



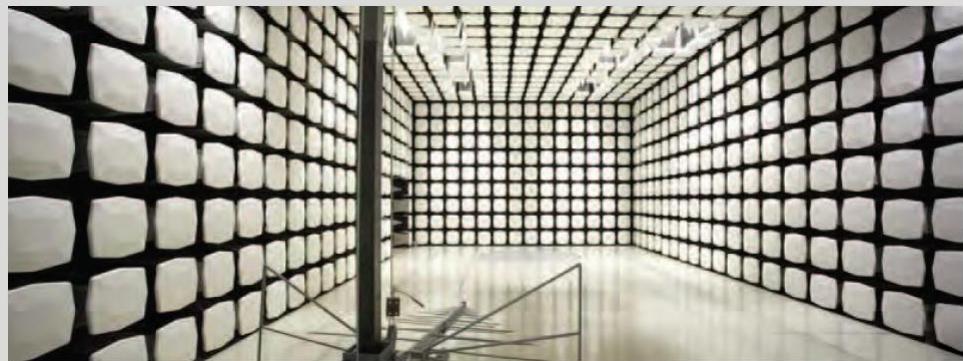
Polaris Industries, Inc.

Voyager Pro

FCC 15.247:2018

902 – 928 MHz Transceiver

Report # POLR0007



NVLAP Lab Code: 200630-0



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More: <https://www.bis.doc.gov/index.php/forms-documents/regulations-docs/14-commerce-country-chart/fileT>



CERTIFICATE OF TEST

Last Date of Test: February 1, 2018
Polaris Industries, Inc.
Model: Voyager Pro

Radio Equipment Testing

Standards

| Specification | Method |
|-----------------|------------------|
| FCC 15.247:2018 | ANSI C63.10:2013 |

Results

| Method Clause | Test Description | Applied | Results | Comments |
|---------------|-------------------------------------|---------|---------|---|
| 6.2 | Powerline Conducted Emissions | No | N/A | Not required, EUT is DC powered from a vehicle. |
| 6.5, 6.6 | Spurious Radiated Emissions | Yes | Pass | |
| 7.5 | Duty Cycle | Yes | Pass | |
| 7.8.2 | Carrier Frequency Separation | Yes | Pass | |
| 7.8.3 | Number of Hopping Frequencies | Yes | Pass | |
| 7.8.4 | Dwell Time | Yes | Pass | |
| 7.8.5 | Output Power | Yes | Pass | |
| 7.8.6 | Band Edge Compliance | Yes | Pass | |
| 7.8.6 | Band Edge Compliance - Hopping Mode | Yes | Pass | |
| 7.8.7 | Occupied Bandwidth | Yes | Pass | |
| 7.8.8 | Spurious Conducted Emissions | Yes | Pass | |
| 11.10.2 | Power Spectral Density | No | N/A | Not required for FHSS devices. |

Deviations From Test Standards

None

Approved By:

Kyle Holgate, Operations Manager

Product compliance is the responsibility of the client; therefore, the tests and equipment modes of operation represented in this report were agreed upon by the client, prior to testing. The results of this test pertain only to the sample(s) tested. The specific description is noted in each of the individual sections of the test report supporting this certificate of test. This report reflects only those tests from the referenced standards shown in the certificate of test. It does not include inspection or verification of labels, identification, marking or user information.

REVISION HISTORY



| Revision Number | Description | Date | Page Number |
|-----------------|-------------|------|-------------|
| 00 | None | | |

ACCREDITATIONS AND AUTHORIZATIONS



United States

FCC - Designated by the FCC as a Telecommunications Certification Body (TCB). Certification chambers, Open Area Test Sites, and conducted measurement facilities are listed with the FCC.

A2LA - Accredited by A2LA to ISO / IEC 17065 as a product certifier. This allows Element to certify transmitters to FCC and IC specifications.

NVLAP - Each laboratory is accredited by NVLAP to ISO 17025

Canada

ISED - Recognized by Innovation, Science and Economic Development Canada as a Certification Body (CB). Certification chambers and Open Area Test Sites are filed with ISED.

European Union

European Commission – Within Element, we have a EU Notified Body validated for the EMCD and RED Directives.

Australia/New Zealand

ACMA - Recognized by ACMA as a CAB for the acceptance of test data.

Korea

MSIP / RRA - Recognized by KCC's RRA as a CAB for the acceptance of test data.

