 50.82          | H         | 73.97 | -23.15 | Peak            | 151.25            | 111.31           |                        |
| 9026.2      | 30.82          | H         | 53.97 | -23.15 | Avg             | 151.25            | 111.31           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
 VPx Sensor 900 MHz with LCD  
 Model: CM-000272

Date: 07/29/2016  
 Lab: D  
 Tested By: Kyle Fujimoto

**Battery Mode**  
**Middle Channel - X-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1830.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1830.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2745.36     | 51.42          | V         | 73.97 | -22.55 | Peak            | 343.00            | 125.94           |                        |
| 2745.36     | 31.42          | V         | 53.97 | -22.55 | Avg             | 343.00            | 125.94           |                        |
| 3660.48     | 50.51          | V         | 73.97 | -23.46 | Peak            | 36.25             | 143.19           |                        |
| 3660.48     | 30.51          | V         | 53.97 | -23.46 | Avg             | 36.25             | 143.19           |                        |
| 4575.6      | 60.53          | V         | 73.97 | -13.44 | Peak            | 205.25            | 159.13           |                        |
| 4575.6      | 40.53          | V         | 53.97 | -13.44 | Avg             | 205.25            | 159.13           |                        |
| 5490.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5490.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6405.84     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6405.84     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7320.96     | 58.39          | V         | 73.97 | -15.58 | Peak            | 295.00            | 159.31           |                        |
| 7320.96     | 38.39          | V         | 53.97 | -15.58 | Avg             | 295.00            | 159.31           |                        |
| 8236.08     | 50.44          | V         | 73.97 | -23.53 | Peak            | 157.25            | 110.95           |                        |
| 8236.08     | 30.44          | V         | 53.97 | -23.53 | Avg             | 157.25            | 110.95           |                        |
| 9151.2      | 45.25          | V         | 73.97 | -28.72 | Peak            | 359.50            | 250.00           |                        |
| 9151.2      | 25.25          | V         | 53.97 | -28.72 | Avg             | 359.50            | 250.00           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/29/2016  
Lab: D  
Tested By: Kyle Fujimoto

**Battery Mode**  
**Middle Channel - Y-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1830.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1830.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2745.36     | 51.06          | V         | 73.97 | -22.91 | Peak            | 98.00             | 191.13           |                        |
| 2745.36     | 31.06          | V         | 53.97 | -22.91 | Avg             | 98.00             | 191.13           |                        |
| 3660.48     | 41.06          | V         | 73.97 | -32.91 | Peak            | 111.25            | 191.19           |                        |
| 3660.48     | 21.06          | V         | 53.97 | -32.91 | Avg             | 111.25            | 191.19           |                        |
| 4575.6      | 49.78          | V         | 73.97 | -24.19 | Peak            | 177.25            | 100.73           |                        |
| 4575.6      | 29.78          | V         | 53.97 | -24.19 | Avg             | 177.25            | 100.73           |                        |
| 5490.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5490.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6405.84     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6405.84     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7320.96     | 50.76          | V         | 73.97 | -23.21 | Peak            | 143.25            | 222.41           |                        |
| 7320.96     | 30.76          | V         | 53.97 | -23.21 | Avg             | 143.25            | 222.41           |                        |
| 8236.08     | 39.15          | V         | 73.97 | -34.82 | Peak            | 143.50            | 223.43           |                        |
| 8236.08     | 19.15          | V         | 53.97 | -34.82 | Avg             | 143.50            | 223.43           |                        |
| 9151.2      | 33.80          | V         | 73.97 | -40.17 | Peak            | 165.00            | 127.19           |                        |
| 9151.2      | 13.80          | V         | 53.97 | -40.17 | Avg             | 165.00            | 127.19           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
 VPx Sensor 900 MHz with LCD  
 Model: CM-000272

Date: 07/29/2016  
 Lab: D  
 Tested By: Kyle Fujimoto

**Battery Mode**  
**Middle Channel - X-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1830.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1830.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2745.36     | 37.67          | H         | 73.97 | -36.30 | Peak            | 94.75             | 241.34           |                        |
| 2745.36     | 17.67          | H         | 53.97 | -36.30 | Avg             | 94.75             | 241.34           |                        |
| 3660.48     | 39.09          | H         | 73.97 | -34.88 | Peak            | 293.50            | 100.01           |                        |
| 3660.48     | 19.09          | H         | 53.97 | -34.88 | Avg             | 293.50            | 100.01           |                        |
| 4575.6      | 54.58          | H         | 73.97 | -19.39 | Peak            | 177.00            | 111.01           |                        |
| 4575.6      | 34.58          | H         | 53.97 | -19.39 | Avg             | 177.00            | 111.01           |                        |
| 5490.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5490.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6405.84     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6405.84     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7320.96     | 55.21          | H         | 73.97 | -18.76 | Peak            | 320.00            | 223.19           |                        |
| 7320.96     | 35.21          | H         | 53.97 | -18.76 | Avg             | 320.00            | 223.19           |                        |
| 8236.08     | 48.49          | H         | 73.97 | -25.48 | Peak            | 283.50            | 174.95           |                        |
| 8236.08     | 28.49          | H         | 53.97 | -25.48 | Avg             | 283.50            | 174.95           |                        |
| 9151.2      | 48.85          | H         | 73.97 | -25.12 | Peak            | 240.00            | 222.89           |                        |
| 9151.2      | 28.85          | H         | 53.97 | -25.12 | Avg             | 240.00            | 222.89           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/29/2016  
Lab: D  
Tested By: Kyle Fujimoto

**Battery Mode**  
**Middle Channel - Y-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1830.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1830.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2745.36     | 56.25          | H         | 73.97 | -17.72 | Peak            | 205.25            | 223.79           |                        |
| 2745.36     | 36.25          | H         | 53.97 | -17.72 | Avg             | 205.25            | 223.79           |                        |
| 3660.48     | 46.72          | H         | 73.97 | -27.25 | Peak            | 108.00            | 223.61           |                        |
| 3660.48     | 26.72          | H         | 53.97 | -27.25 | Avg             | 108.00            | 223.61           |                        |
| 4575.6      | 55.10          | H         | 73.97 | -18.87 | Peak            | 137.75            | 127.19           |                        |
| 4575.6      | 35.10          | H         | 53.97 | -18.87 | Avg             | 137.75            | 127.19           |                        |
| 5490.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5490.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6405.84     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6405.84     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7320.96     | 58.90          | H         | 73.97 | -15.07 | Peak            | 151.25            | 112.56           |                        |
| 7320.96     | 38.90          | H         | 53.97 | -15.07 | Avg             | 151.25            | 112.56           |                        |
| 8236.08     | 43.95          | H         | 73.97 | -30.02 | Peak            | 208.75            | 175.19           |                        |
| 8236.08     | 23.95          | H         | 53.97 | -30.02 | Avg             | 208.75            | 175.19           |                        |
| 9151.2      | 39.60          | H         | 73.97 | -34.37 | Peak            | 156.00            | 111.19           |                        |
| 9151.2      | 19.60          | H         | 53.97 | -34.37 | Avg             | 156.00            | 111.19           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/29/2016  
Lab: D  
Tested By: Kyle Fujimoto

**Battery Mode**  
**High Channel - X-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1855.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1855.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2782.86     | 51.53          | V         | 73.97 | -22.44 | Peak            | 49.25             | 207.25           |                        |
| 2782.86     | 31.53          | V         | 53.97 | -22.44 | Avg             | 49.25             | 207.25           |                        |
| 3710.48     | 45.71          | V         | 73.97 | -28.26 | Peak            | 204.25            | 111.25           |                        |
| 3710.48     | 25.71          | V         | 53.97 | -28.26 | Avg             | 204.25            | 111.25           |                        |
| 4638.1      | 60.23          | V         | 73.97 | -13.74 | Peak            | 27.50             | 111.37           |                        |
| 4638.1      | 40.23          | V         | 53.97 | -13.74 | Avg             | 27.50             | 111.37           |                        |
| 5565.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5565.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6493.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6493.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7420.96     | 57.85          | V         | 73.97 | -16.12 | Peak            | 300.25            | 111.07           |                        |
| 7420.96     | 37.85          | V         | 53.97 | -16.12 | Avg             | 300.25            | 111.07           |                        |
| 8348.58     | 48.84          | V         | 73.97 | -25.13 | Peak            | 300.50            | 207.37           |                        |
| 8348.58     | 28.84          | V         | 53.97 | -25.13 | Avg             | 300.50            | 207.37           |                        |
| 9276.2      | 45.83          | V         | 73.97 | -28.14 | Peak            | 53.25             | 207.25           |                        |
| 9276.2      | 25.83          | V         | 53.97 | -28.14 | Avg             | 53.25             | 207.25           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/29/2016  
Lab: D  
Tested By: Kyle Fujimoto

**Battery Mode**  
**High Channel - Y-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1855.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1855.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2782.86     | 50.71          | V         | 73.97 | -23.26 | Peak            | 263.25            | 191.19           |                        |
| 2782.86     | 30.71          | V         | 53.97 | -23.26 | Avg             | 263.25            | 191.19           |                        |
| 3710.48     | 44.78          | V         | 73.97 | -29.19 | Peak            | 277.00            | 207.01           |                        |
| 3710.48     | 24.78          | V         | 53.97 | -29.19 | Avg             | 277.00            | 207.01           |                        |
| 4638.1      | 53.35          | V         | 73.97 | -20.62 | Peak            | 287.25            | 175.07           |                        |
| 4638.1      | 33.35          | V         | 53.97 | -20.62 | Avg             | 287.25            | 175.07           |                        |
| 5565.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5565.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6493.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6493.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7420.96     | 59.45          | V         | 73.97 | -14.52 | Peak            | 253.25            | 250.11           |                        |
| 7420.96     | 39.45          | V         | 53.97 | -14.52 | Avg             | 253.25            | 250.11           |                        |
| 8348.58     | 49.02          | V         | 73.97 | -24.95 | Peak            | 295.00            | 250.05           |                        |
| 8348.58     | 29.02          | V         | 53.97 | -24.95 | Avg             | 295.00            | 250.05           |                        |
| 9276.2      | 45.64          | V         | 73.97 | -28.33 | Peak            | 74.00             | 126.77           |                        |
| 9276.2      | 25.64          | V         | 53.97 | -28.33 | Avg             | 74.00             | 126.77           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/29/2016  
Lab: D  
Tested By: Kyle Fujimoto

**Battery Mode**  
**High Channel - X-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1855.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1855.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2782.86     | 51.34          | H         | 73.97 | -22.63 | Peak            | 223.50            | 143.25           |                        |
| 2782.86     | 31.34          | H         | 53.97 | -22.63 | Avg             | 223.50            | 143.25           |                        |
| 3710.48     | 43.40          | H         | 73.97 | -30.57 | Peak            | 226.50            | 126.89           |                        |
| 3710.48     | 23.40          | H         | 53.97 | -30.57 | Avg             | 226.50            | 126.89           |                        |
| 4638.1      | 45.03          | H         | 73.97 | -28.94 | Peak            | 245.25            | 175.37           |                        |
| 4638.1      | 25.03          | H         | 53.97 | -28.94 | Avg             | 245.25            | 175.37           |                        |
| 5565.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5565.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6493.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6493.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7420.96     | 46.62          | H         | 73.97 | -27.35 | Peak            | 102.00            | 159.13           |                        |
| 7420.96     | 26.62          | H         | 53.97 | -27.35 | Avg             | 102.00            | 159.13           |                        |
| 8348.58     | 45.30          | H         | 73.97 | -28.67 | Peak            | 83.50             | 174.83           |                        |
| 8348.58     | 25.30          | H         | 53.97 | -28.67 | Avg             | 83.50             | 174.83           |                        |
| 9276.2      | 44.80          | H         | 73.97 | -29.17 | Peak            | 140.50            | 239.31           |                        |
| 9276.2      | 24.80          | H         | 53.97 | -29.17 | Avg             | 140.50            | 239.31           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/29/2016  
Lab: D  
Tested By: Kyle Fujimoto

**Battery Mode**  
**High Channel - Y-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1855.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1855.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2782.86     | 55.96          | H         | 73.97 | -18.01 | Peak            | 255.25            | 222.89           |                        |
| 2782.86     | 35.96          | H         | 53.97 | -18.01 | Avg             | 255.25            | 222.89           |                        |
| 3710.48     | 46.24          | H         | 73.97 | -27.73 | Peak            | 261.25            | 175.07           |                        |
| 3710.48     | 26.24          | H         | 53.97 | -27.73 | Avg             | 261.25            | 175.07           |                        |
| 4638.1      | 62.81          | H         | 73.97 | -11.16 | Peak            | 1.00              | 207.19           |                        |
| 4638.1      | 42.81          | H         | 53.97 | -11.16 | Avg             | 1.00              | 207.19           |                        |
| 5565.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5565.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6493.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6493.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7420.96     | 65.20          | H         | 73.97 | -8.77  | Peak            | 301.25            | 159.01           |                        |
| 7420.96     | 45.20          | H         | 53.97 | -8.77  | Avg             | 301.25            | 159.01           |                        |
| 8348.58     | 50.04          | H         | 73.97 | -23.93 | Peak            | 303.50            | 110.77           |                        |
| 8348.58     | 30.04          | H         | 53.97 | -23.93 | Avg             | 303.50            | 110.77           |                        |
| 9276.2      | 51.10          | H         | 73.97 | -22.87 | Peak            | 297.50            | 127.13           |                        |
| 9276.2      | 31.10          | H         | 53.97 | -22.87 | Avg             | 297.50            | 127.13           |                        |



**FCC 15.247**

Mesa Labs, Inc.  
 VPx Sensor 900 MHz with LCD  
 Model: CM-000272  
 Battery Mode

Date: 07/29/2016  
 Lab: D  
 Tested By: Kyle Fujimoto

**Non Harmonic Emissions from the Tx - 10 kHz to 30 MHz and 1 GHz to 9.3 GHz**  
**Digital Portion from the EUT - 10 kHz to 30 MHz and 1 GHz to 9.3 GHz**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments                        |
|-------------|--------------|-----------|-------|--------|-----------------|-----------------|-------------------|---------------------------------|
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   | No Emissions Detected           |
|             |              |           |       |        |                 |                 |                   | from the Non Harmonic Emissions |
|             |              |           |       |        |                 |                 |                   | from the Tx                     |
|             |              |           |       |        |                 |                 |                   | 10 kHz to 30 MHz                |
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   | No Emissions Detected           |
|             |              |           |       |        |                 |                 |                   | from the Non Harmonic Emissions |
|             |              |           |       |        |                 |                 |                   | from the Tx                     |
|             |              |           |       |        |                 |                 |                   | 1 GHz to 9.3 GHz                |
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   | No Emissions Detected           |
|             |              |           |       |        |                 |                 |                   | from the Digital Portion        |
|             |              |           |       |        |                 |                 |                   | of the EUT                      |
|             |              |           |       |        |                 |                 |                   | 10 kHz to 30 MHz                |
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   | No Emissions Detected           |
|             |              |           |       |        |                 |                 |                   | from the Digital Portion        |
|             |              |           |       |        |                 |                 |                   | of the EUT                      |
|             |              |           |       |        |                 |                 |                   | 1 GHz to 9.3 GHz                |
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   | Tested in both Horizontal and   |
|             |              |           |       |        |                 |                 |                   | Vertical Polarizations          |
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   |                                 |
|             |              |           |       |        |                 |                 |                   |                                 |

**FCC 15.247**

Mesa Labs, Inc.

VPx Sensor 900 MHz with LCD

Model: CM-000272

**AC Power Mode**

**Low Channel - X-Axis**

**Transmit Mode**

Date: 07/28/2016

Lab: D

Tested By: Kyle Fujimoto

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1805.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1805.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2707.86     | 51.56          | V         | 73.97 | -22.41 | Peak            | 259.00            | 126.83           |                        |
| 2707.86     | 31.56          | V         | 53.97 | -22.41 | Avg             | 259.00            | 126.83           |                        |
| 3610.48     | 51.15          | V         | 73.97 | -22.82 | Peak            | 84.25             | 111.37           |                        |
| 3610.48     | 31.15          | V         | 53.97 | -22.82 | Avg             | 84.25             | 111.37           |                        |
| 4513.1      | 53.96          | V         | 73.97 | -20.01 | Peak            | 72.25             | 127.01           |                        |
| 4513.1      | 33.96          | V         | 53.97 | -20.01 | Avg             | 72.25             | 127.01           |                        |
| 5415.72     | 48.68          | V         | 73.97 | -25.29 | Peak            | 101.50            | 111.25           |                        |
| 5415.72     | 28.68          | V         | 53.97 | -25.29 | Avg             | 101.50            | 111.25           |                        |
| 6318.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6318.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7220.96     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 7220.96     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 8123.58     | 52.01          | V         | 73.97 | -21.96 | Peak            | 351.00            | 111.07           |                        |
| 8123.58     | 32.01          | V         | 53.97 | -21.96 | Avg             | 351.00            | 111.07           |                        |
| 9026.2      | 43.68          | V         | 73.97 | -30.29 | Peak            | 35.00             | 206.77           |                        |
| 9026.2      | 23.68          | V         | 53.97 | -30.29 | Avg             | 35.00             | 206.77           |                        |

**FCC 15.247**

Mesa Labs, Inc.

VPx Sensor 900 MHz with LCD

Model: CM-000272

**AC Power Mode**

**Low Channel - Y-Axis**

**Transmit Mode**

Date: 07/28/2016

Lab: D

Tested By: Kyle Fujimoto

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1805.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1805.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2707.86     | 43.59          | V         | 73.97 | -30.38 | Peak            | 102.00            | 223.07           |                        |
| 2707.86     | 23.59          | V         | 53.97 | -30.38 | Avg             | 102.00            | 223.07           |                        |
| 3610.48     | 46.46          | V         | 73.97 | -27.51 | Peak            | 137.75            | 175.19           |                        |
| 3610.48     | 26.46          | V         | 53.97 | -27.51 | Avg             | 137.75            | 175.19           |                        |
| 4513.1      | 53.52          | V         | 73.97 | -20.45 | Peak            | 150.75            | 143.01           |                        |
| 4513.1      | 33.52          | V         | 53.97 | -20.45 | Avg             | 150.75            | 143.01           |                        |
| 5415.72     | 43.01          | V         | 73.97 | -30.96 | Peak            | 177.00            | 222.95           |                        |
| 5415.72     | 23.01          | V         | 53.97 | -30.96 | Avg             | 177.00            | 222.95           |                        |
| 6318.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6318.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7220.96     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 7220.96     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 8123.58     | 52.19          | V         | 73.97 | -21.78 | Peak            | 169.00            | 222.95           |                        |
| 8123.58     | 32.19          | V         | 53.97 | -21.78 | Avg             | 169.00            | 222.95           |                        |
| 9026.2      | 43.99          | V         | 73.97 | -29.98 | Peak            | 129.00            | 158.83           |                        |
| 9026.2      | 22.99          | V         | 53.97 | -22.98 | Avg             | 129.00            | 158.83           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/28/2016

Lab: D

Tested By: Kyle Fujimoto

**AC Power Mode**

**Low Channel - X-Axis**

**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1805.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1805.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2707.86     | 35.67          | H         | 73.97 | -38.30 | Peak            | 277.00            | 142.83           |                        |
| 2707.86     | 15.67          | H         | 53.97 | -38.30 | Avg             | 277.00            | 142.83           |                        |
| 3610.48     | 42.57          | H         | 73.97 | -31.40 | Peak            | 49.50             | 127.61           |                        |
| 3610.48     | 22.57          | H         | 53.97 | -31.40 | Avg             | 49.50             | 127.61           |                        |
| 4513.1      | 44.95          | H         | 73.97 | -29.02 | Peak            | 49.50             | 127.19           |                        |
| 4513.1      | 24.95          | H         | 53.97 | -29.02 | Avg             | 49.50             | 127.19           |                        |
| 5415.72     | 41.87          | H         | 73.97 | -32.10 | Peak            | 312.25            | 223.31           |                        |
| 5415.72     | 21.87          | H         | 53.97 | -32.10 | Avg             | 312.25            | 223.31           |                        |
| 6318.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6318.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7220.96     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 7220.96     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 8123.58     | 50.43          | H         | 73.97 | -23.54 | Peak            | 312.50            | 126.00           |                        |
| 8123.58     | 30.43          | H         | 53.97 | -23.54 | Avg             | 312.50            | 126.00           |                        |
| 9026.2      | 43.52          | H         | 73.97 | -30.45 | Peak            | 3.00              | 142.95           |                        |
| 9026.2      | 23.52          | H         | 53.97 | -30.45 | Avg             | 3.00              | 142.95           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
 VPx Sensor 900 MHz with LCD  
 Model: CM-000272

Date: 07/28/2016  
 Lab: D  
 Tested By: Kyle Fujimoto

**AC Power Mode**  
**Low Channel - Y-Axis**  
**Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV/m) | Pol<br>(v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(cm) | Comments               |
|----------------|-------------------|--------------|-------|--------|-----------------------|-------------------------|------------------------|------------------------|
| 1805.24        |                   |              |       |        |                       |                         |                        | Not in Restricted Band |
| 1805.24        |                   |              |       |        |                       |                         |                        | Done via Conducted     |
| 2707.86        | 50.87             | H            | 73.97 | -23.10 | Peak                  | 115.25                  | 111.19                 |                        |
| 2707.86        | 30.87             | H            | 53.97 | -23.10 | Avg                   | 115.25                  | 111.19                 |                        |
| 3610.48        | 48.06             | H            | 73.97 | -25.91 | Peak                  | 150.25                  | 142.00                 |                        |
| 3610.48        | 28.06             | H            | 53.97 | -25.91 | Avg                   | 150.25                  | 142.00                 |                        |
| 4513.1         | 55.95             | H            | 73.97 | -18.02 | Peak                  | 151.25                  | 110.95                 |                        |
| 4513.1         | 35.95             | H            | 53.97 | -18.02 | Avg                   | 151.25                  | 110.95                 |                        |
| 5415.72        | 52.11             | H            | 73.97 | -21.86 | Peak                  | 201.00                  | 158.89                 |                        |
| 5415.72        | 32.11             | H            | 53.97 | -21.86 | Avg                   | 201.00                  | 158.89                 |                        |
| 6318.34        |                   |              |       |        |                       |                         |                        | Not in Restricted Band |
| 6318.34        |                   |              |       |        |                       |                         |                        | Done via Conducted     |
| 7220.96        |                   |              |       |        |                       |                         |                        | Not in Restricted Band |
| 7220.96        |                   |              |       |        |                       |                         |                        | Done via Conducted     |
| 8123.58        | 57.16             | H            | 73.97 | -16.81 | Peak                  | 176.25                  | 110.89                 |                        |
| 8123.58        | 37.16             | H            | 53.97 | -16.81 | Avg                   | 176.25                  | 110.89                 |                        |
| 9026.2         | 50.54             | H            | 73.97 | -23.43 | Peak                  | 195.75                  | 174.95                 |                        |
| 9026.2         | 30.54             | H            | 53.97 | -23.43 | Avg                   | 195.75                  | 174.95                 |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/28/2016