Japan

VCCI - Associate Member of the VCCI. Conducted and radiated measurement facilities are registered.

Taiwan

BSMI – Recognized by BSMI as a CAB for the acceptance of test data.

NCC - Recognized by NCC as a CAB for the acceptance of test data.

Singapore

IDA – Recognized by IDA as a CAB for the acceptance of test data.

Israel

MOC – Recognized by MOC as a CAB for the acceptance of test data.

Hong Kong

OFCA – Recognized by OFCA as a CAB for the acceptance of test data.

Vietnam

MIC – Recognized by MIC as a CAB for the acceptance of test data.

SCOPE

For details on the Scopes of our Accreditations, please visit:

<http://portlandcustomer.element.com/ts/scope/scope.htm>

<http://gsi.nist.gov/global/docs/cabs/designations.html>

MEASUREMENT UNCERTAINTY



Measurement Uncertainty

When a measurement is made, the result will be different from the true or theoretically correct value. The difference is the result of tolerances in the measurement system that cannot be completely eliminated. To the extent that technology allows us, it has been our aim to minimize this error. Measurement uncertainty is a statistical expression of measurement error qualified by a probability distribution.

A measurement uncertainty estimation has been performed for each test per our internal quality document QM205.4.6. The estimation is used to compare the measured result with its "true" or theoretically correct value. The expanded measurement uncertainty (K=2) can be found included as part of the applicable test description page. Our measurement data meets or exceeds the measurement uncertainty requirements of the applicable specification; therefore, the test data can be compared directly to the specification limit to determine compliance. The calculations for estimating measurement uncertainty are based upon ETSI TR 100 028 (or CISPR 16-4-2 as applicable), and are available upon request.

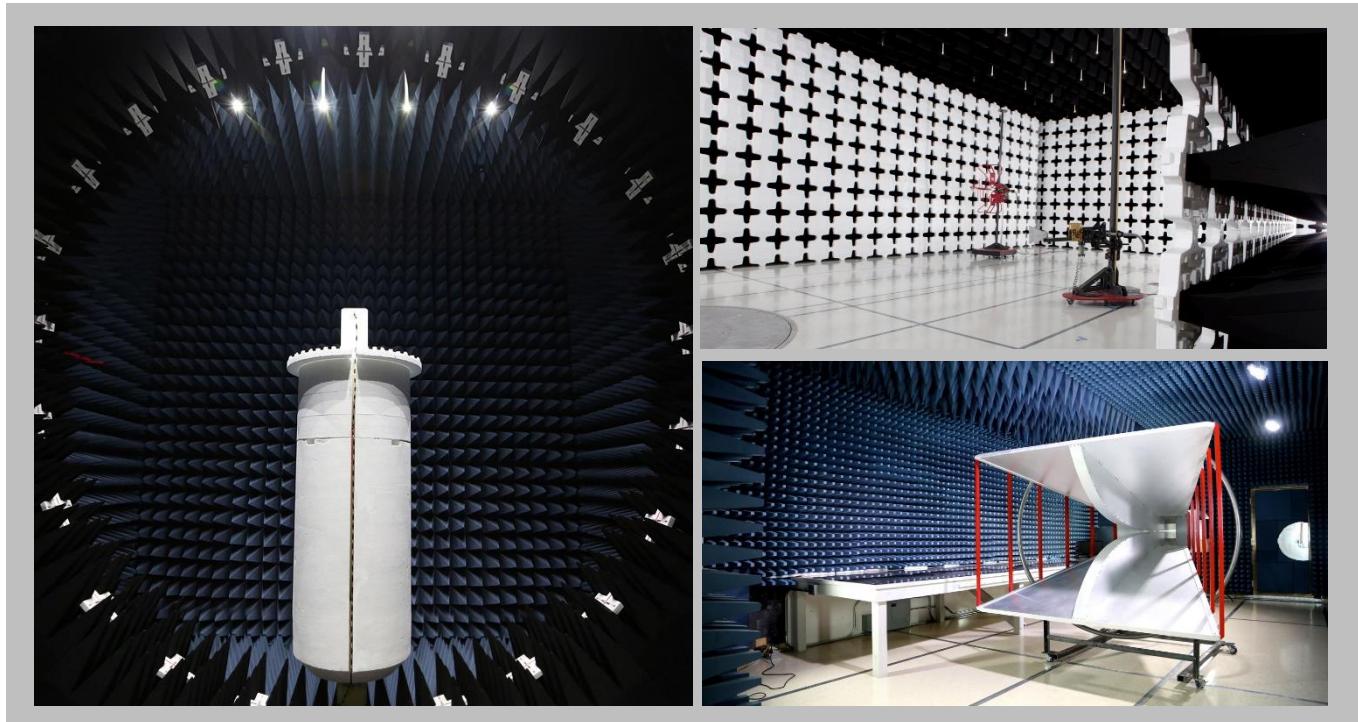
The following table represents the Measurement Uncertainty (MU) budgets for each of the tests that may be contained in this report.