Lab: D

Tested By: Kyle Fujimoto

**AC Power Mode**
**Middle Channel - X-Axis**
**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1830.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1830.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2745.36     | 47.89          | V         | 73.97 | -26.08 | Peak            | 73.25             | 110.95           |                        |
| 2745.36     | 27.89          | V         | 53.97 | -26.08 | Avg             | 73.25             | 110.95           |                        |
| 3660.48     | 48.82          | V         | 73.97 | -25.15 | Peak            | 70.75             | 111.13           |                        |
| 3660.48     | 28.82          | V         | 53.97 | -25.15 | Avg             | 70.75             | 111.13           |                        |
| 4575.6      | 48.82          | V         | 73.97 | -25.15 | Peak            | 71.75             | 111.13           |                        |
| 4575.6      | 28.82          | V         | 53.97 | -25.15 | Avg             | 71.75             | 111.13           |                        |
| 5490.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5490.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6405.84     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6405.84     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7320.96     | 59.56          | V         | 73.97 | -14.41 | Peak            | 54.25             | 249.94           |                        |
| 7320.96     | 39.56          | V         | 53.97 | -14.41 | Avg             | 54.25             | 249.94           |                        |
| 8236.08     | 47.76          | V         | 73.97 | -26.21 | Peak            | 131.75            | 100.00           |                        |
| 8236.08     | 27.76          | V         | 53.97 | -26.21 | Avg             | 131.75            | 100.00           |                        |
| 9151.2      | 43.64          | V         | 73.97 | -30.33 | Peak            | 110.25            | 175.07           |                        |
| 9151.2      | 23.64          | V         | 53.97 | -30.33 | Avg             | 110.25            | 175.07           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/28/2016

Lab: D

Tested By: Kyle Fujimoto

**AC Power Mode**

**Middle Channel - Y-Axis**

**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1830.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1830.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2745.36     | 47.74          | V         | 73.97 | -26.23 | Peak            | 279.25            | 100.01           |                        |
| 2745.36     | 27.74          | V         | 53.97 | -26.23 | Avg             | 279.25            | 100.01           |                        |
| 3660.48     | 46.66          | V         | 73.97 | -27.31 | Peak            | 21.25             | 191.07           |                        |
| 3660.48     | 26.66          | V         | 53.97 | -27.31 | Avg             | 21.25             | 191.07           |                        |
| 4575.6      | 54.89          | V         | 73.97 | -19.08 | Peak            | 340.25            | 159.25           |                        |
| 4575.6      | 34.89          | V         | 53.97 | -19.08 | Avg             | 340.25            | 159.25           |                        |
| 5490.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5490.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6405.84     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6405.84     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7320.96     | 52.50          | V         | 73.97 | -21.47 | Peak            | 194.00            | 127.13           |                        |
| 7320.96     | 32.50          | V         | 53.97 | -21.47 | Avg             | 194.00            | 127.13           |                        |
| 8236.08     | 45.48          | V         | 73.97 | -28.49 | Peak            | 7.25              | 175.25           |                        |
| 8236.08     | 25.48          | V         | 53.97 | -28.49 | Avg             | 7.25              | 175.25           |                        |
| 9151.2      | 43.86          | V         | 73.97 | -30.11 | Peak            | 156.25            | 222.95           |                        |
| 9151.2      | 23.86          | V         | 53.97 | -30.11 | Avg             | 156.25            | 222.95           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/28/2016

Lab: D

Tested By: Kyle Fujimoto

**AC Power Mode**

**Middle Channel - X-Axis**

**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1830.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1830.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2745.36     | 43.58          | H         | 73.97 | -30.39 | Peak            | 254.25            | 250.00           |                        |
| 2745.36     | 23.58          | H         | 53.97 | -30.39 | Avg             | 254.25            | 250.00           |                        |
| 3660.48     | 42.41          | H         | 73.97 | -31.56 | Peak            | 289.00            | 111.25           |                        |
| 3660.48     | 22.41          | H         | 53.97 | -31.56 | Avg             | 289.00            | 111.25           |                        |
| 4575.6      | 44.90          | H         | 73.97 | -29.07 | Peak            | 221.00            | 250.00           |                        |
| 4575.6      | 24.90          | H         | 53.97 | -29.07 | Avg             | 221.00            | 250.00           |                        |
| 5490.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5490.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6405.84     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6405.84     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7320.96     | 47.19          | H         | 73.97 | -26.78 | Peak            | 185.00            | 126.83           |                        |
| 7320.96     | 27.19          | H         | 53.97 | -26.78 | Avg             | 185.00            | 126.83           |                        |
| 8236.08     | 46.62          | H         | 73.97 | -27.35 | Peak            | 175.75            | 111.13           |                        |
| 8236.08     | 26.62          | H         | 53.97 | -27.35 | Avg             | 175.75            | 111.13           |                        |
| 9151.2      | 43.55          | H         | 73.97 | -30.42 | Peak            | 272.75            | 127.31           |                        |
| 9151.2      | 23.55          | H         | 53.97 | -30.42 | Avg             | 272.75            | 127.31           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/28/2016

Lab: D

Tested By: Kyle Fujimoto

**AC Power Mode**

Middle Channel - Y-Axis

Transmit Mode

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1830.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1830.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2745.36     | 51.01          | H         | 73.97 | -22.96 | Peak            | 284.25            | 175.01           |                        |
| 2745.36     | 31.01          | H         | 53.97 | -22.96 | Avg             | 284.25            | 175.01           |                        |
| 3660.48     | 43.23          | H         | 73.97 | -30.74 | Peak            | 295.00            | 250.00           |                        |
| 3660.48     | 23.23          | H         | 53.97 | -30.74 | Avg             | 295.00            | 250.00           |                        |
| 4575.6      | 53.62          | H         | 73.97 | -20.35 | Peak            | 12.00             | 111.07           |                        |
| 4575.6      | 33.62          | H         | 53.97 | -20.35 | Avg             | 12.00             | 111.07           |                        |
| 5490.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5490.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6405.84     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6405.84     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7320.96     | 69.07          | H         | 73.97 | -4.90  | Peak            | 359.50            | 126.89           |                        |
| 7320.96     | 49.07          | H         | 53.97 | -4.90  | Avg             | 359.50            | 126.89           |                        |
| 8236.08     | 53.23          | H         | 73.97 | -20.74 | Peak            | 10.25             | 111.31           |                        |
| 8236.08     | 33.23          | H         | 53.97 | -20.74 | Avg             | 10.25             | 111.31           |                        |
| 9151.2      | 47.38          | H         | 73.97 | -26.59 | Peak            | 343.50            | 223.25           |                        |
| 9151.2      | 27.38          | H         | 53.97 | -26.59 | Avg             | 343.50            | 223.25           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/29/2016  
Lab: D  
Tested By: Kyle Fujimoto

**AC Power Mode**  
**High Channel - X-Axis**  
**Transmit Mode**

| Freq. (MHz) | Level (dBUV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1855.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1855.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 2782.86     | 53.40          | V         | 73.97 | -20.57 | Peak            | 0.50              | 223.01           |                        |
| 2782.86     | 33.40          | V         | 53.97 | -20.57 | Avg             | 0.50              | 223.01           |                        |
| 3710.48     | 45.08          | V         | 73.97 | -28.89 | Peak            | 272.75            | 175.07           |                        |
| 3710.48     | 25.08          | V         | 53.97 | -28.89 | Avg             | 272.75            | 175.07           |                        |
| 4638.1      | 61.18          | V         | 73.97 | -12.79 | Peak            | 0.25              | 222.53           |                        |
| 4638.1      | 41.18          | V         | 53.97 | -12.79 | Avg             | 0.25              | 222.53           |                        |
| 5565.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5565.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 6493.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6493.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
| 7420.96     | 66.31          | V         | 73.97 | -7.66  | Peak            | 311.25            | 126.83           |                        |
| 7420.96     | 46.31          | V         | 53.97 | -7.66  | Avg             | 311.25            | 126.83           |                        |
| 8348.58     | 50.23          | V         | 73.97 | -23.74 | Peak            | 292.25            | 111.13           |                        |
| 8348.58     | 30.23          | V         | 53.97 | -23.74 | Avg             | 292.25            | 111.13           |                        |
| 9276.2      | 51.41          | V         | 73.97 | -22.56 | Peak            | 287.00            | 127.01           |                        |
| 9276.2      | 31.41          | V         | 53.97 | -22.56 | Avg             | 287.00            | 127.01           |                        |

**FCC 15.247**

Mesa Labs, Inc.  
VPx Sensor 900 MHz with LCD  
Model: CM-000272

Date: 07/29/2016  
Lab: D  
Tested By: Kyle Fujimoto

**AC Power Mode**
**High Channel - Y-Axis**
**Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV/m) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(cm) | Comments               |
|----------------|-------------------|-----------|-------|--------|-----------------------|-------------------------|------------------------|------------------------|
| 1855.24        |                   |           |       |        |                       |                         |                        | Not in Restricted Band |
| 1855.24        |                   |           |       |        |                       |                         |                        | Done via Conducted     |
|                |                   |           |       |        |                       |                         |                        |                        |
| 2782.86        | 52.84             | V         | 73.97 | -21.13 | Peak                  | 339.25                  | 159.01                 |                        |
| 2782.86        | 32.84             | V         | 53.97 | -21.13 | Avg                   | 339.25                  | 159.01                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 3710.48        | 43.88             | V         | 73.97 | -30.09 | Peak                  | 271.50                  | 250.11                 |                        |
| 3710.48        | 23.88             | V         | 53.97 | -30.09 | Avg                   | 271.50                  | 250.11                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 4638.1         | 55.00             | V         | 73.97 | -18.97 | Peak                  | 298.00                  | 191.31                 |                        |
| 4638.1         | 35.00             | V         | 53.97 | -18.97 | Avg                   | 298.00                  | 191.31                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 5565.72        |                   |           |       |        |                       |                         |                        | Not in Restricted Band |
| 5565.72        |                   |           |       |        |                       |                         |                        | Done via Conducted     |
|                |                   |           |       |        |                       |                         |                        |                        |
| 6493.34        |                   |           |       |        |                       |                         |                        | Not in Restricted Band |
| 6493.34        |                   |           |       |        |                       |                         |                        | Done via Conducted     |
|                |                   |           |       |        |                       |                         |                        |                        |
| 7420.96        | 54.26             | V         | 73.97 | -19.71 | Peak                  | 305.75                  | 249.94                 |                        |
| 7420.96        | 34.26             | V         | 53.97 | -19.71 | Avg                   | 305.75                  | 249.94                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 8348.58        | 45.79             | V         | 73.97 | -28.18 | Peak                  | 287.50                  | 223.49                 |                        |
| 8348.58        | 25.79             | V         | 53.97 | -28.18 | Avg                   | 287.50                  | 223.49                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 9276.2         | 45.13             | V         | 73.97 | -28.84 | Peak                  | 194.75                  | 191.49                 |                        |
| 9276.2         | 25.13             | V         | 53.97 | -28.84 | Avg                   | 194.75                  | 191.49                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |

**FCC 15.247**

Mesa Labs, Inc.  
 VPx Sensor 900 MHz with LCD  
 Model: CM-000272

Date: 07/29/2016  
 Lab: D  
 Tested By: Kyle Fujimoto

**AC Power Mode**

**High Channel - X-Axis**

**Transmit Mode**

| Freq. (MHz) | Level (dBuV/m) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Table Angle (deg) | Ant. Height (cm) | Comments               |
|-------------|----------------|-----------|-------|--------|-----------------|-------------------|------------------|------------------------|
| 1855.24     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 1855.24     |                |           |       |        |                 |                   |                  | Done via Conducted     |
|             |                |           |       |        |                 |                   |                  |                        |
| 2782.86     | 48.54          | H         | 73.97 | -25.43 | Peak            | 202.00            | 250.17           |                        |
| 2782.86     | 28.54          | H         | 53.97 | -25.43 | Avg             | 202.00            | 250.17           |                        |
|             |                |           |       |        |                 |                   |                  |                        |
| 3710.48     | 41.89          | H         | 73.97 | -32.08 | Peak            | 221.50            | 111.13           |                        |
| 3710.48     | 21.89          | H         | 53.97 | -32.08 | Avg             | 221.50            | 111.13           |                        |
|             |                |           |       |        |                 |                   |                  |                        |
| 4638.1      | 46.22          | H         | 73.97 | -27.75 | Peak            | 295.00            | 127.13           |                        |
| 4638.1      | 26.22          | H         | 53.97 | -27.75 | Avg             | 295.50            | 127.13           |                        |
|             |                |           |       |        |                 |                   |                  |                        |
| 5565.72     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 5565.72     |                |           |       |        |                 |                   |                  | Done via Conducted     |
|             |                |           |       |        |                 |                   |                  |                        |
| 6493.34     |                |           |       |        |                 |                   |                  | Not in Restricted Band |
| 6493.34     |                |           |       |        |                 |                   |                  | Done via Conducted     |
|             |                |           |       |        |                 |                   |                  |                        |
| 7420.96     | 50.80          | H         | 73.97 | -23.17 | Peak            | 279.50            | 159.25           |                        |
| 7420.96     | 30.80          | H         | 53.97 | -23.17 | Avg             | 279.50            | 159.25           |                        |
|             |                |           |       |        |                 |                   |                  |                        |
| 8348.58     | 49.34          | H         | 73.97 | -24.63 | Peak            | 280.25            | 110.41           |                        |
| 8348.58     | 29.34          | H         | 53.97 | -24.63 | Avg             | 280.25            | 110.41           |                        |
|             |                |           |       |        |                 |                   |                  |                        |
| 9276.2      | 45.31          | H         | 73.97 | -28.66 | Peak            | 300.75            | 239.01           |                        |
| 9276.2      | 25.31          | H         | 53.97 | -28.66 | Avg             | 300.75            | 239.01           |                        |
|             |                |           |       |        |                 |                   |                  |                        |

**FCC 15.247**

Mesa Labs, Inc.  
 VPx Sensor 900 MHz with LCD  
 Model: CM-000272

Date: 07/29/2016  
 Lab: D  
 Tested By: Kyle Fujimoto

**AC Power Mode**

**High Channel - Y-Axis**

**Transmit Mode**

| Freq.<br>(MHz) | Level<br>(dBuV/m) | Pol (v/h) | Limit | Margin | Peak /<br>QP /<br>Avg | Table<br>Angle<br>(deg) | Ant.<br>Height<br>(cm) | Comments               |
|----------------|-------------------|-----------|-------|--------|-----------------------|-------------------------|------------------------|------------------------|
| 1855.24        |                   |           |       |        |                       |                         |                        | Not in Restricted Band |
| 1855.24        |                   |           |       |        |                       |                         |                        | Done via Conducted     |
|                |                   |           |       |        |                       |                         |                        |                        |
| 2782.86        | 52.99             | H         | 73.97 | -20.98 | Peak                  | 359.75                  | 191.37                 |                        |
| 2782.86        | 32.99             | H         | 53.97 | -20.98 | Avg                   | 359.75                  | 191.37                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 3710.48        | 48.83             | H         | 73.97 | -25.14 | Peak                  | 24.50                   | 208.20                 |                        |
| 3710.48        | 28.83             | H         | 53.97 | -25.14 | Avg                   | 24.50                   | 208.20                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 4638.1         | 62.46             | H         | 73.97 | -11.51 | Peak                  | 358.00                  | 239.19                 |                        |
| 4638.1         | 42.46             | H         | 53.97 | -11.51 | Avg                   | 358.00                  | 239.19                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 5565.72        |                   |           |       |        |                       |                         |                        | Not in Restricted Band |
| 5565.72        |                   |           |       |        |                       |                         |                        | Done via Conducted     |
|                |                   |           |       |        |                       |                         |                        |                        |
| 6493.34        |                   |           |       |        |                       |                         |                        | Not in Restricted Band |
| 6493.34        |                   |           |       |        |                       |                         |                        | Done via Conducted     |
|                |                   |           |       |        |                       |                         |                        |                        |
| 7420.96        | 65.44             | H         | 73.97 | -8.53  | Peak                  | 303.50                  | 110.77                 |                        |
| 7420.96        | 45.44             | H         | 53.97 | -8.53  | Avg                   | 303.50                  | 110.77                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 8348.58        | 51.50             | H         | 73.97 | -22.47 | Peak                  | 332.75                  | 143.49                 |                        |
| 8348.58        | 31.50             | H         | 53.97 | -22.47 | Avg                   | 332.75                  | 143.49                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |
| 9276.2         | 49.42             | H         | 73.97 | -24.55 | Peak                  | 289.50                  | 190.77                 |                        |
| 9276.2         | 29.42             | H         | 53.97 | -24.55 | Avg                   | 289.50                  | 190.77                 |                        |
|                |                   |           |       |        |                       |                         |                        |                        |



**FCC 15.247**

Mesa Labs, Inc.

VPx Sensor 900 MHz with LCD

Model: CM-000272

AC Power Mode

Date: 07/29/2016

Lab: D

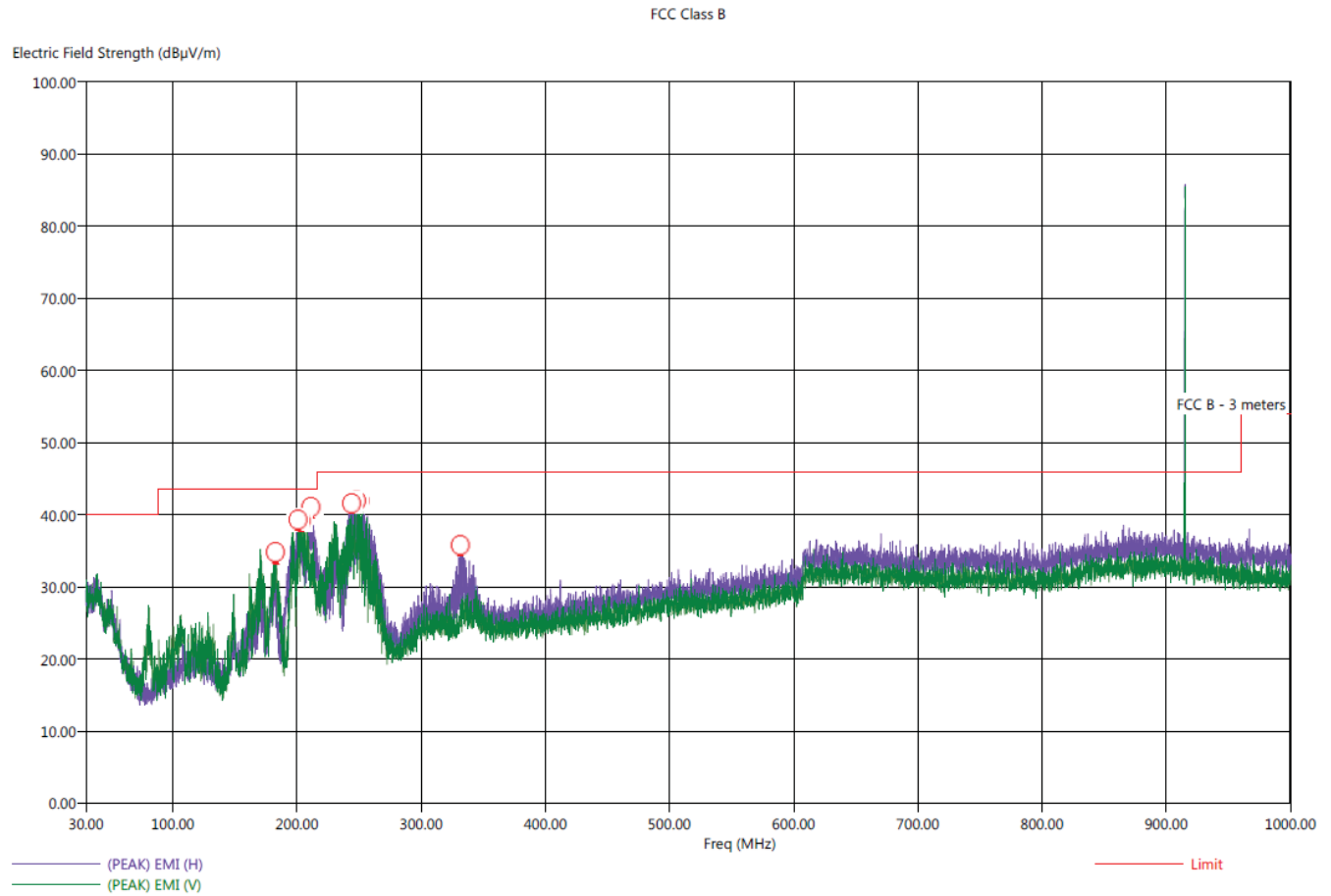
Tested By: Kyle Fujimoto

**Non Harmonic Emissions from the Tx - 10 kHz to 30 MHz and 1 GHz to 9.3 GHz**  
**Digital Portion from the EUT - 10 kHz to 30 MHz and 1 GHz to 9.3 GHz**

| Freq. (MHz) | Level (dBuV) | Pol (v/h) | Limit | Margin | Peak / QP / Avg | Ant. Height (m) | Table Angle (deg) | Comments                                                                           |
|-------------|--------------|-----------|-------|--------|-----------------|-----------------|-------------------|------------------------------------------------------------------------------------|
|             |              |           |       |        |                 |                 |                   | No Emissions Detected from the Non Harmonic Emissions from the Tx 10 kHz to 30 MHz |
|             |              |           |       |        |                 |                 |                   | No Emissions Detected from the Non Harmonic Emissions from the Tx 1 GHz to 9.3 GHz |
|             |              |           |       |        |                 |                 |                   | No Emissions Detected from the Digital Portion of the EUT 10 kHz to 30 MHz         |
|             |              |           |       |        |                 |                 |                   | No Emissions Detected from the Digital Portion of the EUT 1 GHz to 9.3 GHz         |
|             |              |           |       |        |                 |                 |                   | Tested in both Horizontal and Vertical Polarizations                               |

Title: Pre-Scan - FCC Class B  
File: 1 - Agilent - Pre-Scan - AC Power Mode - Tx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT is continuously transmitting at the middle channel, worst case  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
AC Power Mode  
S/N: 52000001

7/28/2016 9:00:03 AM  
Sequence: Preliminary Scan



Note: The emission above the limit line is from the transmitter and subject to FCC 15.247 limits.

Title: Radiated Final - FCC Class B  
File: 1 - Agilent - Final Scan - AC Power Mode - Tx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT is continuously transmitting at the middle channel, worst case  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
AC Power Mode  
S/N: 52000001

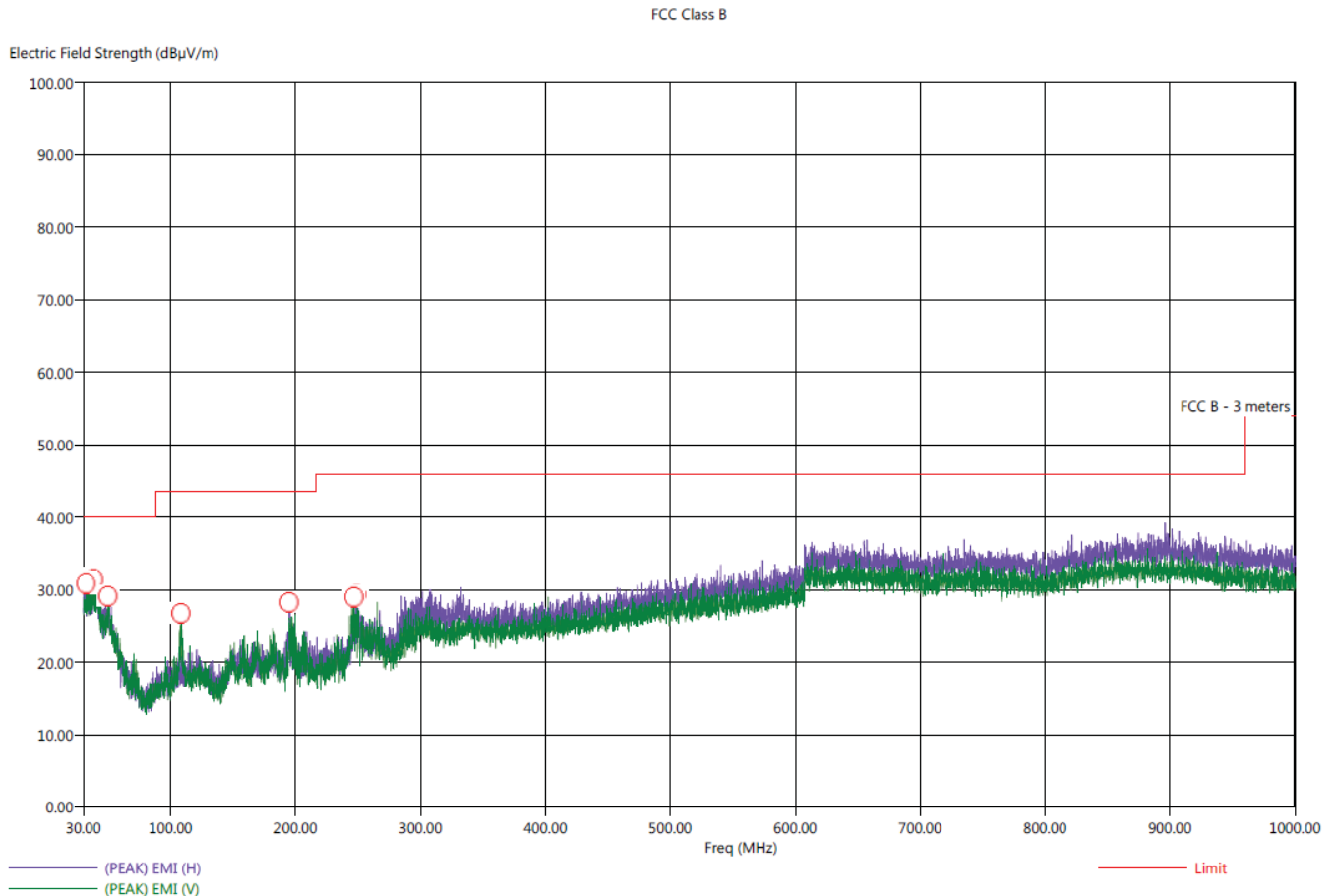
7/28/2016 9:58:50 AM  
Sequence: Final Measurements

| FCC Class B   |     |                        |                      |                       |                     |                   |                    |               |                   |                |
|---------------|-----|------------------------|----------------------|-----------------------|---------------------|-------------------|--------------------|---------------|-------------------|----------------|
| Freq<br>(MHz) | Pol | (PEAK) EMI<br>(dBμV/m) | (OP) EMI<br>(dBμV/m) | (PEAK) Margin<br>(dB) | (QP) Margin<br>(dB) | Limit<br>(dBμV/m) | Transducer<br>(dB) | Cable<br>(dB) | Ttbl Aql<br>(deg) | Twr Ht<br>(cm) |
| 182.70        | V   | 36.91                  | 32.83                | -6.59                 | -10.67              | 43.50             | 14.11              | 1.02          | 214.25            | 127.25         |
| 183.40        | V   | 36.51                  | 32.04                | -6.99                 | -11.46              | 43.50             | 14.07              | 1.02          | 202.50            | 127.37         |
| 200.90        | V   | 39.68                  | 35.62                | -3.82                 | -7.88               | 43.50             | 13.05              | 1.09          | 267.00            | 111.43         |
| 203.30        | V   | 36.69                  | 32.34                | -6.81                 | -11.16              | 43.50             | 13.17              | 1.11          | 272.50            | 144.26         |
| 211.30        | H   | 41.08                  | 37.43                | -2.42                 | -6.07               | 43.50             | 13.57              | 1.14          | 177.00            | 239.31         |
| 212.00        | H   | 40.63                  | 36.75                | -2.87                 | -6.75               | 43.50             | 13.60              | 1.14          | 174.75            | 127.37         |
| 243.10        | H   | 42.15                  | 37.82                | -3.85                 | -8.18               | 46.00             | 15.01              | 1.23          | 166.25            | 159.37         |
| 244.00        | V   | 41.46                  | 37.67                | -4.54                 | -8.33               | 46.00             | 15.05              | 1.23          | 110.00            | 127.37         |
| 245.50        | H   | 39.98                  | 36.18                | -6.02                 | -9.82               | 46.00             | 15.11              | 1.23          | 165.00            | 255.37         |
| 246.40        | H   | 41.94                  | 38.12                | -4.06                 | -7.88               | 46.00             | 15.15              | 1.23          | 163.50            | 223.07         |
| 248.00        | V   | 44.52                  | 40.59                | -1.48                 | -5.41               | 46.00             | 15.21              | 1.24          | 110.25            | 111.07         |
| 249.00        | V   | 39.50                  | 35.16                | -6.50                 | -10.84              | 46.00             | 15.25              | 1.24          | 97.50             | 142.95         |
| 250.50        | V   | 34.02                  | 29.57                | -11.98                | -16.43              | 46.00             | 15.32              | 1.24          | 103.75            | 319.43         |
| 331.60        | H   | 33.51                  | 27.77                | -12.49                | -18.23              | 46.00             | 18.01              | 1.43          | 183.50            | 158.89         |
| 332.40        | H   | 34.98                  | 29.99                | -11.02                | -16.01              | 46.00             | 18.00              | 1.43          | 36.00             | 160.02         |



Title: Pre-Scan - FCC Class B  
File: 2 - Agilent - Pre-Scan - AC Power Mode - Rx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT is continuously receiving at middle channel, worst case  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
AC Power Mode  
S/N: 52000001

7/28/2016 11:56:32 AM  
Sequence: Preliminary Scan



Title: Radiated Final - FCC Class B  
File: 2 - Agilent - Final Scan - AC Power Mode - Rx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT is continuously receiving at the middle channel, worst case  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
AC Power Mode  
S/N: 52000001

7/28/2016 12:09:29 PM  
Sequence: Final Measurements

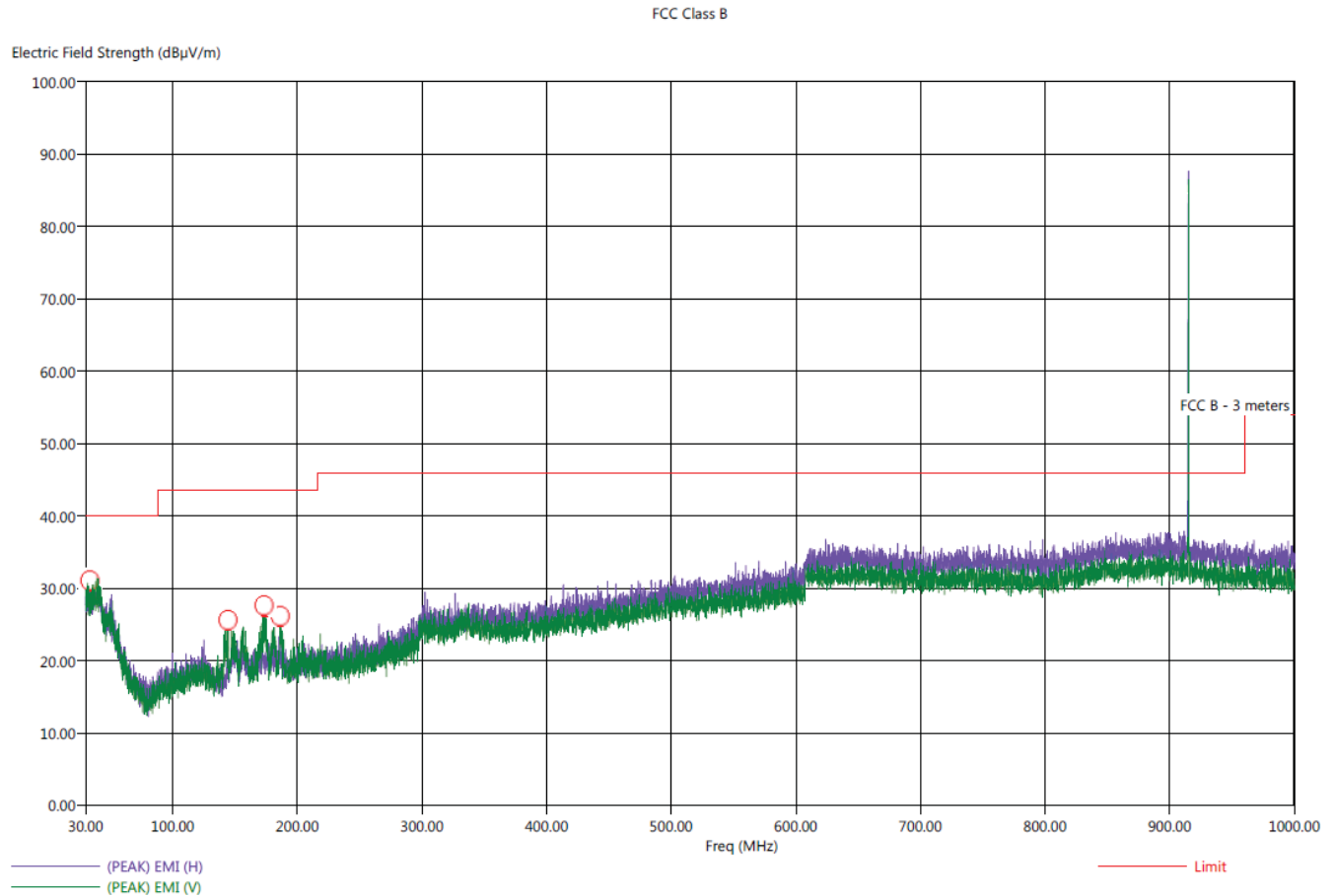
## FCC Class B

| Freq<br>(MHz) | Pol | (PEAK) EMI<br>(dBμV/m) | (QP) EMI<br>(dBμV/m) | (PEAK) Margin<br>(dB) | (QP) Margin<br>(dB) | Limit<br>(dBμV/m) | Transducer<br>(dB) | Cable<br>(dB) | Ttbl Aql<br>(deq) | Twr Ht<br>(cm) |
|---------------|-----|------------------------|----------------------|-----------------------|---------------------|-------------------|--------------------|---------------|-------------------|----------------|
| 32.20         | V   | 31.78                  | 26.70                | -8.22                 | -13.30              | 40.00             | 24.15              | 0.36          | 130.00            | 303.31         |
| 38.50         | H   | 33.09                  | 27.36                | -6.91                 | -12.64              | 40.00             | 25.05              | 0.38          | 54.75             | 143.19         |
| 49.90         | V   | 30.28                  | 25.28                | -9.72                 | -14.72              | 40.00             | 22.39              | 0.42          | 354.75            | 271.07         |
| 108.30        | V   | 29.62                  | 24.00                | -13.88                | -19.50              | 43.50             | 14.50              | 0.80          | 248.50            | 111.25         |
| 194.90        | H   | 35.27                  | 24.68                | -8.23                 | -18.82              | 43.50             | 13.32              | 1.07          | 177.75            | 207.43         |
| 246.90        | V   | 34.50                  | 23.97                | -11.50                | -22.03              | 46.00             | 15.16              | 1.23          | 70.25             | 271.67         |
| 248.90        | V   | 32.12                  | 25.00                | -13.88                | -21.00              | 46.00             | 15.25              | 1.24          | 50.75             | 111.13         |
| 249.30        | V   | 31.26                  | 23.70                | -14.74                | -22.30              | 46.00             | 15.27              | 1.24          | 55.75             | 287.31         |



Title: Pre-Scan - FCC Class B  
File: 3 - Agilent - Pre-Scan - Battery Mode - Tx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT is continuously transmitting at the low channel, worst case  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
Battery Mode  
S/N: 52000001

7/28/2016 10:39:44 AM  
Sequence: Preliminary Scan



Note: The emission above the limit line is from the transmitter and subject of FCC 15.247 limits.

Title: Radiated Final - FCC Class B  
File: 3 - Agilent - Final Scan - Battery Mode - Tx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT is continuously transmitting at the low channel, worst case  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
Battery Mode  
S/N: 52000001

7/28/2016 10:50:17 AM  
Sequence: Final Measurements

## FCC Class B

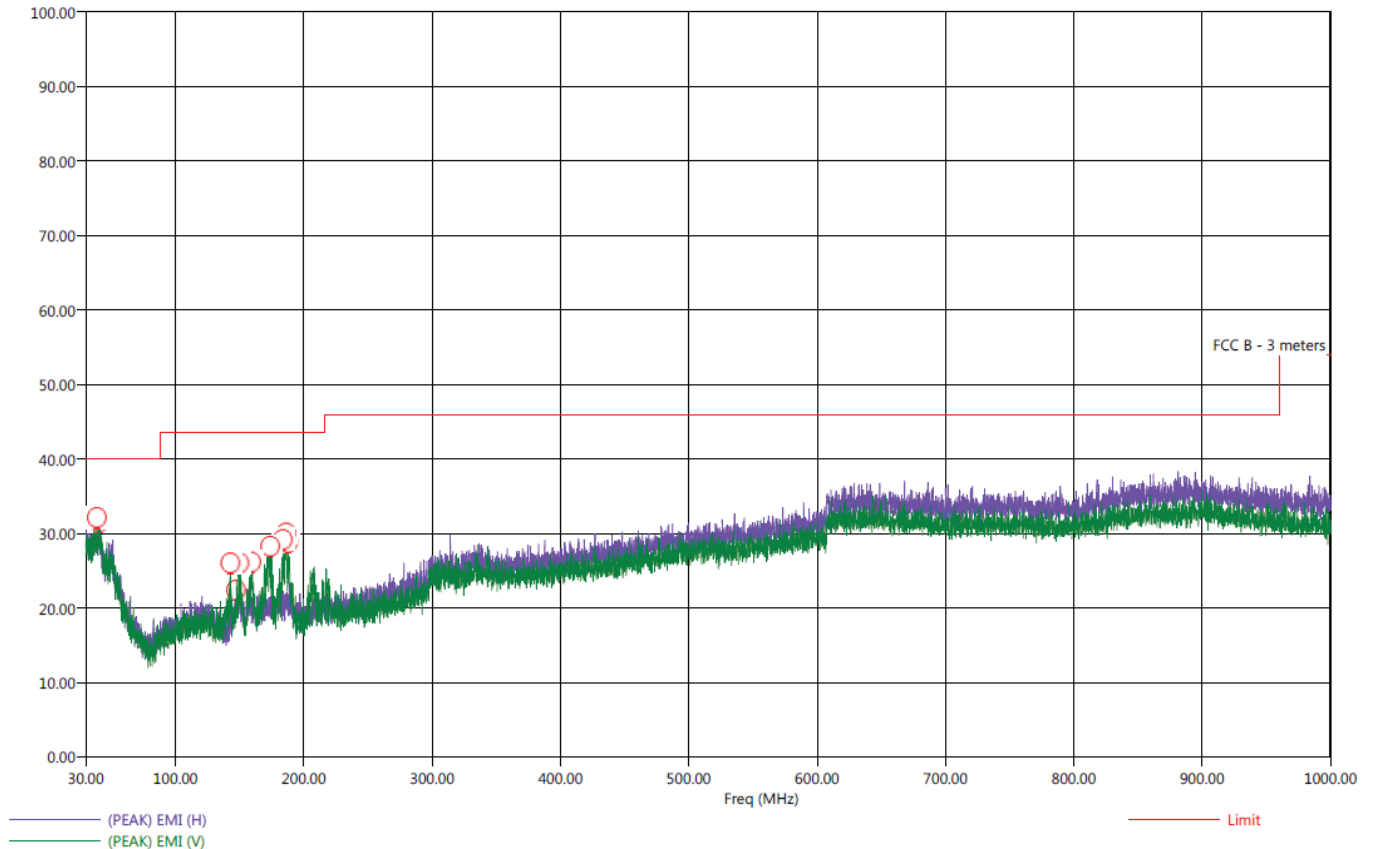
| Freq<br>(MHz) | Pol | (PEAK) EMI<br>(dBμV/m) | (OP) EMI<br>(dBμV/m) | (PEAK) Margin<br>(dB) | (QP) Margin<br>(dB) | Limit<br>(dBμV/m) | Transducer<br>(dB) | Cable<br>(dB) | Ttbl Aql<br>(deq) | Twr Ht<br>(cm) |
|---------------|-----|------------------------|----------------------|-----------------------|---------------------|-------------------|--------------------|---------------|-------------------|----------------|
| 33.50         | H   | 31.87                  | 26.64                | -8.13                 | -13.36              | 40.00             | 24.21              | 0.36          | 271.75            | 159.37         |
| 34.80         | H   | 31.81                  | 26.55                | -8.19                 | -13.45              | 40.00             | 24.29              | 0.37          | 209.25            | 159.25         |
| 144.40        | V   | 29.33                  | 25.27                | -14.17                | -18.23              | 43.50             | 14.96              | 0.88          | 112.75            | 127.43         |
| 173.30        | V   | 30.36                  | 25.77                | -13.14                | -17.73              | 43.50             | 14.10              | 0.98          | 208.75            | 111.25         |
| 174.00        | V   | 28.65                  | 22.36                | -14.85                | -21.14              | 43.50             | 14.13              | 0.99          | 126.00            | 143.13         |
| 186.40        | V   | 27.04                  | 21.16                | -16.46                | -22.34              | 43.50             | 13.88              | 1.04          | 197.25            | 191.19         |



Title: Pre-Scan - FCC Class B  
File: 4 - Agilent - Pre-Scan - Battery Mode - Rx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT is continuously receiving at low channel, worst case  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
Battery Mode  
S/N: 52000001

7/28/2016 11:11:47 AM  
Sequence: Preliminary Scan

## FCC Class B

Electric Field Strength (dB $\mu$ V/m)

Title: Radiated Final - FCC Class B  
File: 4 - Agilent - Final Scan - Battery Mode - Rx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT is continuously receiving at low channel, worst case  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
Battery Mode  
S/N: 52000001

7/28/2016 11:20:30 AM  
Sequence: Final Measurements

## FCC Class B

| Freq<br>(MHz) | Pol | (PEAK) EMI<br>(dBµV/m) | (OP) EMI<br>(dBµV/m) | (PEAK) Margin<br>(dB) | (QP) Margin<br>(dB) | Limit<br>(dBµV/m) | Transducer<br>(dB) | Cable<br>(dB) | Ttbl Aql<br>(deq) | Twr Ht<br>(cm) |
|---------------|-----|------------------------|----------------------|-----------------------|---------------------|-------------------|--------------------|---------------|-------------------|----------------|
| 38.70         | V   | 32.40                  | 27.56                | -7.60                 | -12.44              | 40.00             | 25.17              | 0.39          | 259.50            | 383.43         |
| 40.60         | H   | 32.88                  | 27.20                | -7.12                 | -12.80              | 40.00             | 24.92              | 0.39          | 296.00            | 223.25         |
| 142.80        | V   | 27.50                  | 21.71                | -16.00                | -21.79              | 43.50             | 14.19              | 0.87          | 107.25            | 126.59         |
| 147.20        | H   | 22.53                  | 17.52                | -20.97                | -25.98              | 43.50             | 16.16              | 0.89          | 114.00            | 287.85         |
| 149.90        | V   | 28.74                  | 23.42                | -14.76                | -20.08              | 43.50             | 17.09              | 0.90          | 64.00             | 143.91         |
| 159.10        | V   | 30.50                  | 24.47                | -13.00                | -19.03              | 43.50             | 13.58              | 0.93          | 70.50             | 111.19         |
| 173.90        | V   | 28.85                  | 24.37                | -14.65                | -19.13              | 43.50             | 14.12              | 0.99          | 352.00            | 111.31         |
| 183.60        | V   | 31.09                  | 26.17                | -12.41                | -17.33              | 43.50             | 14.06              | 1.03          | 234.50            | 111.07         |
| 186.40        | V   | 31.03                  | 26.56                | -12.47                | -16.94              | 43.50             | 13.87              | 1.04          | 265.25            | 111.31         |
| 187.70        | V   | 31.94                  | 24.81                | -11.56                | -18.69              | 43.50             | 13.80              | 1.04          | 212.25            | 111.07         |



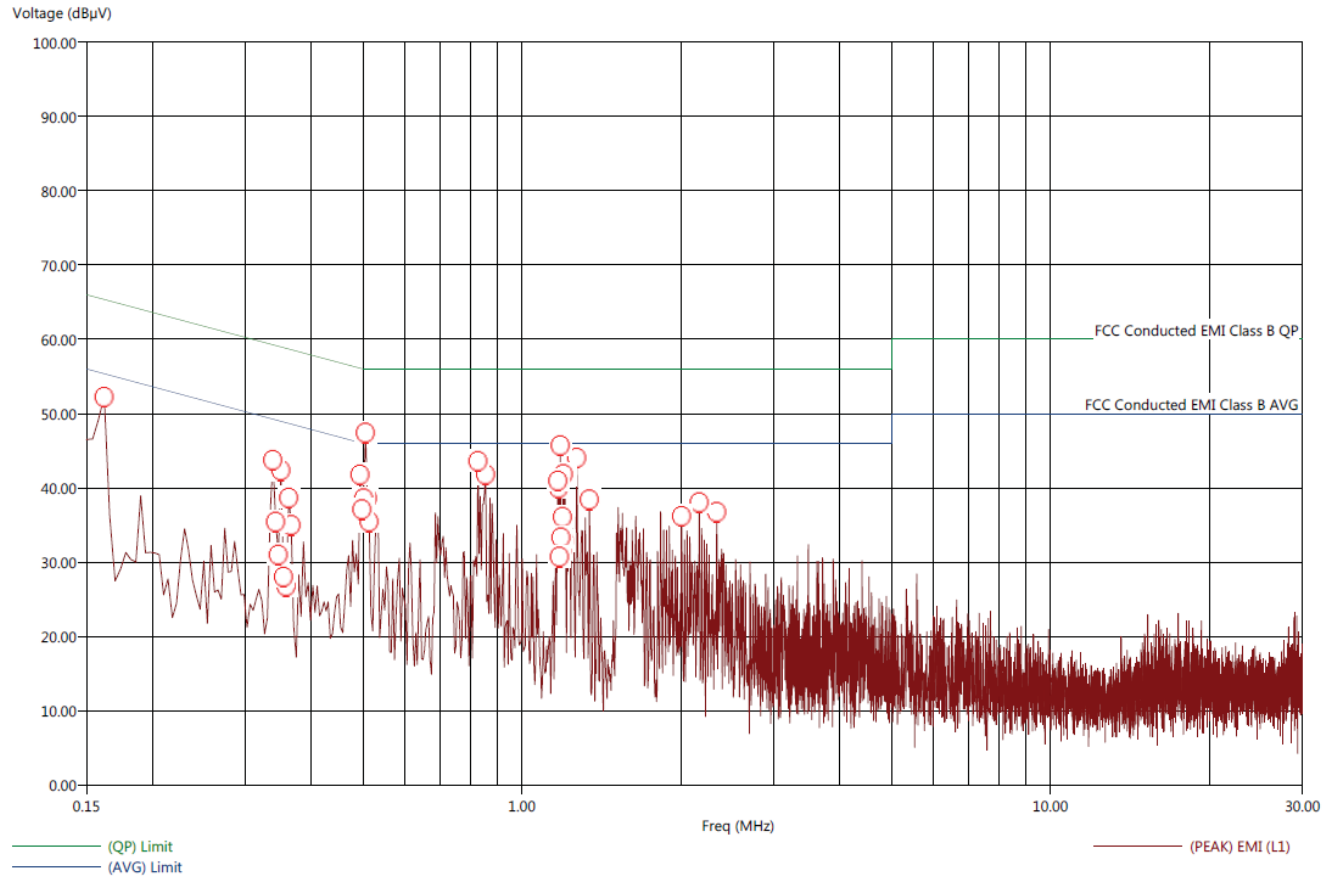


**CONDUCTED EMISSIONS  
DATA SHEETS**

Title: FCC Class B - Conducted Emissions - Black Lead  
File: Agilent - Conducted - Pre-Test - Line - VPx Sensor - Tx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT was continuously frequency hopping  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
S/N: 52000001