| <u>Test</u> | <u>+ MU</u> | <u>- MU</u> |
|---------------------------------------|-------------|-------------|
| Frequency Accuracy (Hz) | 0.0007% | -0.0007% |
| Amplitude Accuracy (dB) | 1.2 dB | -1.2 dB |
| Conducted Power (dB) | 0.3 dB | -0.3 dB |
| Radiated Power via Substitution (dB) | 0.7 dB | -0.7 dB |
| Temperature (degrees C) | 0.7°C | -0.7°C |
| Humidity (% RH) | 2.5% RH | -2.5% RH |
| Voltage (AC) | 1.0% | -1.0% |
| Voltage (DC) | 0.7% | -0.7% |
| Field Strength (dB) | 5.2 dB | -5.2 dB |
| AC Powerline Conducted Emissions (dB) | 2.4 dB | -2.4 dB |

FACILITIES

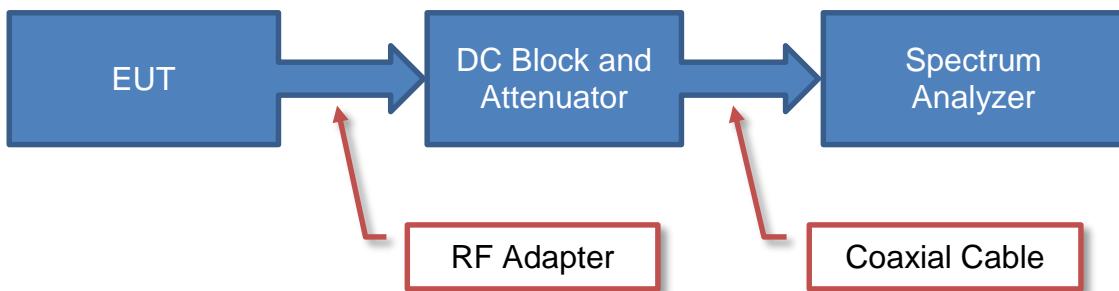


| California | Minnesota | New York | Oregon | Texas | Washington |
|---|---|---|--|--|---|
| Labs OC01-17 41 Tesla Irvine, CA 92618 (949) 861-8918 | Labs MN01-10 9349 W Broadway Ave. Brooklyn Park, MN 55445 (612) 638-5136 | Labs NY01-04 4939 Jordan Rd. Elbridge, NY 13060 (315) 554-8214 | Labs EV01-12 6775 NE Evergreen Pkwy #400 Hillsboro, OR 97124 (503) 844-4066 | Labs TX01-09 3801 E Plano Pkwy Plano, TX 75074 (469) 304-5255 | Labs NC01-05 19201 120 th Ave NE Bothell, WA 98011 (425) 984-6600 |
| NVLAP | | | | | |
| NVLAP Lab Code: 200676-0 | NVLAP Lab Code: 200881-0 | NVLAP Lab Code: 200761-0 | NVLAP Lab Code: 200630-0 | NVLAP Lab Code: 201049-0 | NVLAP Lab Code: 200629-0 |
| Innovation, Science and Economic Development Canada | | | | | |
| 2834B-1, 2834B-3 | 2834E-1, 2834E-3 | N/A | 2834D-1, 2834D-2 | 2834G-1 | 2834F-1 |
| BSMI | | | | | |
| SL2-IN-E-1154R | SL2-IN-E-1152R | N/A | SL2-IN-E-1017 | SL2-IN-E-1158R | SL2-IN-E-1153R |
| VCCI | | | | | |
| A-0029 | A-0109 | N/A | A-0108 | A-0201 | A-0110 |
| Recognized Phase I CAB for ACMA, BSMI, IDA, KCC/RRA, MIC, MOC, NCC, OFCA | | | | | |
| US0158 | US0175 | N/A | US0017 | US0191 | US0157 |