7/27/2016 9:16:38 AM  
Sequence: Preliminary Scan

FCC Class B - Conducted Emissions - Black Lead



Title: FCC Class B - Conducted Emissions - Black Lead  
 File: Agilent - Conducted - Final Test - Line - VPx Sensor - Tx Mode - FCC Class B.set  
 Operator: Kyle Fujimoto  
 EUT Type: VPx Sensor 900 MHz with LCD  
 EUT Condition: The EUT was continuously frequency hopping  
 Comments: Company: Mesa Labs, Inc.  
 Model: CM-000272  
 S/N: 52000001

7/27/2016 9:24:50 AM  
 Sequence: Final Measurements

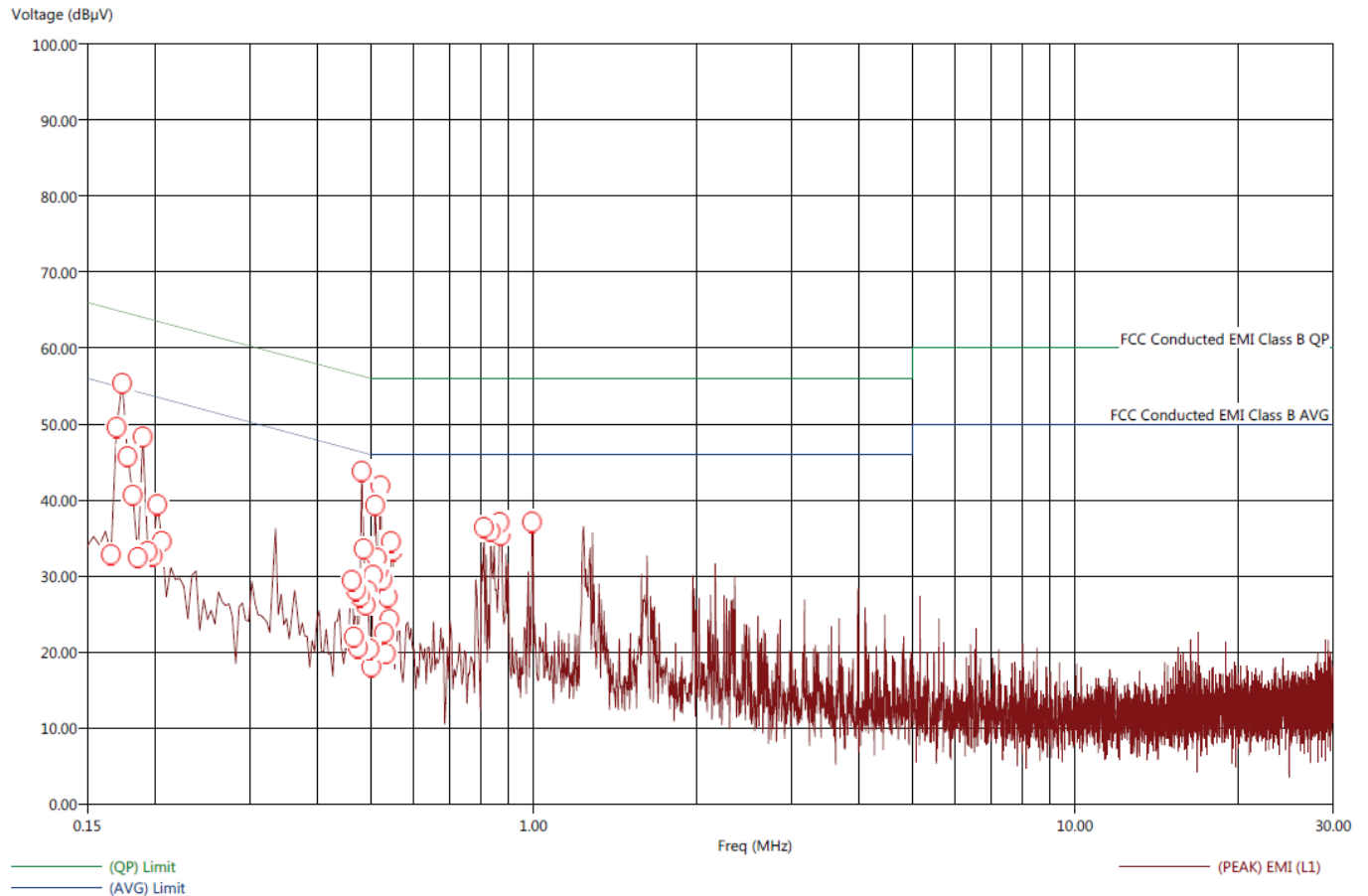
FCC Class B - Conducted Emissions - Black Lead

| Freq<br>(MHz) | (PEAK) EMI<br>(dBμV) | (AVG) EMI<br>(dBμV) | (PEAK) Margin AVL<br>(dB) | (AVG) Margin AVL<br>(dB) | (AVG) Limit<br>(dBμV) | Cable<br>(dB) | Transducer<br>(dB) | Filter<br>(dB) |
|---------------|----------------------|---------------------|---------------------------|--------------------------|-----------------------|---------------|--------------------|----------------|
| 0.162         | 57.86                | 41.73               | 2.92                      | -13.21                   | 54.94                 | 0.07          | 0.44               | 9.83           |
| 0.338         | 51.67                | 36.68               | 2.50                      | -12.49                   | 49.17                 | 0.08          | 0.05               | 9.84           |
| 0.342         | 51.97                | 37.99               | 2.81                      | -11.17                   | 49.16                 | 0.08          | 0.05               | 9.84           |
| 0.346         | 51.78                | 36.86               | 2.50                      | -12.42                   | 49.28                 | 0.08          | 0.06               | 9.84           |
| 0.350         | 51.87                | 36.68               | 2.73                      | -12.46                   | 49.14                 | 0.08          | 0.05               | 9.84           |
| 0.354         | 49.56                | 35.69               | 0.57                      | -13.30                   | 48.98                 | 0.08          | 0.04               | 9.84           |
| 0.358         | 52.22                | 36.57               | 3.08                      | -12.57                   | 49.13                 | 0.08          | 0.05               | 9.84           |
| 0.362         | 47.50                | 33.02               | -1.40                     | -15.88                   | 48.90                 | 0.08          | 0.04               | 9.84           |
| 0.366         | 47.20                | 32.64               | -1.67                     | -16.23                   | 48.87                 | 0.08          | 0.04               | 9.84           |
| 0.494         | 45.93                | 28.63               | -0.23                     | -17.53                   | 46.16                 | 0.08          | 0.05               | 9.84           |
| 0.498         | 46.30                | 30.36               | 0.24                      | -15.70                   | 46.06                 | 0.08          | 0.05               | 9.84           |
| 0.502         | 46.85                | 31.30               | 0.85                      | -14.70                   | 46.00                 | 0.08          | 0.05               | 9.84           |
| 0.506         | 47.29                | 32.32               | 1.29                      | -13.68                   | 46.00                 | 0.08          | 0.05               | 9.84           |
| 0.510         | 47.15                | 31.37               | 1.15                      | -14.63                   | 46.00                 | 0.08          | 0.05               | 9.84           |
| 0.514         | 46.74                | 31.07               | 0.74                      | -14.93                   | 46.00                 | 0.08          | 0.05               | 9.84           |
| 0.826         | 44.70                | 26.48               | -1.30                     | -19.52                   | 46.00                 | 0.10          | 0.04               | 9.84           |
| 0.854         | 44.29                | 28.75               | -1.71                     | -17.25                   | 46.00                 | 0.10          | 0.04               | 9.84           |
| 1.170         | 47.22                | 31.14               | 1.22                      | -14.86                   | 46.00                 | 0.12          | 0.03               | 9.84           |
| 1.174         | 47.35                | 27.44               | 1.35                      | -18.56                   | 46.00                 | 0.12          | 0.03               | 9.84           |
| 1.178         | 46.57                | 29.46               | 0.57                      | -16.54                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.182         | 47.42                | 31.54               | 1.42                      | -14.46                   | 46.00                 | 0.12          | 0.03               | 9.84           |
| 1.186         | 47.21                | 28.06               | 1.21                      | -17.94                   | 46.00                 | 0.12          | 0.03               | 9.84           |
| 1.190         | 47.36                | 30.22               | 1.36                      | -15.78                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.194         | 46.15                | 26.57               | 0.15                      | -19.43                   | 46.00                 | 0.12          | 0.03               | 9.84           |
| 1.198         | 46.46                | 31.85               | 0.46                      | -14.15                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.202         | 47.77                | 30.20               | 1.77                      | -15.80                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.206         | 47.32                | 30.48               | 1.32                      | -15.52                   | 46.00                 | 0.12          | 0.03               | 9.84           |
| 1.270         | 44.66                | 23.95               | -1.34                     | -22.05                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.342         | 42.46                | 27.80               | -3.54                     | -18.20                   | 46.00                 | 0.14          | 0.04               | 9.85           |
| 2.006         | 39.37                | 19.70               | -6.63                     | -26.30                   | 46.00                 | 0.17          | 0.05               | 9.86           |
| 2.166         | 37.80                | 19.02               | -8.20                     | -26.98                   | 46.00                 | 0.18          | 0.05               | 9.87           |
| 2.338         | 37.29                | 17.33               | -8.71                     | -28.67                   | 46.00                 | 0.18          | 0.05               | 9.87           |

Title: FCC Class B - Conducted Emissions - White Lead  
File: Agilent - Conducted - Pre-Test - Neutral - VPx Sensor - Tx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT was continuously frequency hopping  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
S/N: 52000001

7/27/2016 9:29:46 AM  
Sequence: Preliminary Scan

FCC Class B - Conducted Emissions - White Lead



Title: FCC Class B - Conducted Emissions - White Lead  
File: Agilent - Conducted - Final Test - Neutral - VPx Sensor - Tx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT was continuously frequency hopping  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
S/N: 52000001

7/27/2016 9:32:08 AM  
Sequence: Final Measurements

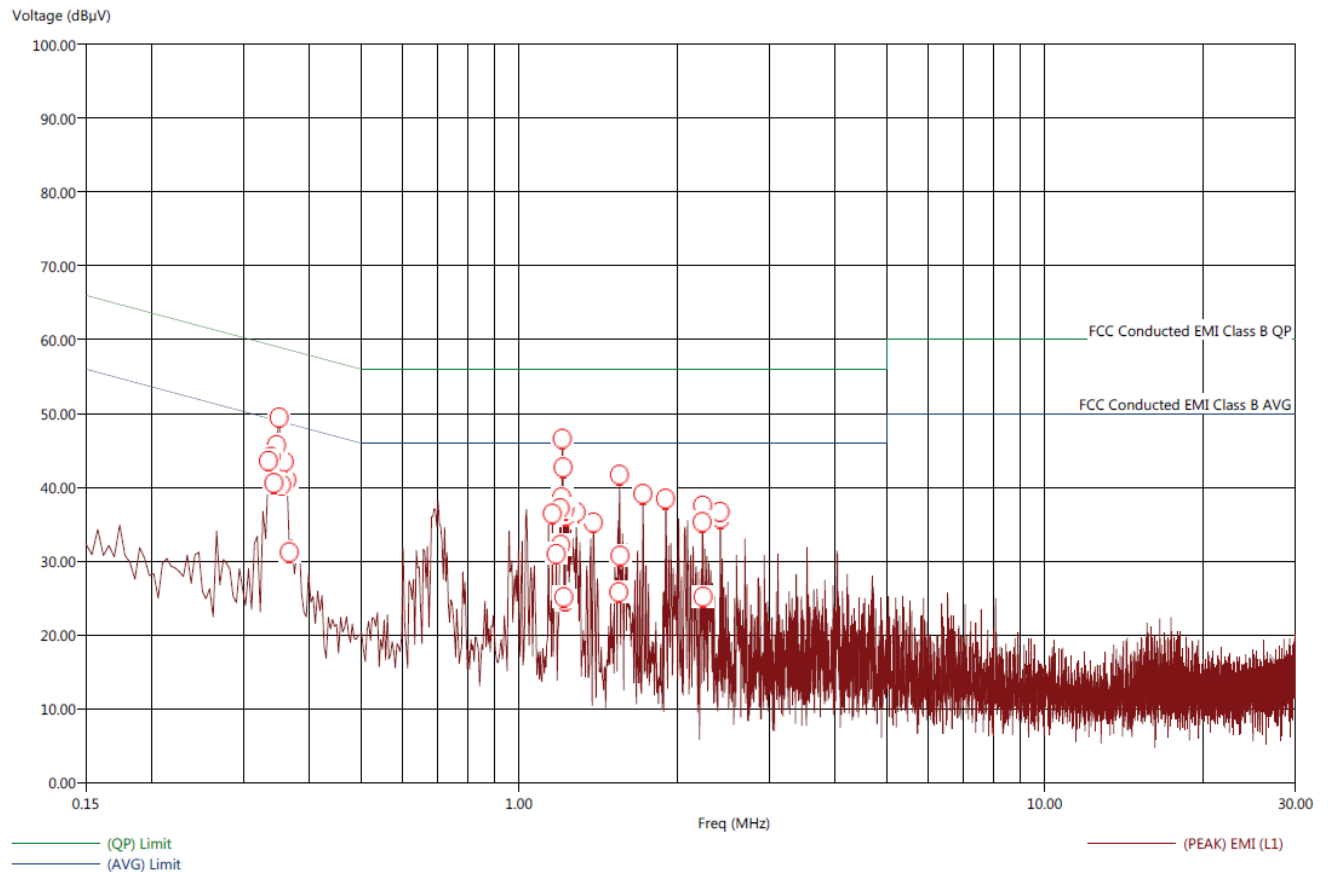
FCC Class B - Conducted Emissions - White Lead

| Freq<br>(MHz) | (PEAK) EMI<br>(dBμV) | (AVG) EMI<br>(dBμV) | (PEAK) Margin AVL<br>(dB) | (AVG) Margin AVL<br>(dB) | (AVG) Limit<br>(dBμV) | Cable<br>(dB) | Transducer<br>(dB) | Filter<br>(dB) |
|---------------|----------------------|---------------------|---------------------------|--------------------------|-----------------------|---------------|--------------------|----------------|
| 0.166         | 59.33                | 41.10               | 4.42                      | -13.81                   | 54.91                 | 0.07          | 0.43               | 9.83           |
| 0.170         | 59.39                | 41.05               | 4.42                      | -13.92                   | 54.97                 | 0.07          | 0.43               | 9.83           |
| 0.174         | 58.08                | 39.57               | 3.33                      | -15.18                   | 54.76                 | 0.07          | 0.42               | 9.83           |
| 0.178         | 59.29                | 41.08               | 4.38                      | -13.83                   | 54.91                 | 0.07          | 0.43               | 9.83           |
| 0.182         | 52.79                | 34.12               | -1.66                     | -20.33                   | 54.44                 | 0.07          | 0.39               | 9.83           |
| 0.186         | 52.69                | 33.69               | -1.74                     | -20.74                   | 54.43                 | 0.07          | 0.39               | 9.83           |
| 0.190         | 49.16                | 30.16               | -5.02                     | -24.02                   | 54.19                 | 0.08          | 0.38               | 9.83           |
| 0.194         | 46.62                | 28.24               | -7.25                     | -25.63                   | 53.88                 | 0.08          | 0.36               | 9.83           |
| 0.198         | 54.00                | 29.64               | -0.14                     | -24.50                   | 54.14                 | 0.08          | 0.37               | 9.83           |
| 0.202         | 45.94                | 27.52               | -7.81                     | -26.23                   | 53.75                 | 0.08          | 0.35               | 9.83           |
| 0.206         | 44.93                | 26.47               | -8.66                     | -27.12                   | 53.59                 | 0.08          | 0.34               | 9.83           |
| 0.462         | 46.40                | 23.26               | 0.13                      | -23.01                   | 46.27                 | 0.08          | 0.02               | 9.84           |
| 0.466         | 46.31                | 22.46               | -0.11                     | -23.96                   | 46.43                 | 0.08          | 0.02               | 9.84           |
| 0.470         | 45.32                | 22.00               | -1.05                     | -24.37                   | 46.38                 | 0.08          | 0.02               | 9.84           |
| 0.474         | 45.85                | 23.43               | -0.41                     | -22.83                   | 46.26                 | 0.08          | 0.02               | 9.84           |
| 0.478         | 45.29                | 25.06               | -0.84                     | -21.07                   | 46.13                 | 0.08          | 0.02               | 9.84           |
| 0.482         | 45.75                | 22.98               | -0.56                     | -23.33                   | 46.31                 | 0.08          | 0.02               | 9.84           |
| 0.486         | 45.75                | 25.40               | -0.34                     | -20.69                   | 46.09                 | 0.08          | 0.02               | 9.84           |
| 0.490         | 46.90                | 26.95               | 0.90                      | -19.05                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.494         | 46.17                | 26.67               | 0.17                      | -19.33                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.498         | 46.58                | 22.62               | 0.30                      | -23.66                   | 46.29                 | 0.08          | 0.02               | 9.84           |
| 0.502         | 46.77                | 26.96               | 0.77                      | -19.04                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.506         | 44.50                | 25.07               | -1.50                     | -20.93                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.510         | 46.55                | 23.33               | 0.42                      | -22.80                   | 46.13                 | 0.08          | 0.02               | 9.84           |
| 0.514         | 46.19                | 26.28               | 0.19                      | -19.72                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.518         | 39.81                | 20.80               | -6.19                     | -25.20                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.522         | 47.23                | 25.85               | 1.23                      | -20.15                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.526         | 47.21                | 26.39               | 1.21                      | -19.61                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.530         | 46.98                | 27.09               | 0.98                      | -18.91                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.534         | 45.59                | 26.60               | -0.41                     | -19.40                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.538         | 39.31                | 20.27               | -6.69                     | -25.73                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.542         | 43.79                | 24.18               | -2.21                     | -21.82                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.546         | 44.32                | 25.23               | -1.68                     | -20.77                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.550         | 41.04                | 22.70               | -4.96                     | -23.30                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.810         | 47.73                | 25.04               | 1.73                      | -20.96                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.834         | 47.91                | 26.04               | 1.91                      | -19.96                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.866         | 44.89                | 24.66               | -1.11                     | -21.34                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.870         | 45.73                | 25.33               | -0.27                     | -20.67                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.874         | 44.99                | 24.52               | -1.01                     | -21.48                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.994         | 41.09                | 20.56               | -4.91                     | -25.44                   | 46.00                 | 0.11          | 0.03               | 9.84           |
| 0.998         | 42.75                | 18.41               | -3.25                     | -27.59                   | 46.00                 | 0.11          | 0.03               | 9.84           |

Title: FCC Class B - Conducted Emissions - Black Lead  
File: Agilent - Conducted - Pre-Test - Line - VPx Sensor - Rx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT was continuously receiving  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
S/N: 52000001

7/27/2016 9:54:18 AM  
Sequence: Preliminary Scan

FCC Class B - Conducted Emissions - Black Lead



Title: FCC Class B - Conducted Emissions - Black Lead  
File: Agilent - Conducted - Final Test - Line - VPx Sensor - Rx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT was continuously receiving  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
S/N: 52000001

7/27/2016 9:56:27 AM  
Sequence: Final Measurements

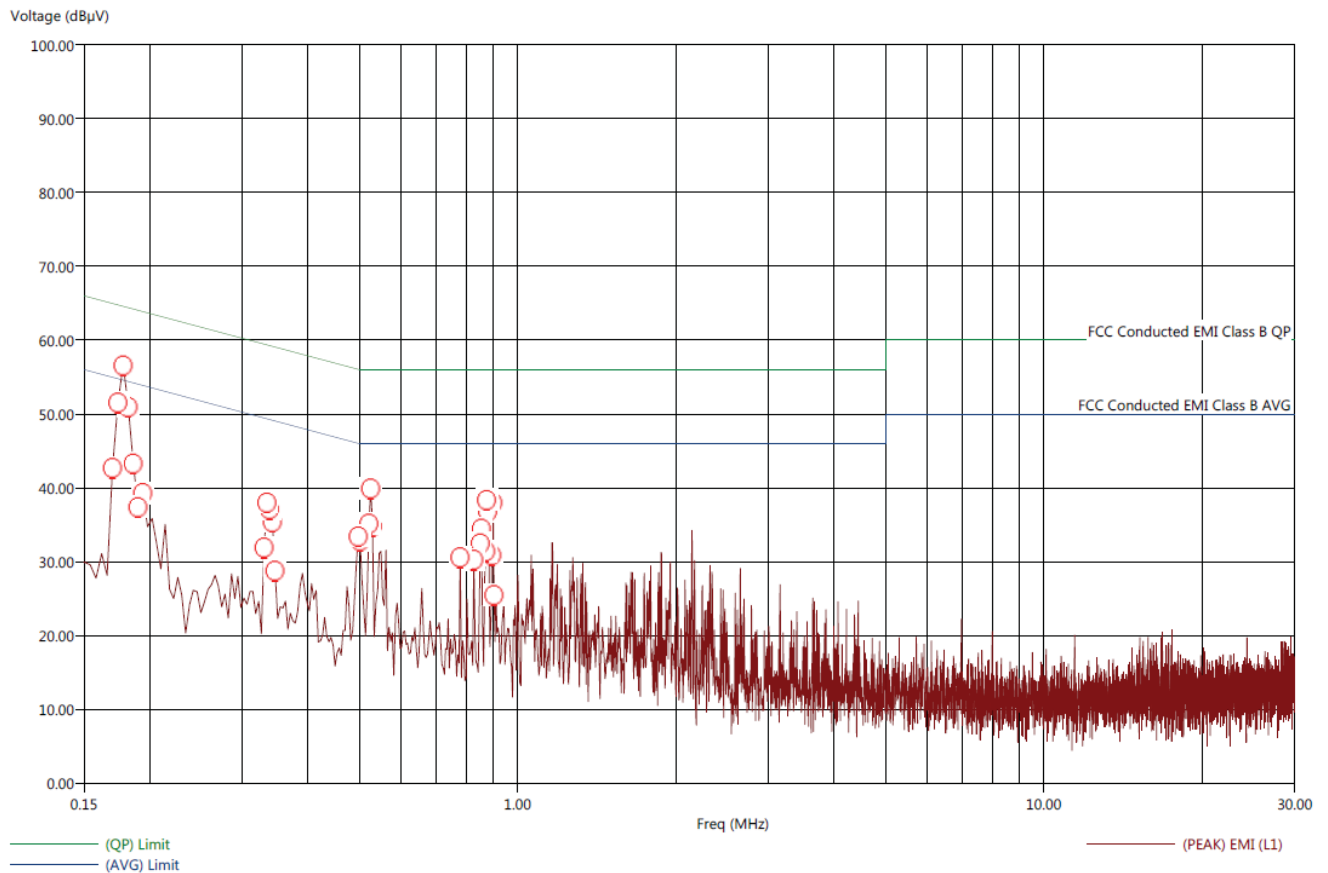
FCC Class B - Conducted Emissions - Black Lead

| Freq<br>(MHz) | (PEAK) EMI<br>(dBμV) | (AVG) EMI<br>(dBμV) | (PEAK) Margin AVL<br>(dB) | (AVG) Margin AVL<br>(dB) | (AVG) Limit<br>(dBμV) | Cable<br>(dB) | Transducer<br>(dB) | Filter<br>(dB) |
|---------------|----------------------|---------------------|---------------------------|--------------------------|-----------------------|---------------|--------------------|----------------|
| 0.334         | 51.86                | 32.36               | 2.69                      | -16.81                   | 49.17                 | 0.08          | 0.05               | 9.84           |
| 0.338         | 51.65                | 32.47               | 2.53                      | -16.65                   | 49.12                 | 0.08          | 0.05               | 9.84           |
| 0.342         | 50.10                | 30.71               | 0.92                      | -18.47                   | 49.18                 | 0.08          | 0.05               | 9.84           |
| 0.346         | 52.13                | 30.96               | 3.08                      | -18.09                   | 49.05                 | 0.08          | 0.05               | 9.84           |
| 0.350         | 52.13                | 33.12               | 3.08                      | -15.93                   | 49.05                 | 0.08          | 0.05               | 9.84           |
| 0.354         | 52.08                | 33.06               | 3.01                      | -16.01                   | 49.07                 | 0.08          | 0.05               | 9.84           |
| 0.358         | 50.86                | 31.80               | 1.89                      | -17.17                   | 48.97                 | 0.08          | 0.04               | 9.84           |
| 0.362         | 45.99                | 25.79               | -2.81                     | -23.01                   | 48.80                 | 0.08          | 0.04               | 9.84           |
| 0.366         | 49.38                | 29.94               | 0.46                      | -18.98                   | 48.92                 | 0.08          | 0.04               | 9.84           |
| 1.158         | 37.59                | 17.46               | -8.41                     | -28.54                   | 46.00                 | 0.12          | 0.03               | 9.84           |
| 1.178         | 43.96                | 17.02               | -2.04                     | -28.98                   | 46.00                 | 0.12          | 0.03               | 9.84           |
| 1.198         | 46.83                | 28.70               | 0.83                      | -17.30                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.202         | 46.88                | 29.51               | 0.88                      | -16.49                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.206         | 46.86                | 24.57               | 0.86                      | -21.43                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.210         | 45.88                | 28.64               | -0.12                     | -17.36                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.214         | 47.04                | 29.89               | 1.04                      | -16.11                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.218         | 47.15                | 29.30               | 1.15                      | -16.70                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.222         | 44.37                | 29.15               | -1.63                     | -16.85                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.226         | 46.92                | 27.35               | 0.92                      | -18.65                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.230         | 47.00                | 29.84               | 1.00                      | -16.16                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.234         | 46.86                | 29.24               | 0.86                      | -16.76                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.286         | 38.84                | 22.18               | -7.16                     | -23.82                   | 46.00                 | 0.13          | 0.04               | 9.85           |
| 1.386         | 41.72                | 23.61               | -4.28                     | -22.39                   | 46.00                 | 0.14          | 0.04               | 9.85           |
| 1.550         | 40.61                | 18.68               | -5.39                     | -27.32                   | 46.00                 | 0.15          | 0.04               | 9.85           |
| 1.554         | 41.92                | 22.24               | -4.08                     | -23.76                   | 46.00                 | 0.15          | 0.04               | 9.85           |
| 1.558         | 39.87                | 19.14               | -6.13                     | -26.86                   | 46.00                 | 0.15          | 0.04               | 9.85           |
| 1.722         | 37.16                | 17.04               | -8.84                     | -28.96                   | 46.00                 | 0.16          | 0.05               | 9.86           |
| 1.902         | 39.26                | 11.96               | -6.74                     | -34.04                   | 46.00                 | 0.16          | 0.05               | 9.86           |
| 2.234         | 39.37                | 18.16               | -6.63                     | -27.84                   | 46.00                 | 0.18          | 0.05               | 9.87           |
| 2.238         | 40.01                | 20.25               | -5.99                     | -25.75                   | 46.00                 | 0.18          | 0.05               | 9.87           |
| 2.242         | 38.89                | 17.16               | -7.11                     | -28.84                   | 46.00                 | 0.18          | 0.05               | 9.87           |
| 2.414         | 37.53                | 16.62               | -8.47                     | -29.38                   | 46.00                 | 0.18          | 0.05               | 9.87           |
| 2.418         | 37.51                | 16.49               | -8.49                     | -29.51                   | 46.00                 | 0.18          | 0.05               | 9.87           |

Title: FCC Class B - Conducted Emissions - White Lead  
File: Agilent - Conducted - Pre-Test - Neutral - VPx Sensor - Rx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT was continuously receiving  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
S/N: 52000001

7/27/2016 9:47:49 AM  
Sequence: Preliminary Scan

FCC Class B - Conducted Emissions - White Lead



Title: FCC Class B - Conducted Emissions - White Lead  
File: Agilent - Conducted - Final Test - Neutral - VPx Sensor - Rx Mode - FCC Class B.set  
Operator: Kyle Fujimoto  
EUT Type: VPx Sensor 900 MHz with LCD  
EUT Condition: The EUT was continuously receiving  
Comments: Company: Mesa Labs, Inc.  
Model: CM-000272  
S/N: 52000001

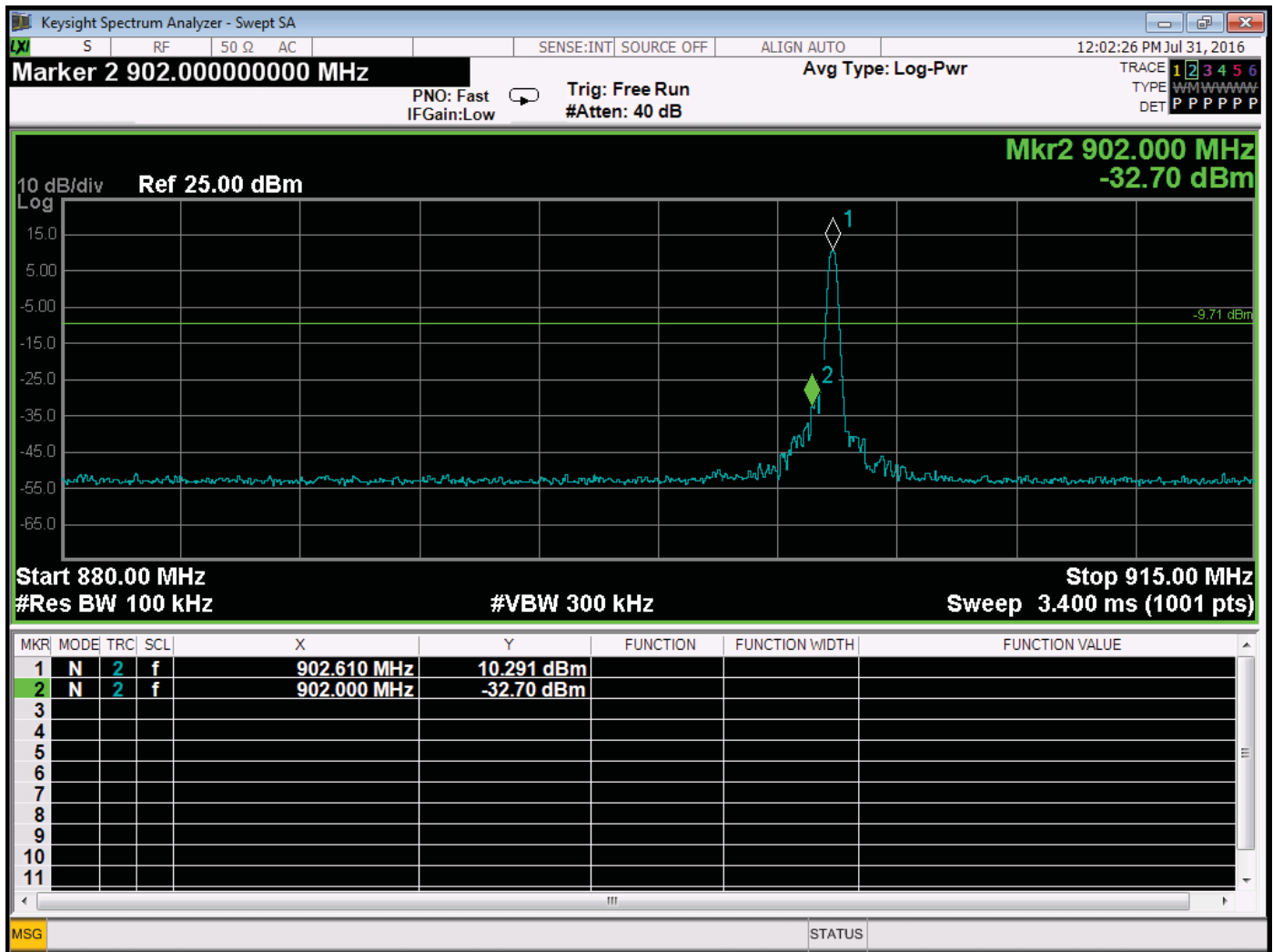
7/27/2016 9:49:23 AM  
Sequence: Final Measurements

FCC Class B - Conducted Emissions - White Lead

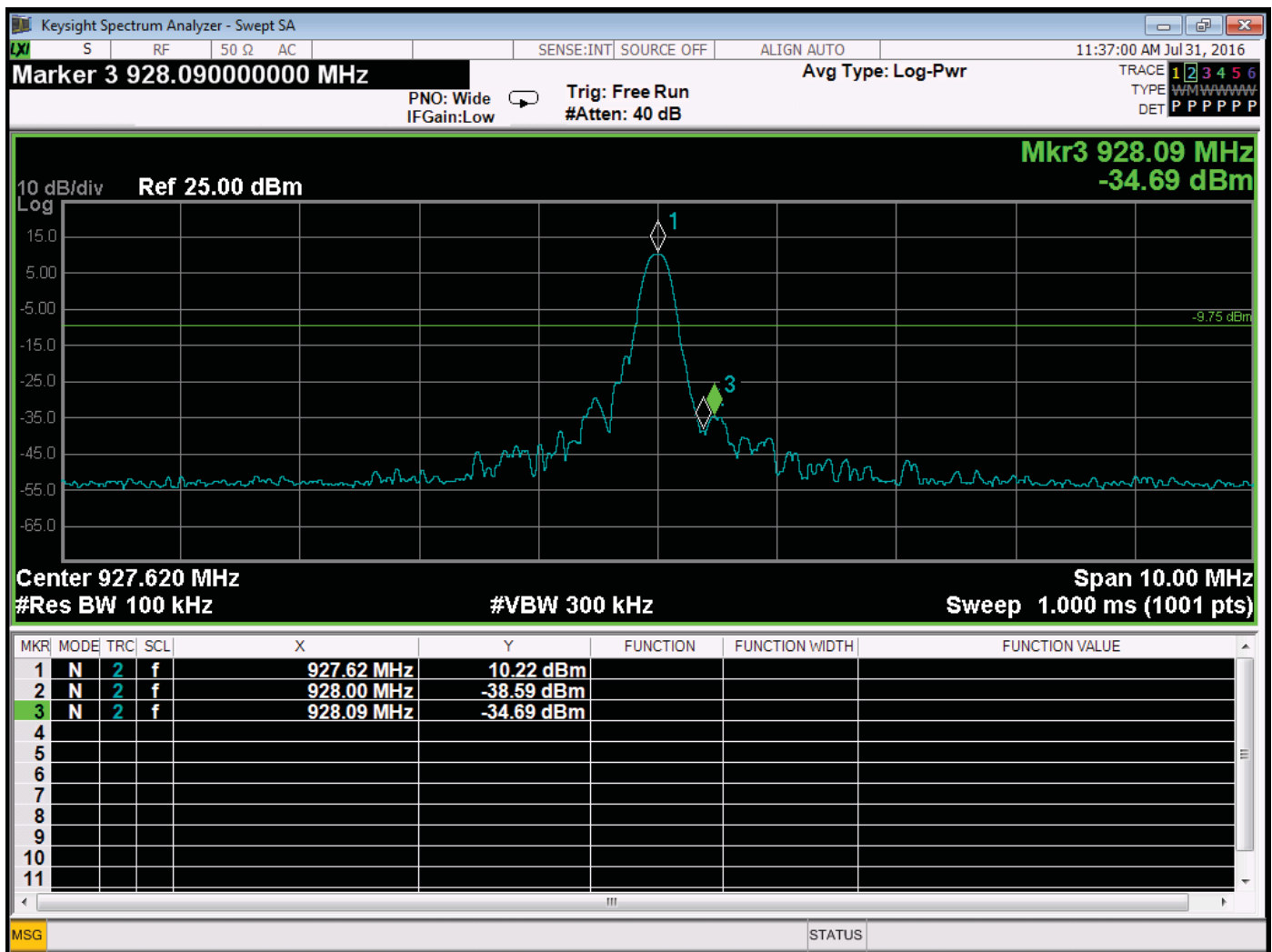
| Freq<br>(MHz) | (PEAK) EMI<br>(dBμV) | (AVG) EMI<br>(dBμV) | (PEAK) Margin AVL<br>(dB) | (AVG) Margin AVL<br>(dB) | (AVG) Limit<br>(dBμV) | Cable<br>(dB) | Transducer<br>(dB) | Filter<br>(dB) |
|---------------|----------------------|---------------------|---------------------------|--------------------------|-----------------------|---------------|--------------------|----------------|
| 0.170         | 58.93                | 40.41               | 3.74                      | -14.78                   | 55.19                 | 0.07          | 0.44               | 9.83           |
| 0.174         | 59.63                | 41.93               | 4.61                      | -13.09                   | 55.02                 | 0.07          | 0.43               | 9.83           |
| 0.178         | 57.02                | 40.39               | 2.33                      | -14.30                   | 54.69                 | 0.07          | 0.41               | 9.83           |
| 0.182         | 49.60                | 30.61               | -4.60                     | -23.59                   | 54.20                 | 0.07          | 0.38               | 9.83           |
| 0.186         | 49.90                | 30.83               | -4.31                     | -23.38                   | 54.22                 | 0.07          | 0.38               | 9.83           |
| 0.190         | 49.87                | 31.31               | -4.34                     | -22.90                   | 54.22                 | 0.07          | 0.38               | 9.83           |
| 0.194         | 48.82                | 30.32               | -5.28                     | -23.78                   | 54.10                 | 0.08          | 0.37               | 9.83           |
| 0.330         | 53.41                | 35.54               | 4.21                      | -13.66                   | 49.21                 | 0.08          | 0.05               | 9.84           |
| 0.334         | 53.85                | 35.61               | 4.74                      | -13.50                   | 49.11                 | 0.08          | 0.04               | 9.84           |
| 0.338         | 53.89                | 30.09               | 4.61                      | -19.19                   | 49.28                 | 0.08          | 0.05               | 9.84           |
| 0.342         | 53.75                | 36.08               | 4.64                      | -13.03                   | 49.11                 | 0.08          | 0.04               | 9.84           |
| 0.346         | 54.23                | 32.40               | 4.97                      | -16.86                   | 49.25                 | 0.08          | 0.05               | 9.84           |
| 0.498         | 43.54                | 24.36               | -2.46                     | -21.64                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.502         | 37.49                | 19.94               | -8.68                     | -26.23                   | 46.17                 | 0.08          | 0.02               | 9.84           |
| 0.522         | 47.55                | 28.38               | 1.55                      | -17.62                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.526         | 46.92                | 28.40               | 0.92                      | -17.60                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.530         | 41.65                | 23.66               | -4.35                     | -22.34                   | 46.00                 | 0.08          | 0.02               | 9.84           |
| 0.778         | 37.32                | 19.04               | -8.68                     | -26.96                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.826         | 36.94                | 18.89               | -9.06                     | -27.11                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.850         | 49.06                | 30.06               | 3.06                      | -15.94                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.854         | 48.02                | 24.57               | 2.02                      | -21.43                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.870         | 44.42                | 25.55               | -1.58                     | -20.45                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.874         | 44.56                | 25.91               | -1.44                     | -20.09                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.878         | 49.14                | 29.82               | 3.14                      | -16.18                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.894         | 49.04                | 26.76               | 3.04                      | -19.24                   | 46.00                 | 0.10          | 0.03               | 9.84           |
| 0.898         | 38.16                | 18.81               | -7.84                     | -27.19                   | 46.00                 | 0.11          | 0.03               | 9.84           |
| 0.902         | 47.87                | 28.92               | 1.87                      | -17.08                   | 46.00                 | 0.10          | 0.03               | 9.84           |



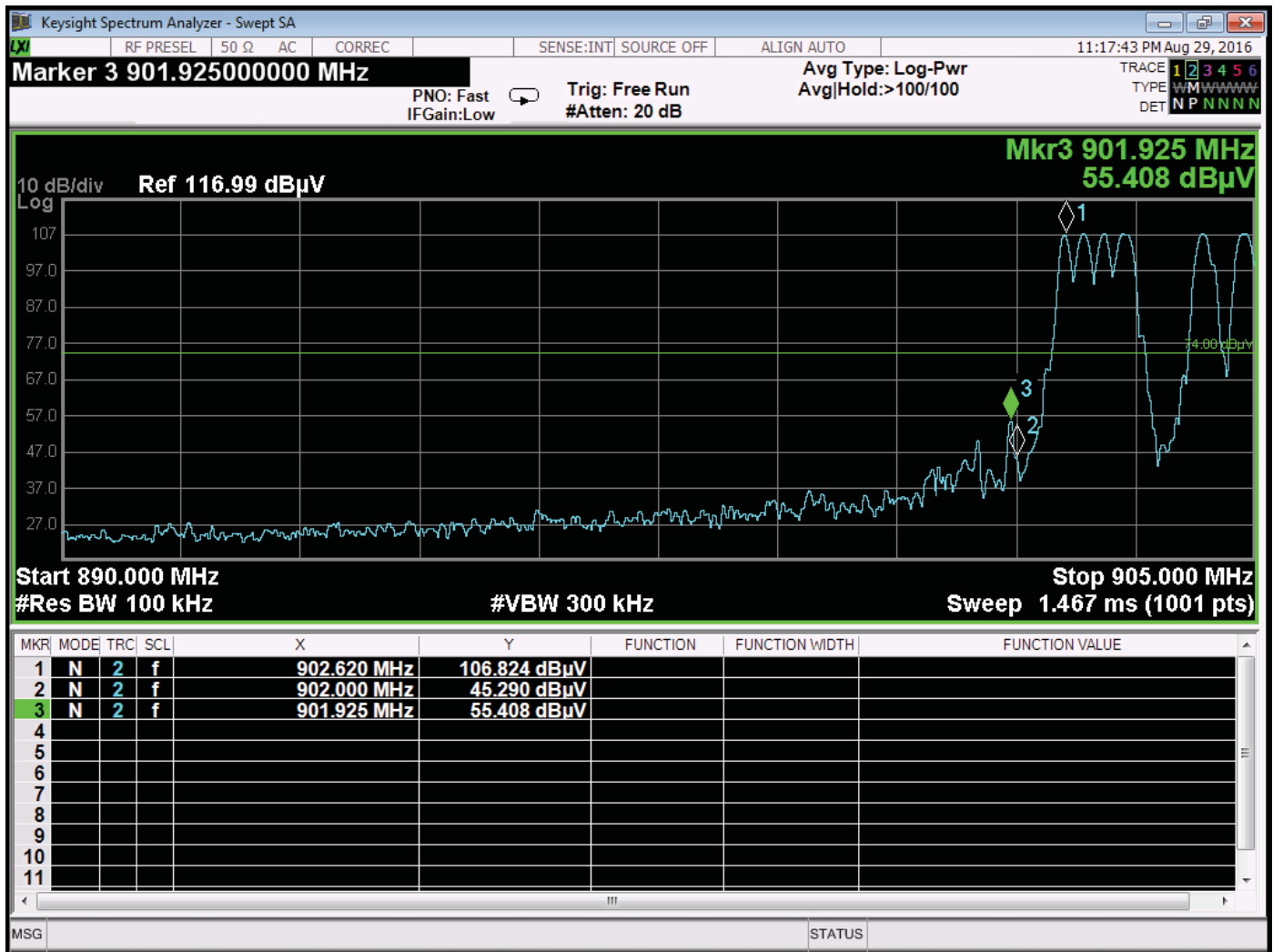
***BAND EDGES  
DATA SHEETS***



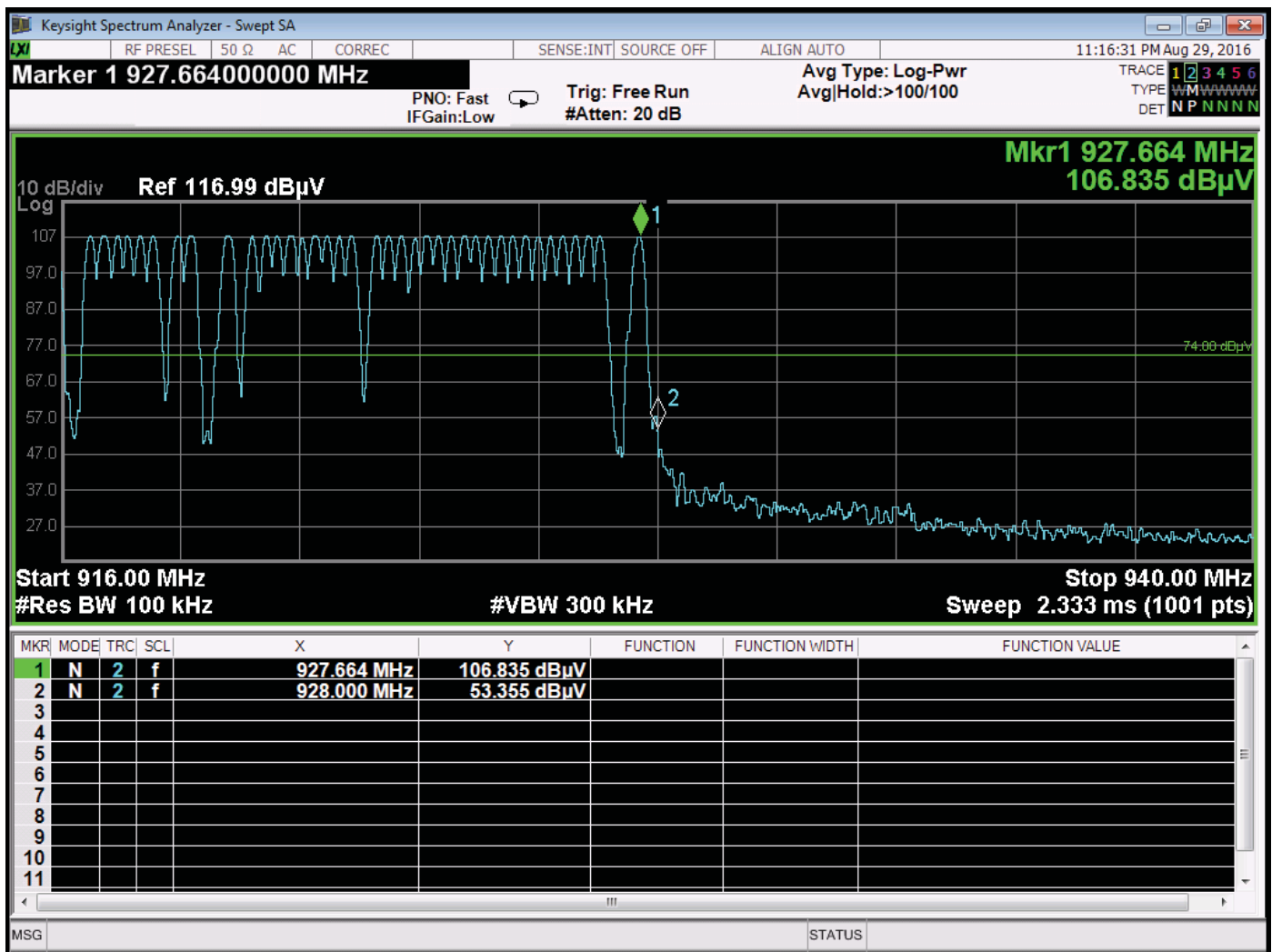
Band Edge – Low Channel – Fixed Frequency Mode