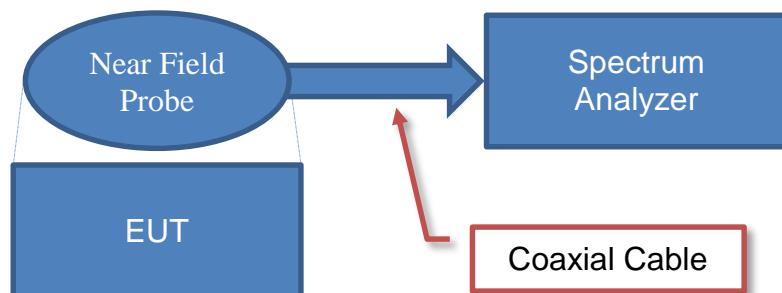


Test Setup Block Diagrams

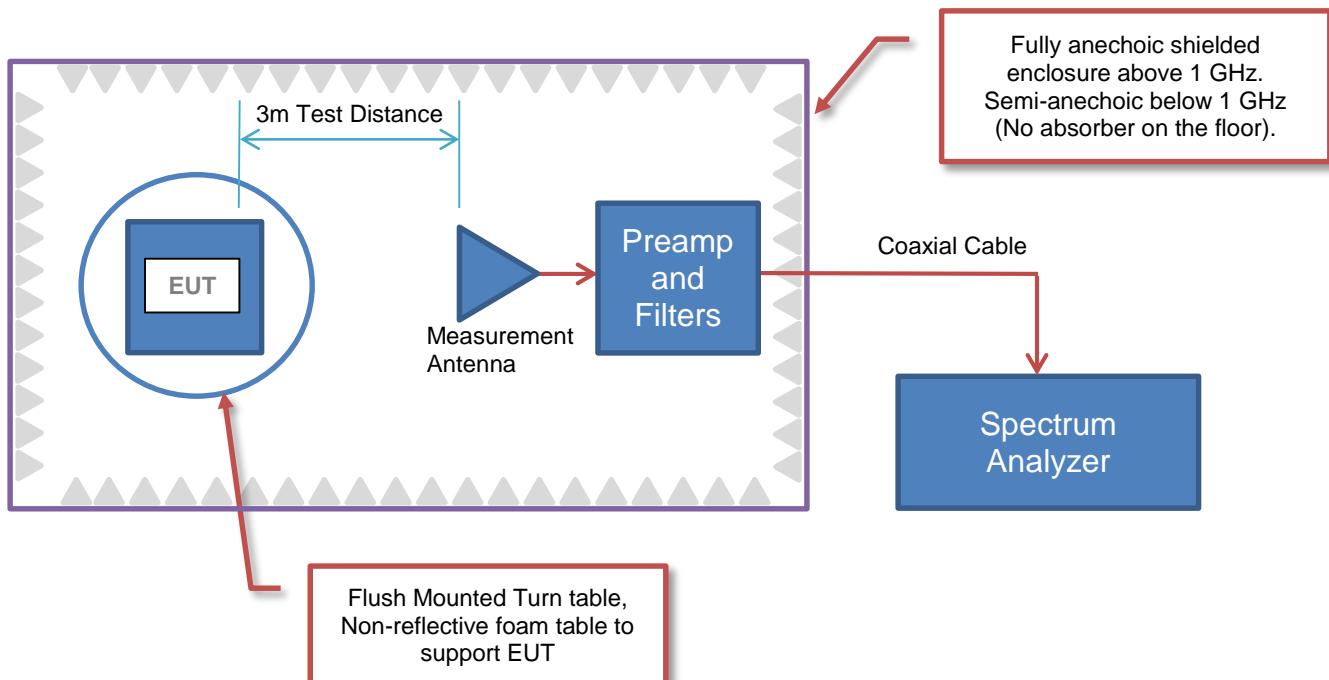
Antenna Port Conducted Measurements



Near Field Test Fixture Measurements



Spurious Radiated Emissions





PRODUCT DESCRIPTION

Client and Equipment Under Test (EUT) Information

| | |
|---------------------------------|--------------------------|
| Company Name: | Polaris Industries, Inc. |
| Address: | 1600 SE 18th Ave. |
| City, State, Zip: | Battle Ground, WA 98604 |
| Test Requested By: | Alex Baltes |
| Model: | Voyager Pro |
| First Date of Test: | January 22, 2018 |
| Last Date of Test: | February 1, 2018 |
| Receipt Date of Samples: | January 22, 2018 |
| Equipment Design Stage: | Production |
| Equipment Condition: | No Damage |
| Purchase Authorization: | Verified |

Information Provided by the Party Requesting the Test

Functional Description of the EUT:

Display for use on vehicles which includes a 915 MHz FHSS radio.