Band Edge – High Channel – Fixed Frequency Mode



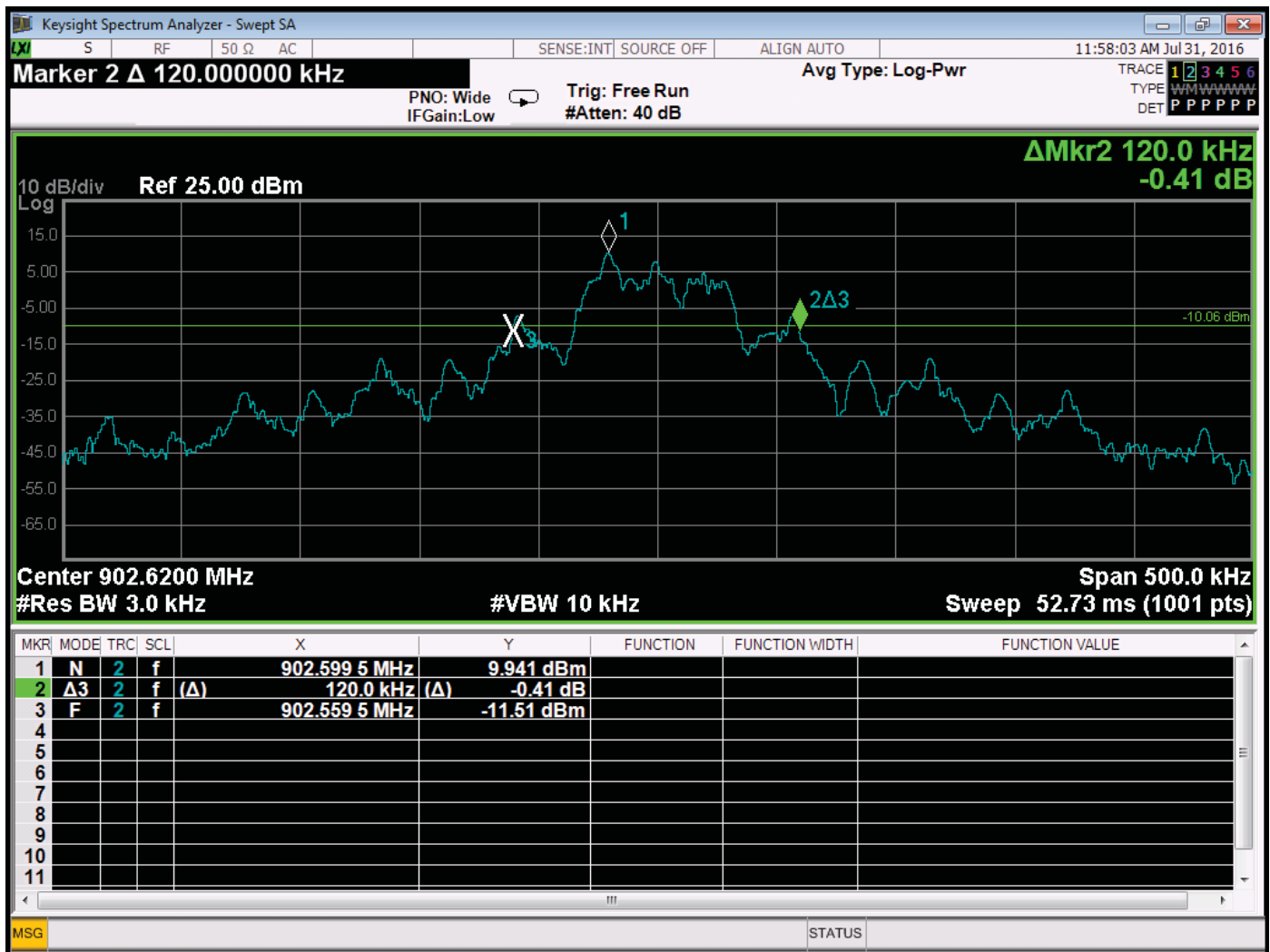
Band Edge – Low Channel – Frequency Hopping Mode



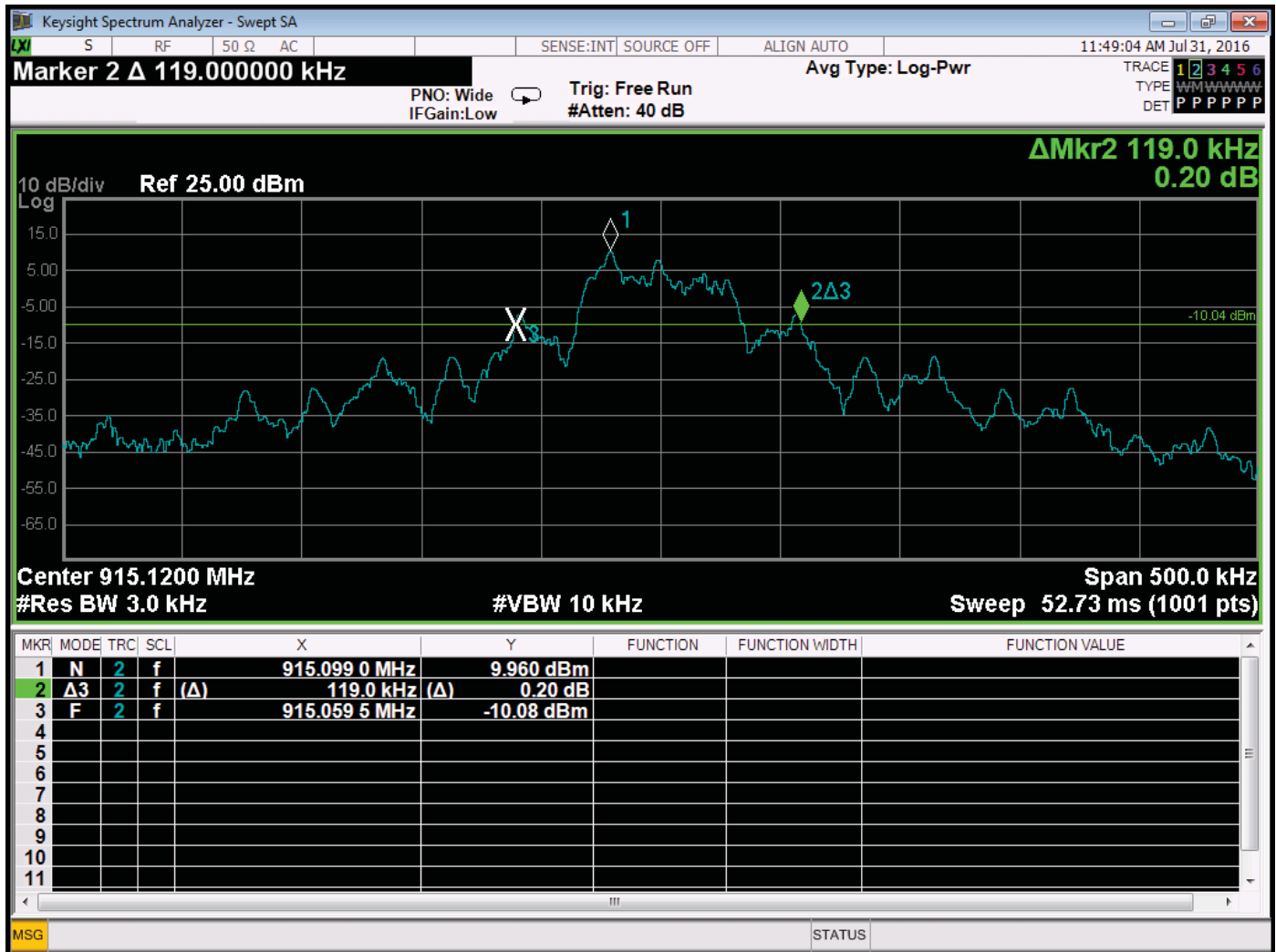
Band Edge – High Channel – Frequency Hopping Mode



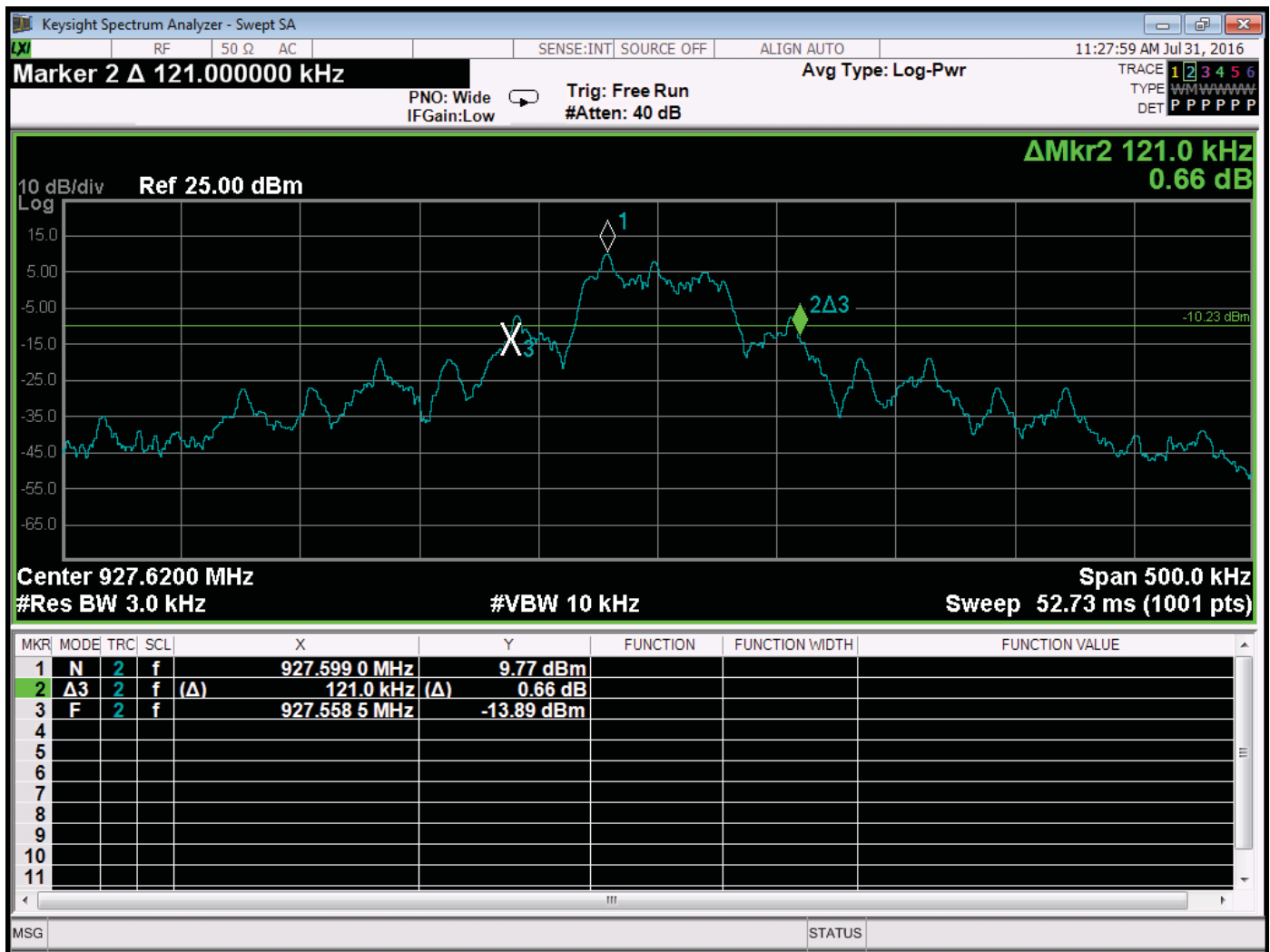
***-20 DB BANDWIDTH  
DATA SHEETS***



-20 dB Bandwidth – Low Channel



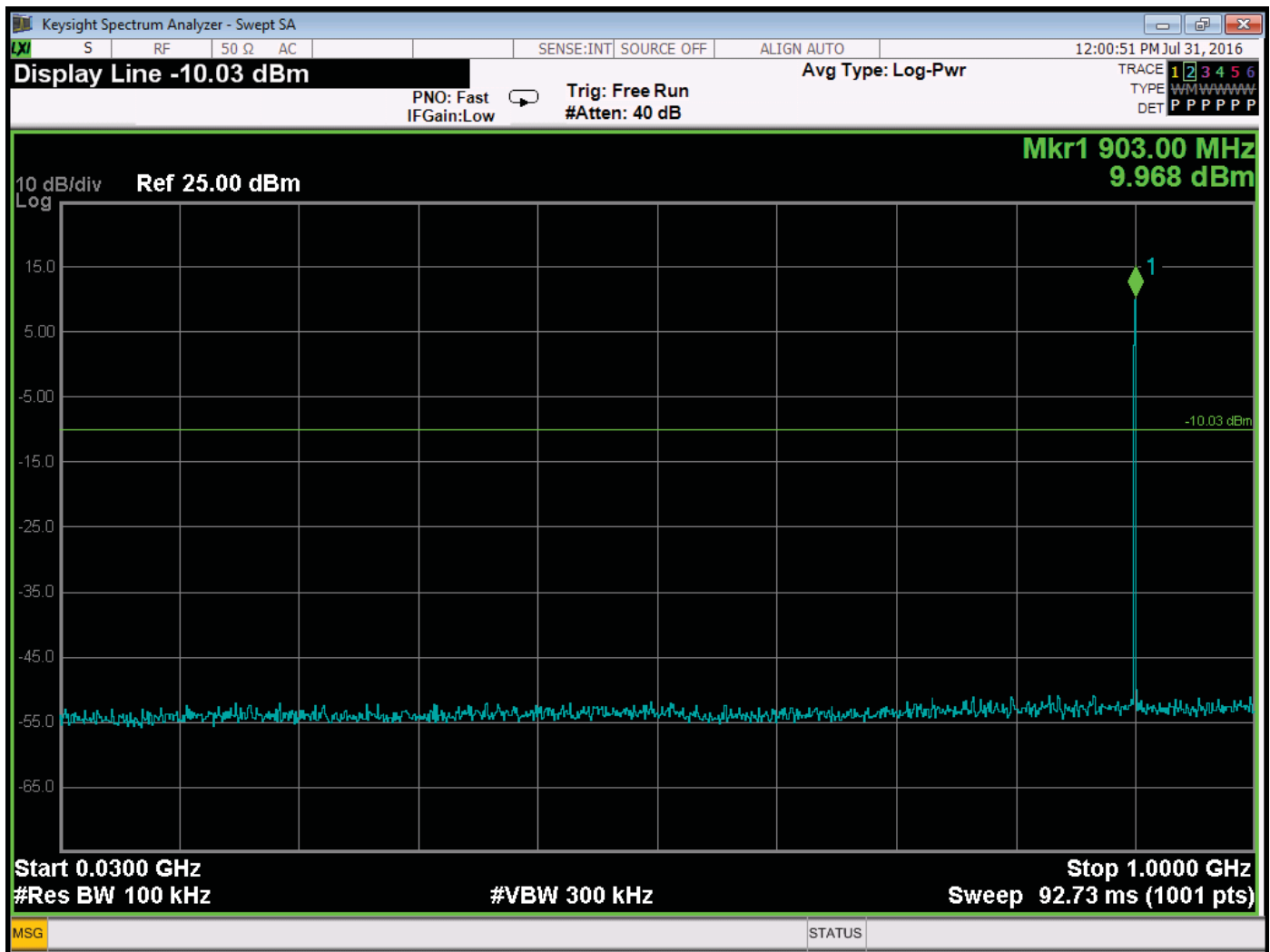
-20 dB Bandwidth – Middle Channel



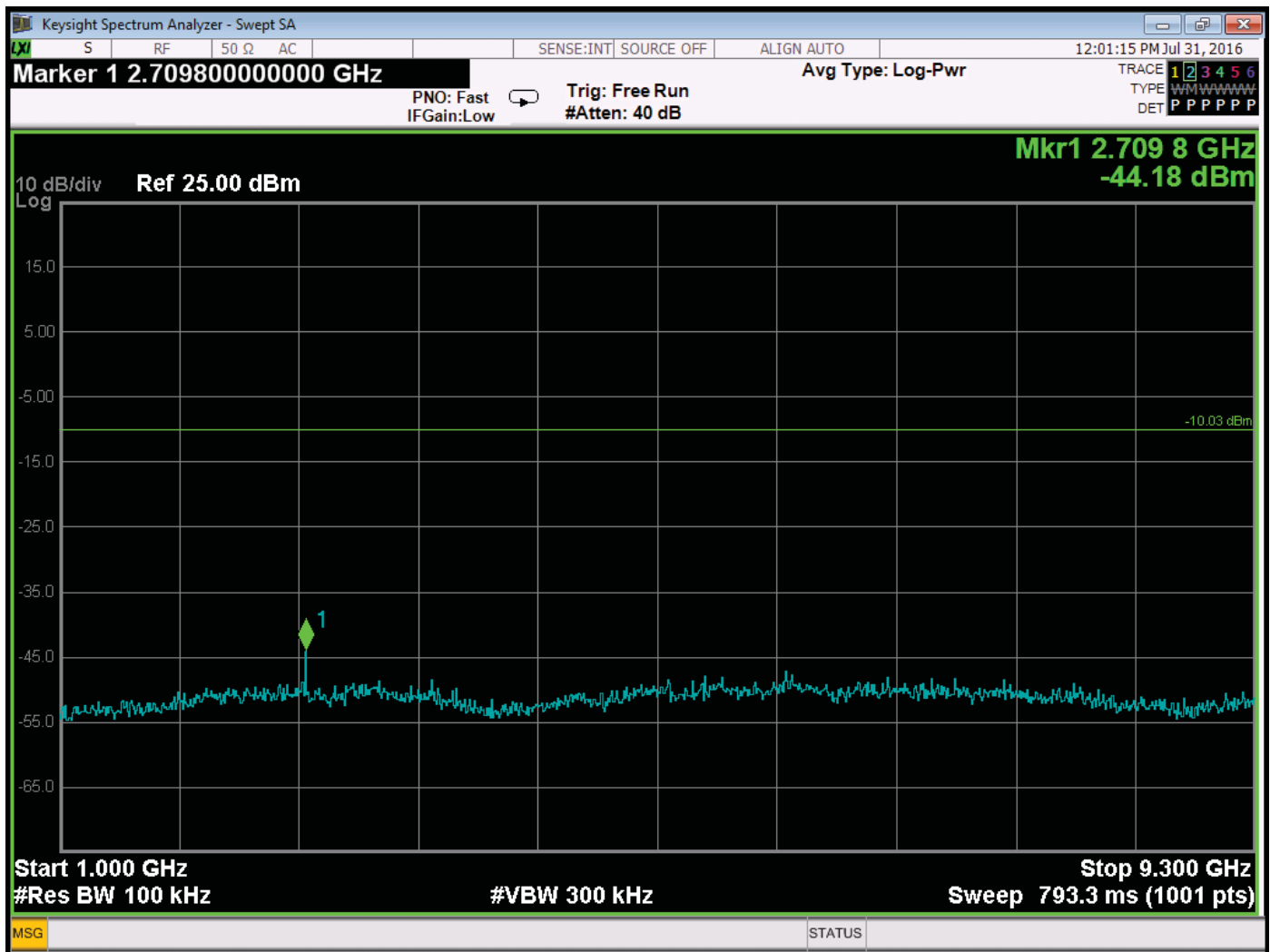
-20 dB Bandwidth – High Channel



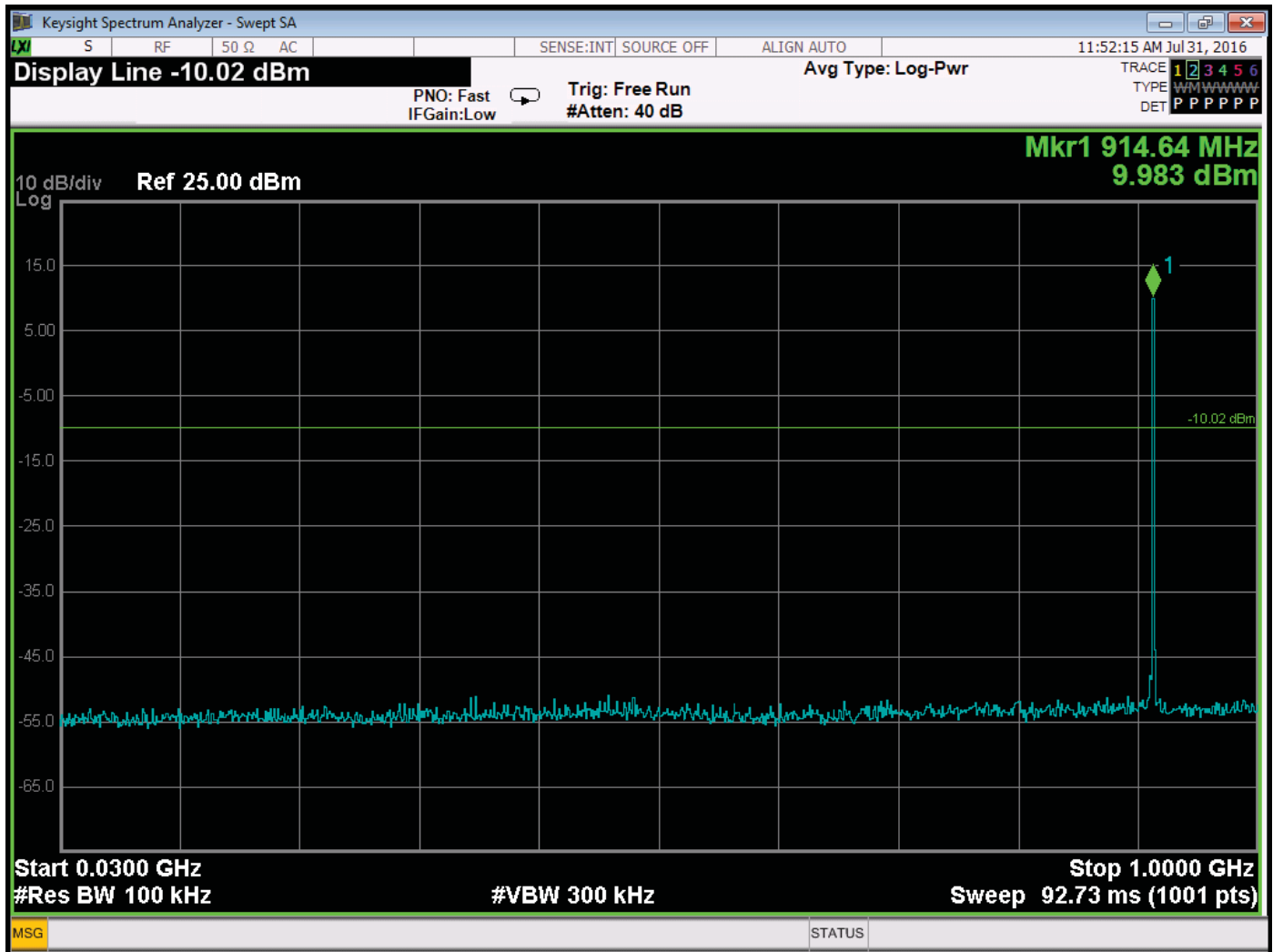
***RF ANTENNA CONDUCTED  
DATA SHEETS***