Testing Objective:

Seeking to demonstrate compliance of the FHSS radio under FCC 15.247:2018 for operation in the 902 - 928 MHz Band.



CONFIGURATIONS

Configuration POLR0007- 1

| Software/Firmware Running during test | |
|---------------------------------------|---------|
| Description | Version |
| TeraTerm | 4.96 |
| Engineering Node Web Server | Unknown |

| EUT | | | |
|----------------------|--------------------------|-------------------|---------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Vehicle Display Unit | Polaris Industries, Inc. | Voyager Pro | 15 |

| Peripherals in test setup boundary | | | |
|------------------------------------|---------------------------------------|-------------------|---------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Linear DC Power Supply | TOPWARD ELECTRIC INSTRUMENTS CO. LTD. | TPS-2000 | None |

| Cables | | | | | |
|----------------|--------|------------|---------|----------------------|------------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| DC Power Cable | No | 0.1 m | No | Vehicle Display Unit | DC Leads |
| DC Leads | No | 0.8 m | No | DC Power Cable | Linear DC Power Supply |

CONFIGURATIONS



Configuration POLR0007- 2

| Software/Firmware Running during test | |
|---------------------------------------|---------|
| Description | Version |
| TeraTerm | 4.96 |
| Engineering Node Web Server | Unknown |

| EUT | | | |
|----------------------|--------------------------|-------------------|---------------|
| Description | Manufacturer | Model/Part Number | Serial Number |
| Vehicle Display Unit | Polaris Industries, Inc. | Voyager Pro | 15 |

| Peripherals in test setup boundary | | | | |
|------------------------------------|---------------------------------------|-------------------|---------------|--|
| Description | Manufacturer | Model/Part Number | Serial Number | |
| Linear DC Power Supply | TOPWARD ELECTRIC INSTRUMENTS CO. LTD. | TPS-2000 | None | |
| Automotive Whip Antenna | Laird | Unknown | None | |
| GPS antenna | Trail Tech | Unknown | None | |

| Cables | | | | | |
|---------------------|--------|------------|---------|-------------------------|------------------------|
| Cable Type | Shield | Length (m) | Ferrite | Connection 1 | Connection 2 |
| DC Power Cable | No | 0.1 m | No | Vehicle Display Unit | DC Leads |
| DC Leads | No | 0.8 m | No | DC Power Cable | Linear DC Power Supply |
| Coax (Whip Antenna) | Yes | 3.5 m | No | Automotive Whip Antenna | Vehicle Display Unit |
| Coax (GPS) | Yes | 1.6 m | No | GPS Antenna | Vehicle Display Unit |
| I/O Cables (x3) | No | 1.1 m | No | Unterminated | Vehicle Display Unit |

MODIFICATIONS



Equipment Modifications

| Item | Date | Test | Modification | Note | Disposition of EUT |
|------|-----------|-------------------------------------|--------------------------------------|---|---|
| 1 | 1/22/2018 | Duty Cycle | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 2 | 1/22/2018 | Carrier Frequency Separation | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 3 | 1/22/2018 | Number of Hopping Frequencies | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 4 | 1/22/2018 | Output Power | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 5 | 1/22/2018 | Band Edge Compliance | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 6 | 1/22/2018 | Band Edge Compliance - Hopping Mode | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 7 | 1/22/2018 | Occupied Bandwidth | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 8 | 1/22/2018 | Spurious Conducted Emissions | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 9 | 1/23/2018 | Spurious Radiated Emissions | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | EUT remained at Element following the test. |
| 10 | 2/1/2018 | Dwell Time | Tested as delivered to Test Station. | No EMI suppression devices were added or modified during this test. | Scheduled testing was completed. |

SPURIOUS RADIATED EMISSIONS



PSA-ESCI 2017.09.18

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data. The test data represents the configuration / operating mode/ model that produced the highest emission levels as compared to the specification limit.