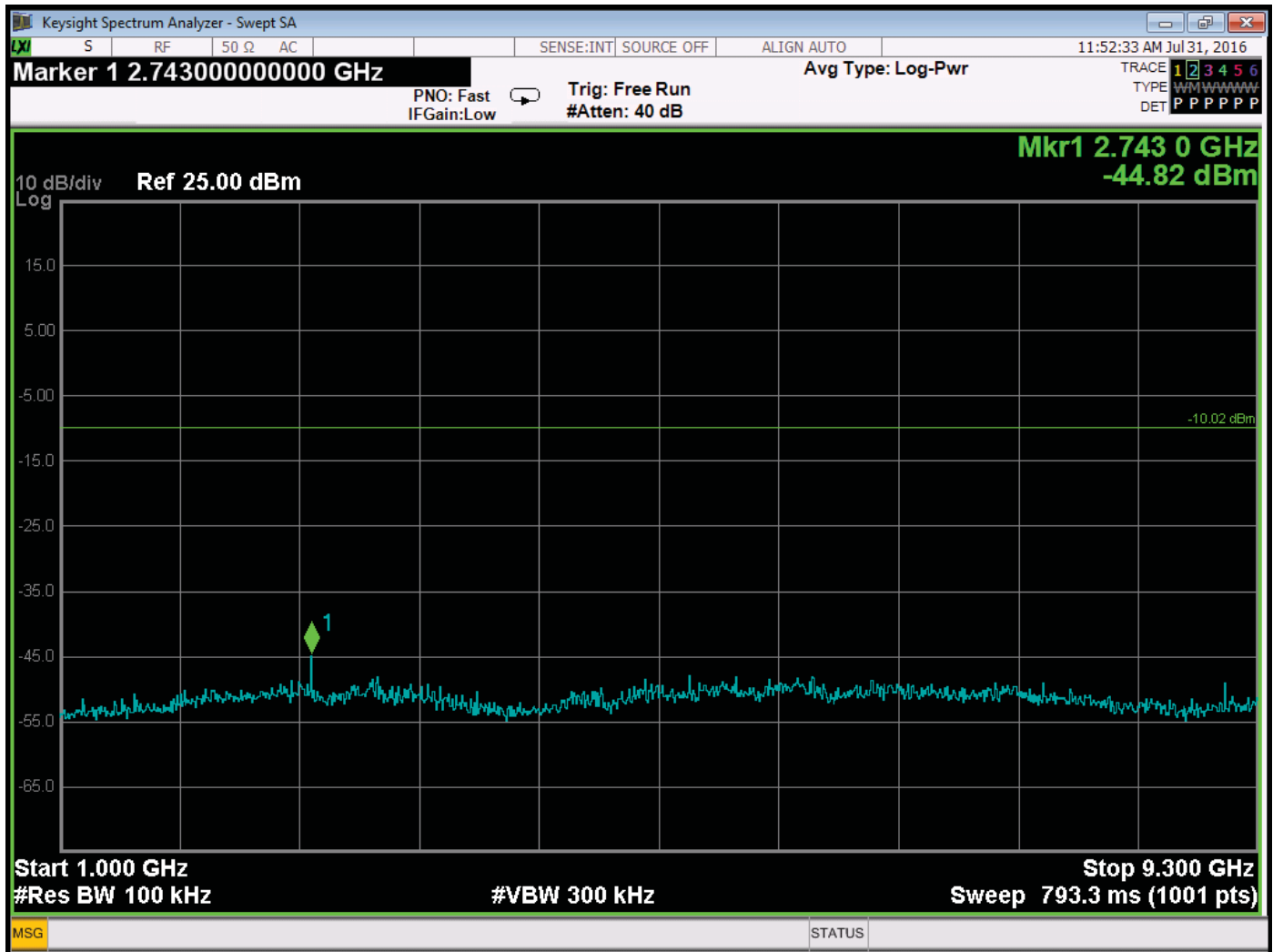
RF Antenna Conducted – Low Channel – 30 MHz to 1 GHz



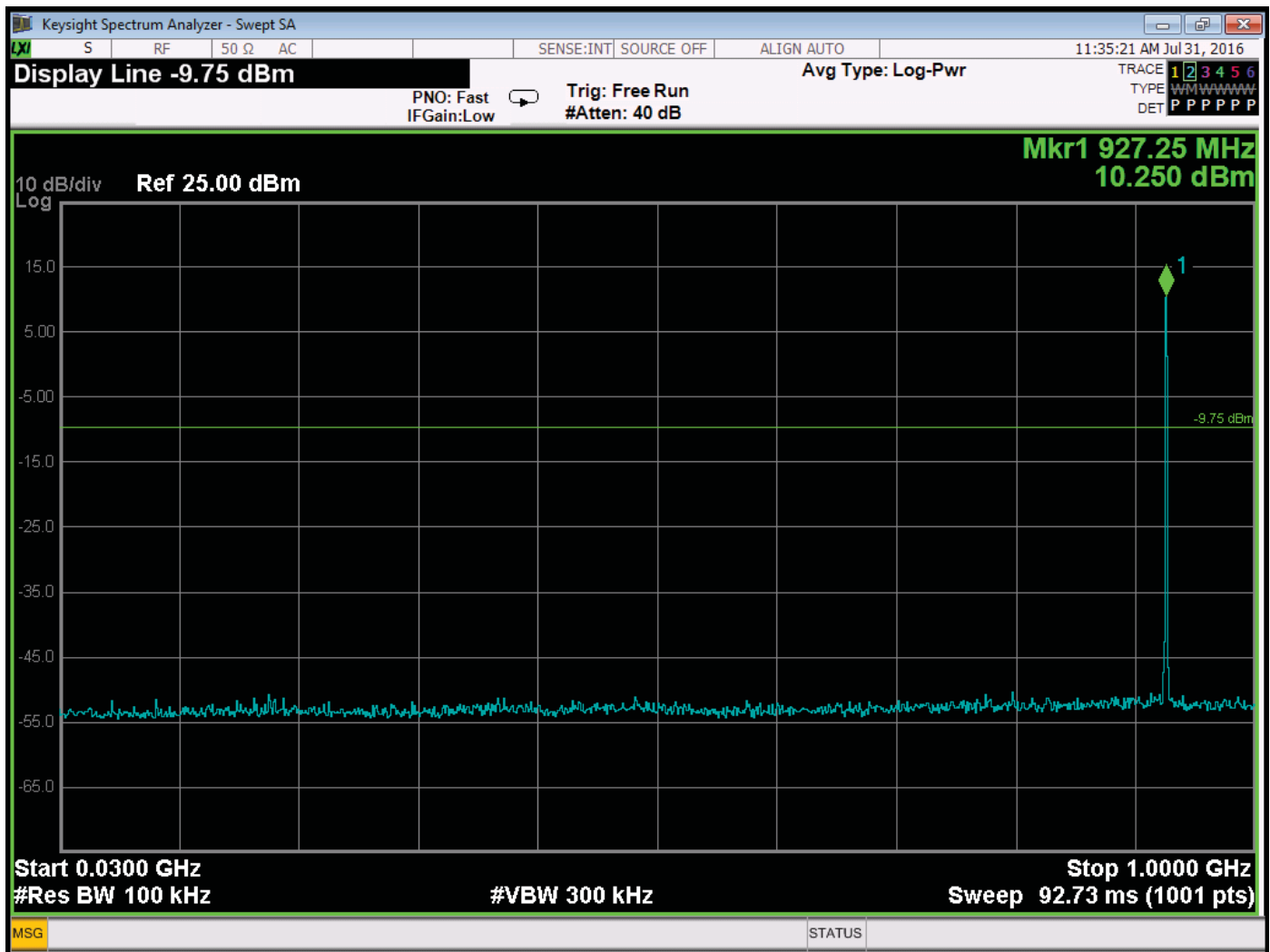
RF Antenna Conducted – Low Channel – 1 GHz to 9.3 GHz



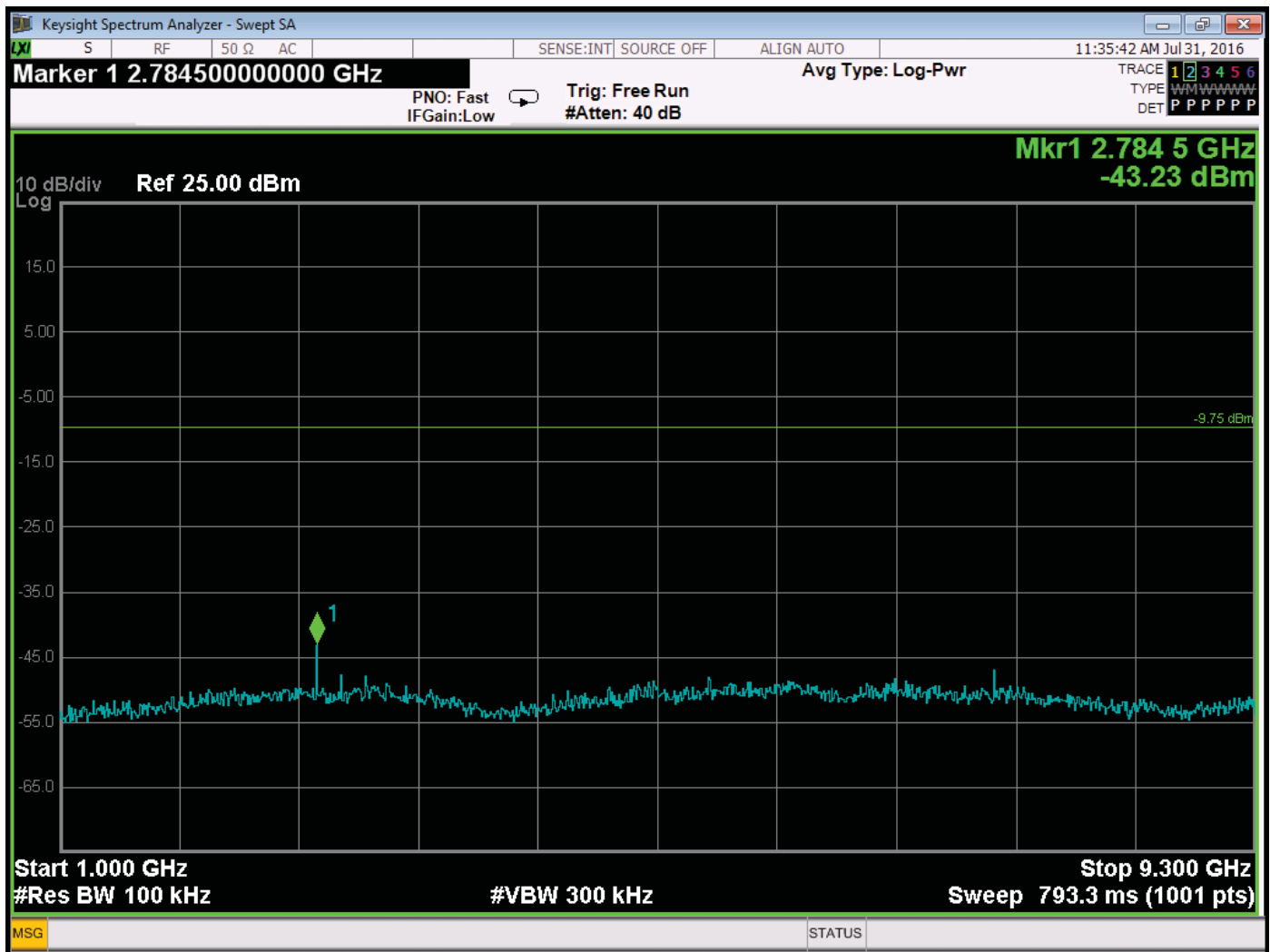
RF Antenna Conducted – Middle Channel – 30 MHz to 1 GHz



RF Antenna Conducted – Middle Channel – 1 GHz to 9.3 GHz



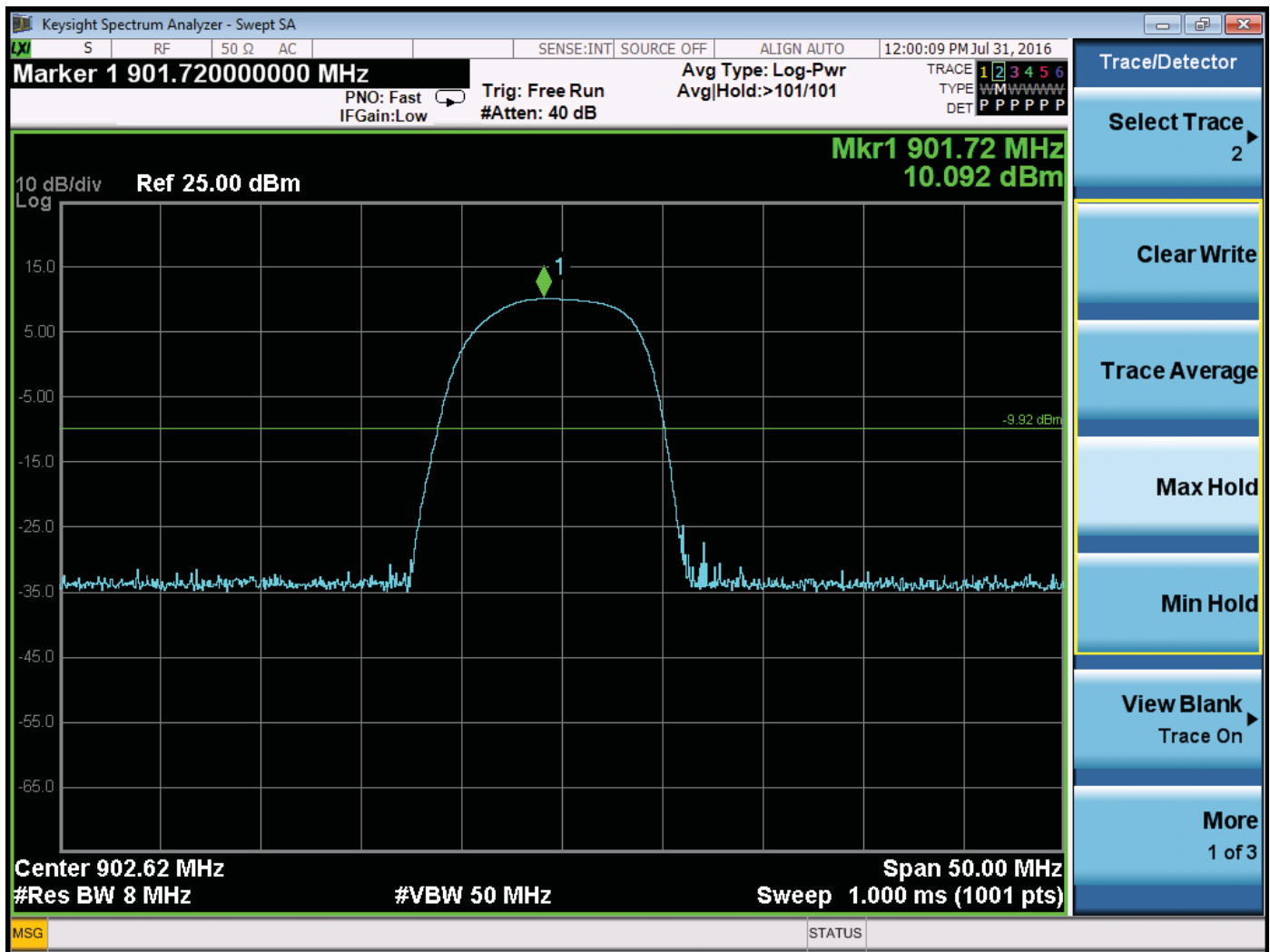
RF Antenna Conducted – High Channel – 30 MHz to 1 GHz



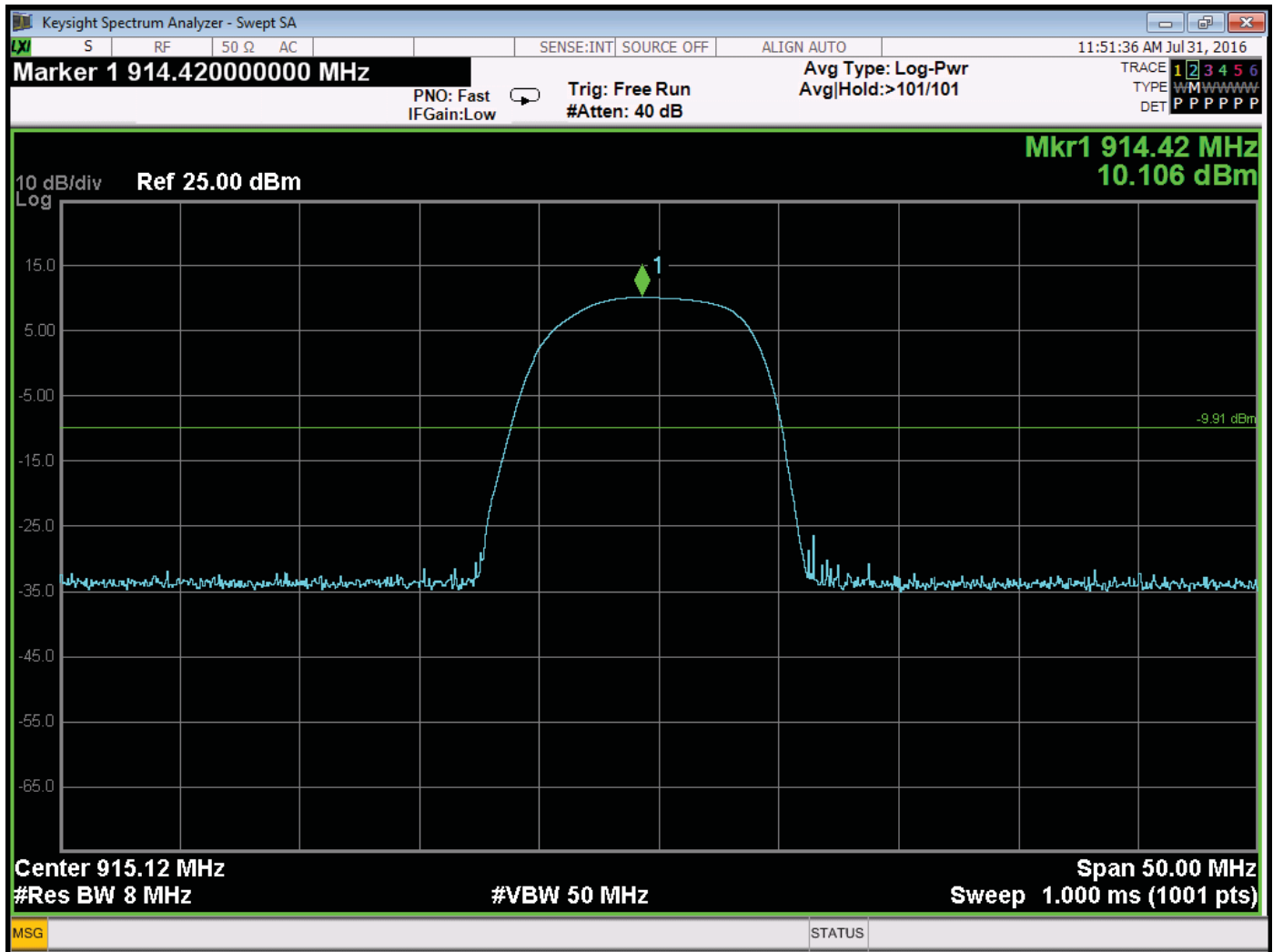
RF Antenna Conducted – High Channel – 1 GHz to 9.3 GHz



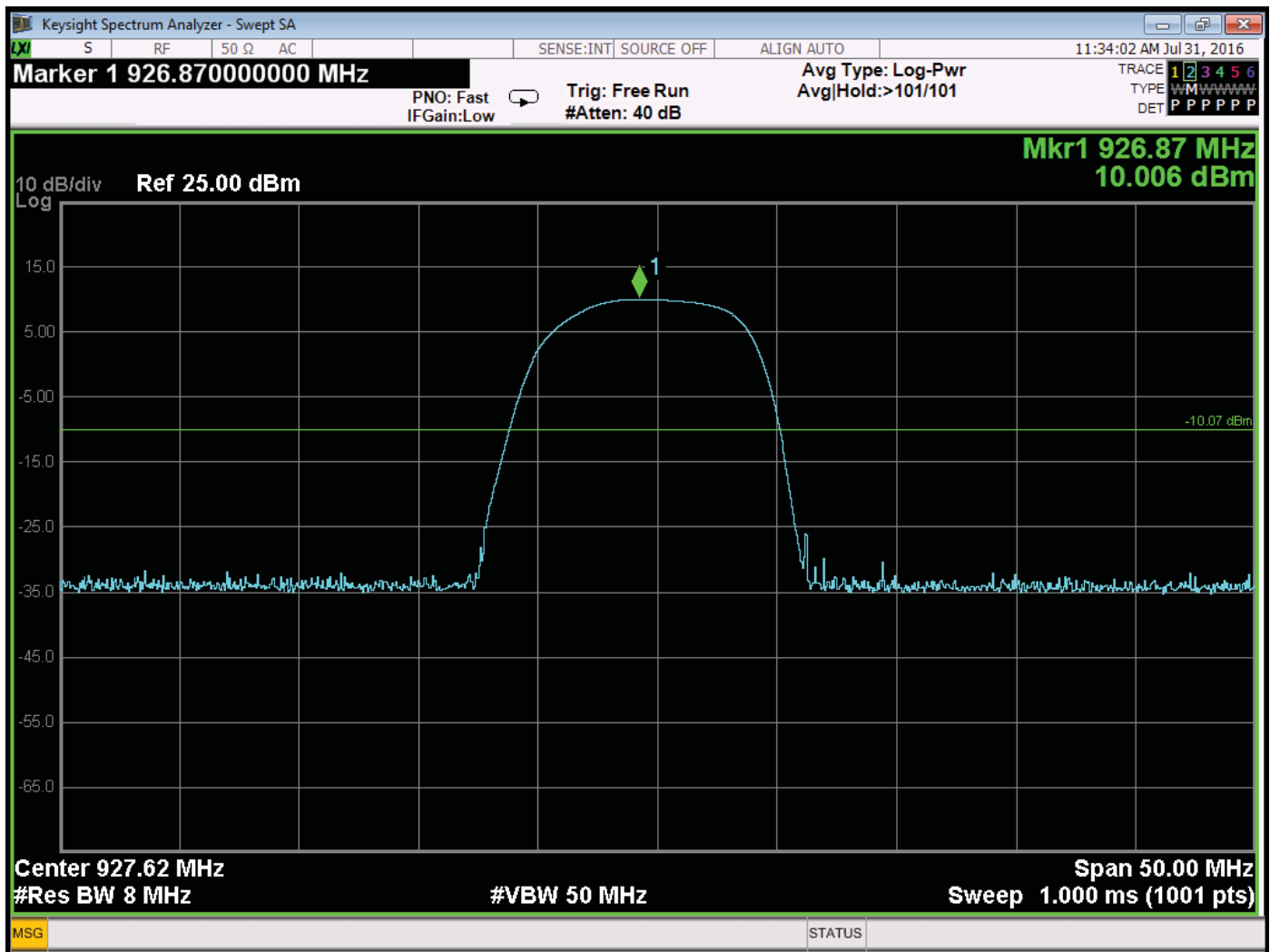
***PEAK POWER OUTPUT  
DATA SHEETS***



Peak Power Output – Low Channel



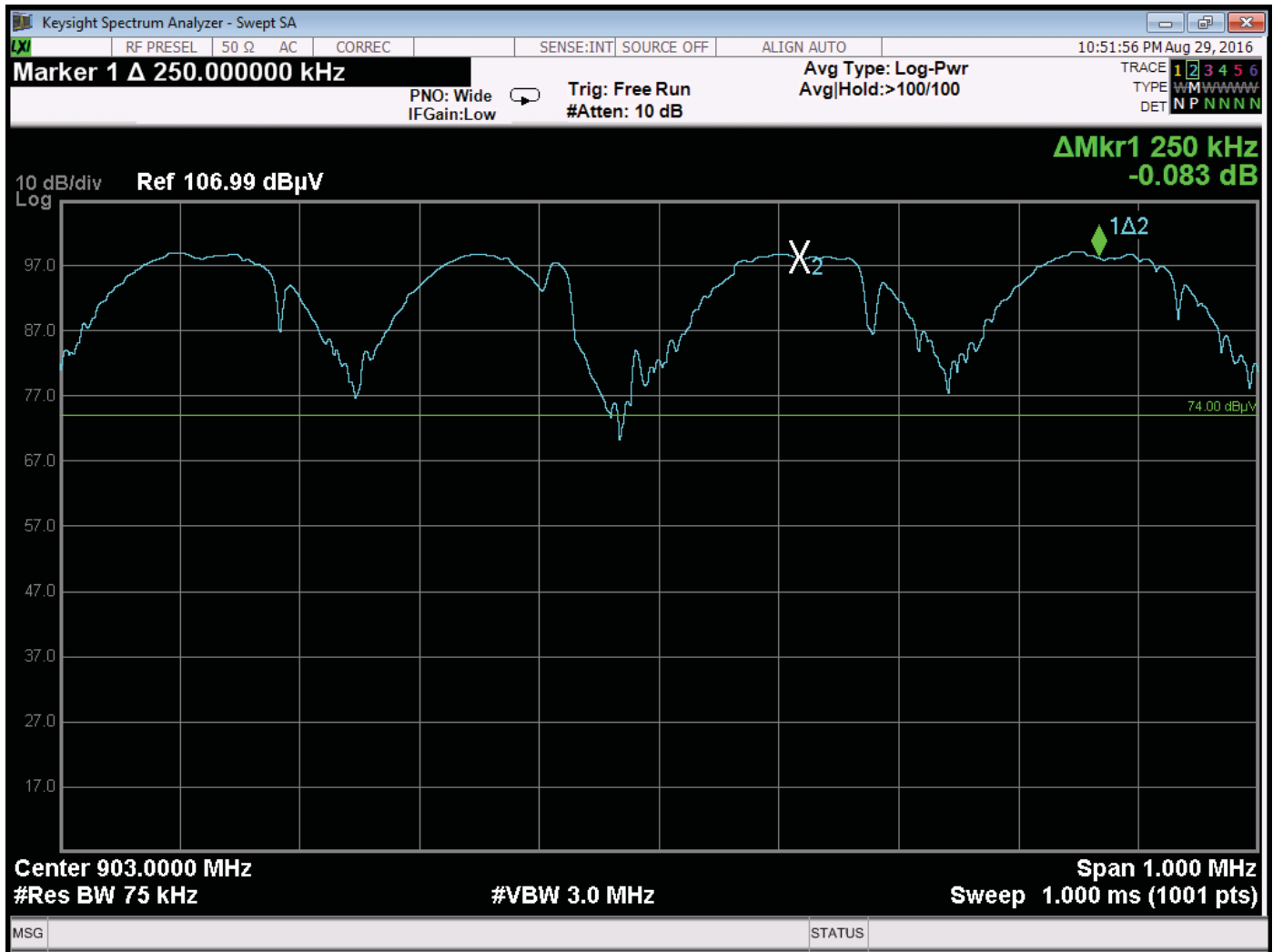
Peak Power Output – Middle Channel



Peak Power Output – High Channel



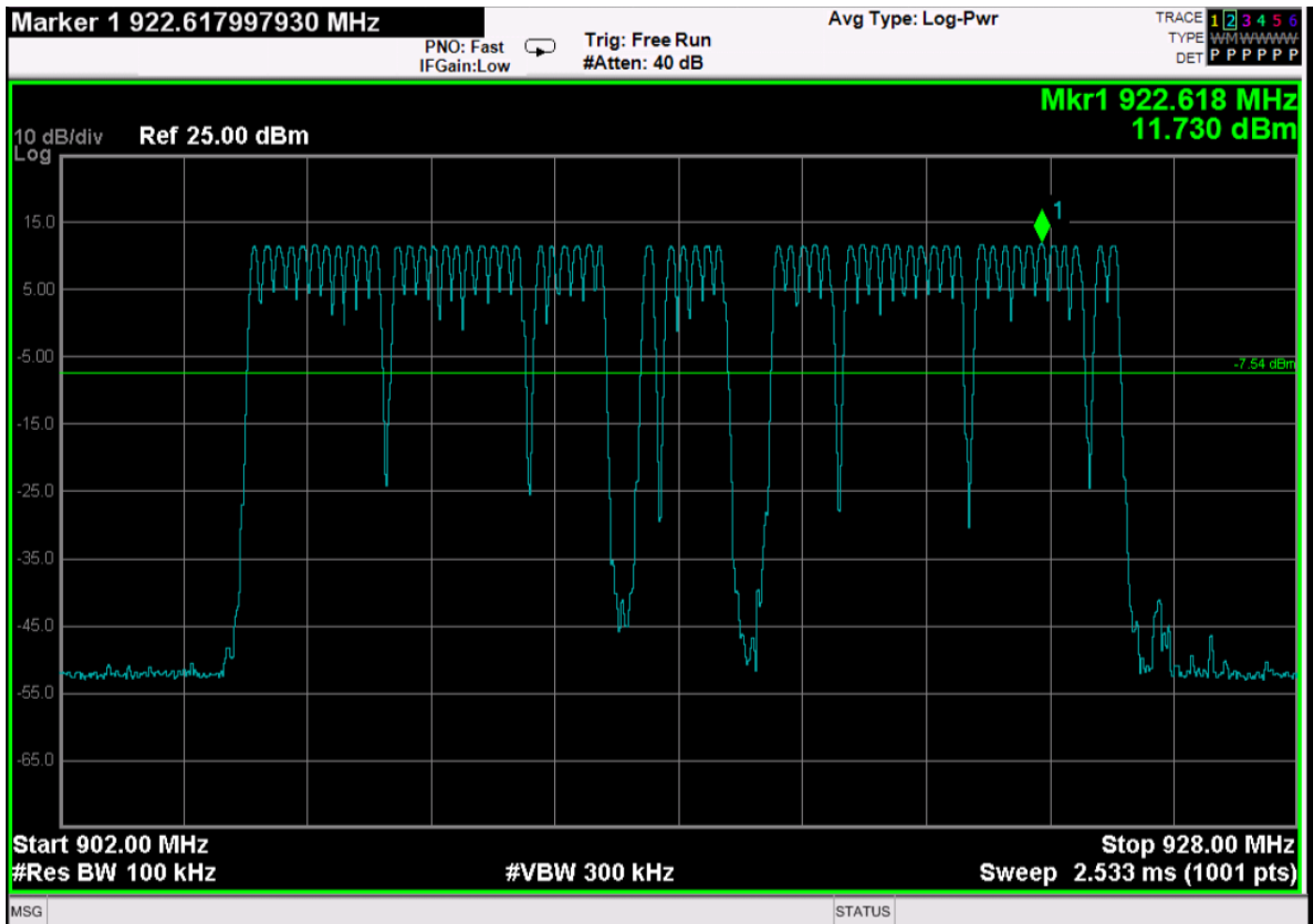
***CHANNEL FREQUENCY SEPARATION  
DATA SHEET***



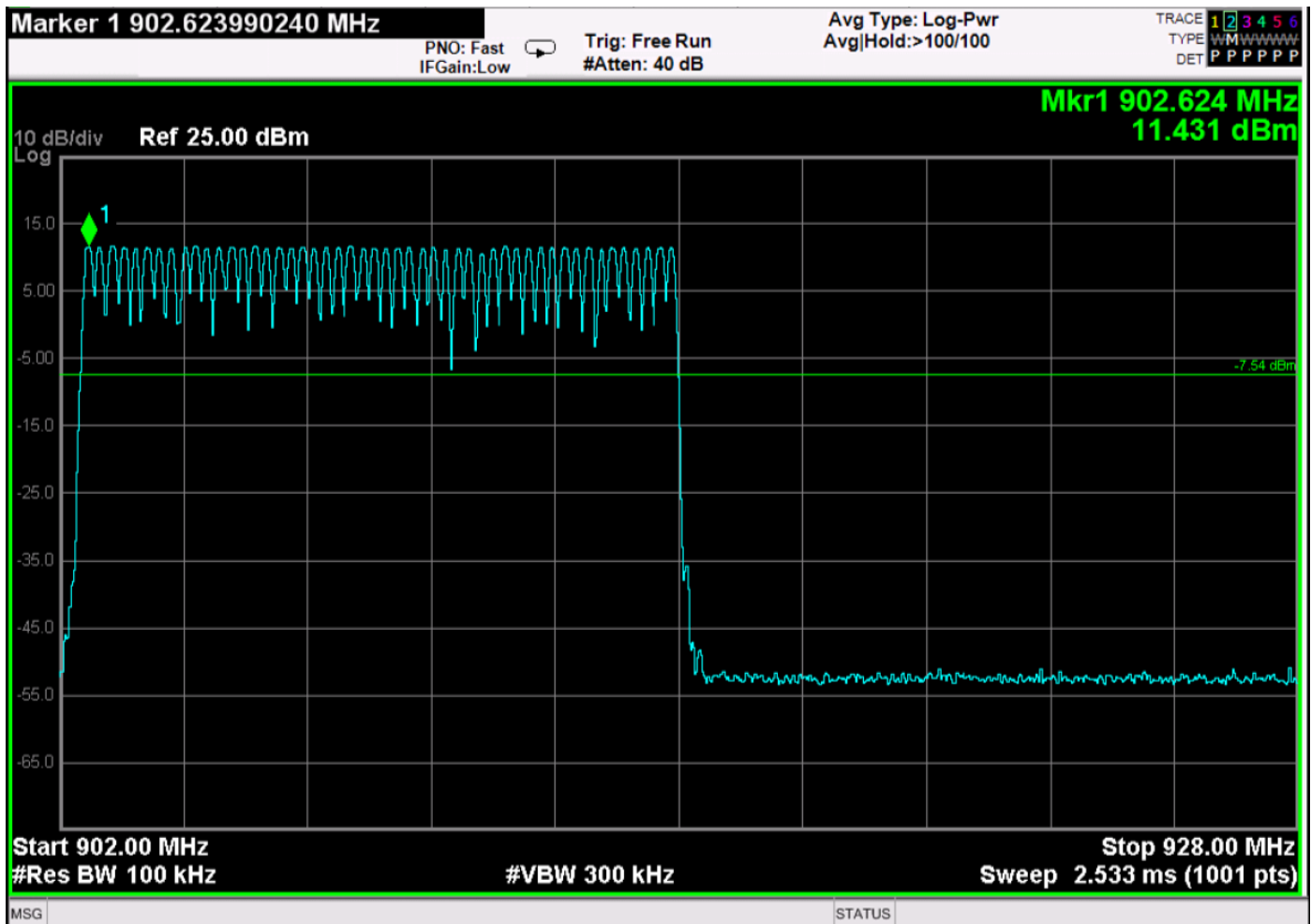
Channel Frequency Separation



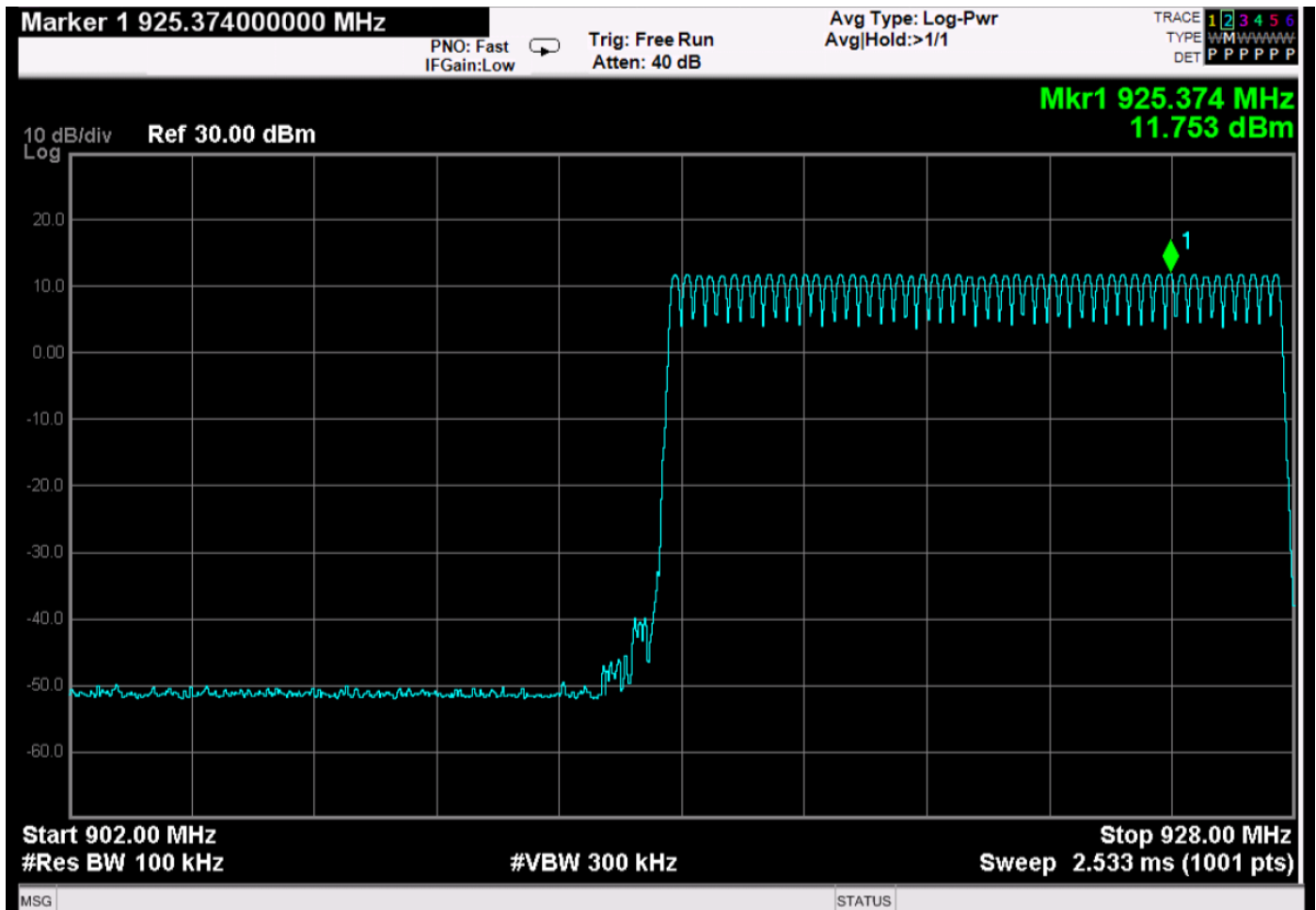
***NUMBER OF FREQUENCIES  
DATA SHEET***



Number of Maximum Channels is 60 – Normal Band



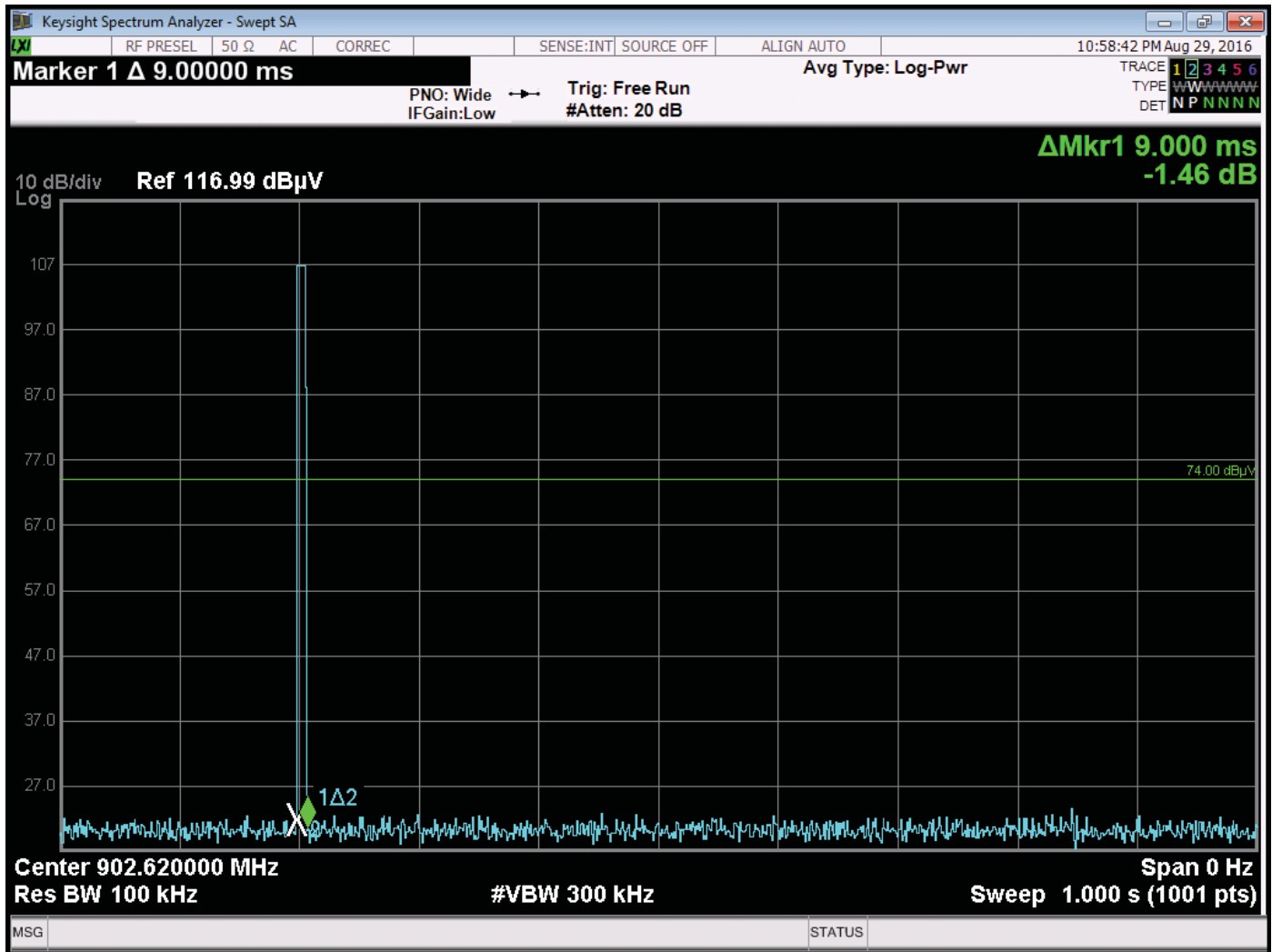
Number of Maximum Channels is 50 – Low Band



Number of Maximum Channels is 52 – High Band



***TIME OF OCCUPANCY  
DATA SHEETS***



Time of One Pulse – 9 ms

Note: Worst Case Mode of low band hop table used, which results in the pulses appearing more frequently.

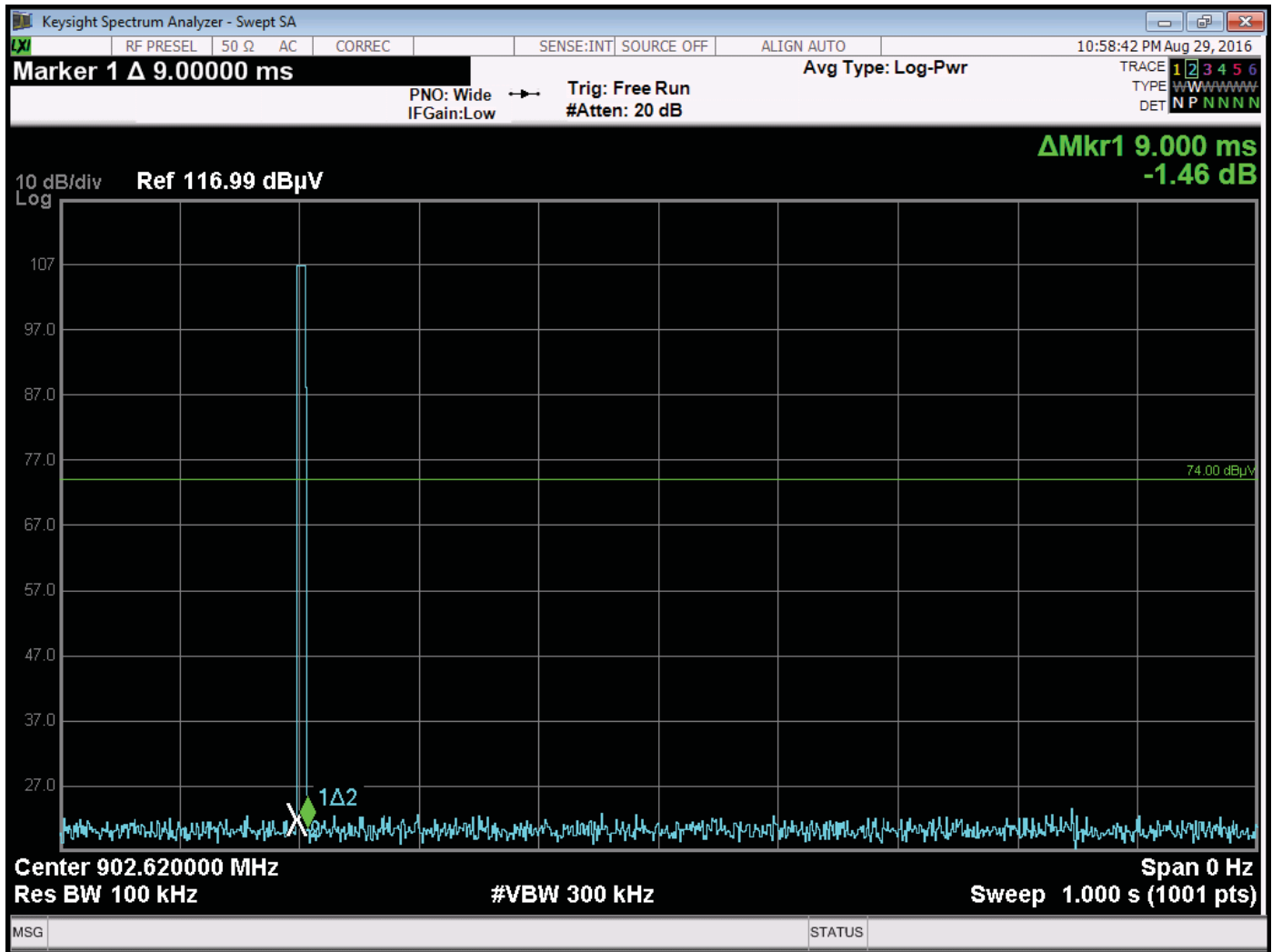


One Pulse Per 10 Seconds  
Total Time = 18 ms per 20 seconds  
Limit = 400 ms per 20 seconds

Note: Worst Case Mode of low band hop table used, which results in the pulses appearing more frequently.



***DUTY CYCLE  
DATA SHEETS***



Time of One Pulse – 9 ms

Note: Worst Case Mode of low band hop table used, which results in the pulses appearing more frequently.



One pulse per 10 Seconds

Total duty cycle = 9 ms / 100 ms = 9%

Note: Worst Case Mode of low band hop table used, which results in the pulses appearing more frequently.