MODES OF OPERATION

LoRa Continuous Tx, Low Ch. 902.5, Mid Ch. 915 MHz, High Ch. 927.5 MHz. Default max power.

POWER SETTINGS INVESTIGATED

14.0 VDC

CONFIGURATIONS INVESTIGATED

POLR0007 - 2

FREQUENCY RANGE INVESTIGATED

| | | | |
|-----------------|--------|----------------|----------|
| Start Frequency | 30 MHz | Stop Frequency | 12.4 GHz |
|-----------------|--------|----------------|----------|

SAMPLE CALCULATIONS

Radiated Emissions: Field Strength = Measured Level + Antenna Factor + Cable Factor - Amplifier Gain + Distance Adjustment Factor + External Attenuation

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Interval |
|------------------------------|-----------------|---------------------------|-----|-------------|----------|
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFN | 13-Apr-2017 | 12 mo |
| Cable | None | Standard Gain Horns Cable | EVF | 30-Nov-2017 | 12 mo |
| Amplifier - Pre-Amplifier | L-3 Narda-MITEQ | AMF-6F-08001200-30-10P | PAO | 30-Nov-2017 | 12 mo |
| Antenna - Standard Gain | ETS Lindgren | 3160-07 | AHU | NCR | 0 mo |
| Filter - High Pass | Micro-Tronics | HPM50108 | HFV | 6-Feb-2017 | 12 mo |
| Filter - Low Pass | Micro-Tronics | LPM50003 | LFB | 19-Apr-2017 | 12 mo |
| Filter - Band Pass/Notch | K&L Microwave | 3TNF-500/1000-N/N | HFT | 12-Dec-2017 | 12 mo |
| Attenuator | Coaxicom | 3910-10 | AWX | 19-Apr-2017 | 12 mo |
| Attenuator | Coaxicom | 3910-20 | AXZ | 19-Apr-2017 | 12 mo |
| Cable | N/A | Double Ridge Horn Cables | EVB | 29-Nov-2017 | 12 mo |
| Amplifier - Pre-Amplifier | Miteq | AMF-3D-00100800-32-13P | PAG | 29-Nov-2017 | 12 mo |
| Antenna - Double Ridge | EMCO | 3115 | AHC | 23-Jun-2016 | 24 mo |
| Cable | N/A | Bilog Cables | EVA | 30-Nov-2017 | 12 mo |
| Amplifier - Pre-Amplifier | Miteq | AM-1616-1000 | AOL | 30-Nov-2017 | 12 mo |
| Antenna - Biconilog | Teseq | CBL 6141B | AXR | 30-Jun-2016 | 24 mo |

TEST DESCRIPTION

The highest gain antenna of each type to be used with the EUT was tested. The EUT was configured for the required transmit frequencies and the modes as showed in the data sheets.

For each configuration, the spectrum was scanned throughout the specified range as part of the exploratory investigation of the emissions. These "pre-scans" are not included in the report. Final measurements on individual emissions were then made and included in this test report.

The individual emissions from the EUT were maximized by rotating the EUT on a turntable, adjusting the position of the EUT and EUT antenna in three orthogonal axis if required, and adjusting the measurement antenna height and polarization (per ANSI C63.10). A preamp and high pass filter (and notch filter) were used for this test in order to provide sufficient measurement sensitivity.

Measurements were made with the required detectors and annotated on the data for each individual point using the following annotation:

QP = Quasi-Peak Detector

PK = Peak Detector

AV = RMS Detector

Measurements were made to satisfy the specific requirements of the test specification for out of band emissions as well as the restricted band requirements.

If there are no detectable emissions above the noise floor, the data included may show noise floor measurements for reference only.

Measurements at the edges of the allowable band may be presented in an alternative method as provided for in the ANSI C63.10 Marker-Delta method. This method involves performing an in-band fundamental measurement followed by a screen capture of the fundamental and out-of-band emission using reduced measurement instrumentation bandwidths. The amplitude delta measured on this screen capture is applied to the fundamental emission value to show the out-of-band emission level as applied to the limit.

SPURIOUS RADIATED EMISSIONS

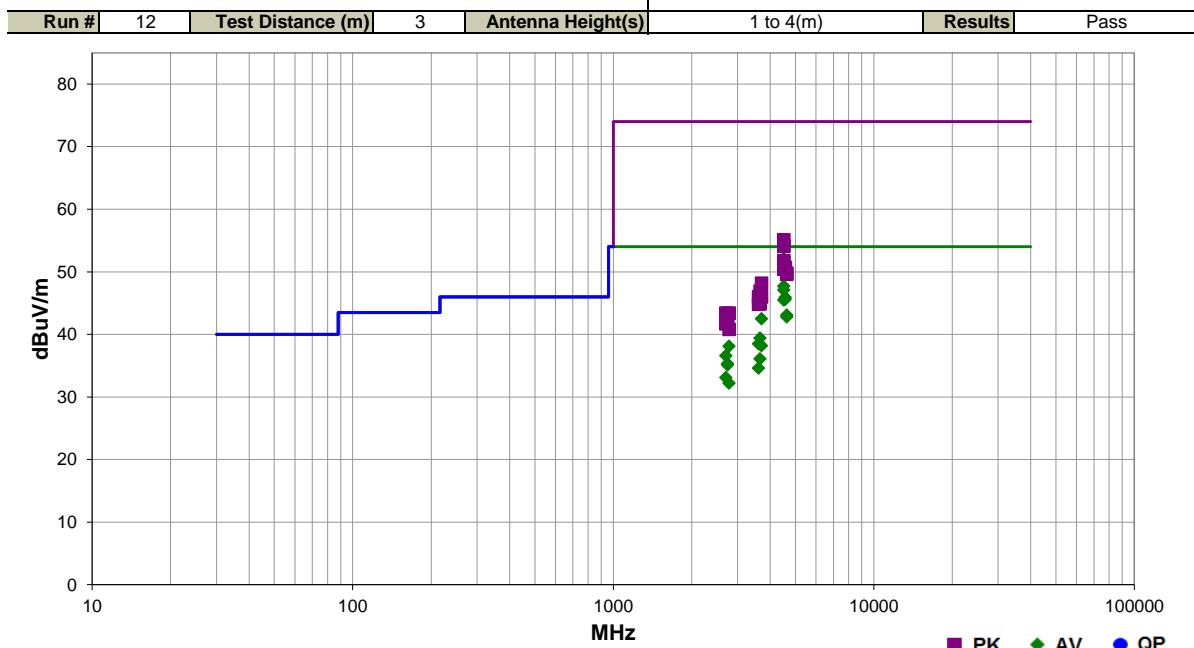


EmiR5 2017.09.18.2

PSA-ESCI 2017.09.18

| | | | | |
|-----------------|--|-------------------|-------------|--|
| Work Order: | POLR0007 | Date: | 23-Jan-2018 | |
| Project: | None | Temperature: | 21.9 °C | |
| Job Site: | EV01 | Humidity: | 37.1% RH | |
| Serial Number: | 1 | Barometric Pres.: | 1021 mbar | |
| EUT: | Voyager Pro | | | |
| Configuration: | 2 | | | |
| Customer: | Polaris Industries, Inc. | | | |
| Attendees: | Stephen Reid and Ed Vaynberg | | | |
| EUT Power: | 14.0 VDC | | | |
| Operating Mode: | LoRa Continuous Tx, Low Ch. 902.5, Mid Ch. 915 MHz, High Ch. 927.5 MHz. Default max power. | | | |
| Deviations: | None | | | |
| Comments: | See comments below for Channel and EUT orientation. | | | |

| Test Specifications | Test Method |
|---------------------|------------------|
| FCC 15.247:2018 | ANSI C63.10:2013 |



| Freq (MHz) | Amplitude (dBuV/m) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|--------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|------------------------------|
| 4512.505 | 47.9 | 4.2 | 2.7 | 286.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 52.1 | 54.0 | -1.9 | Low Channel, EUT Vertical |
| 4512.345 | 47.0 | 4.2 | 2.6 | 219.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 51.2 | 54.0 | -2.8 | Low Channel, EUT on Side |
| 4512.430 | 46.8 | 4.2 | 1.0 | 268.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 51.0 | 54.0 | -3.0 | Low Channel, EUT Horizontal |
| 4512.550 | 43.5 | 4.2 | 1.0 | 58.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 47.7 | 54.0 | -6.3 | Low Channel, EUT Vertical |
| 4512.435 | 42.9 | 4.2 | 1.0 | 275.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 47.1 | 54.0 | -6.9 | Low Channel, EUT Vertical |
| 4574.925 | 41.6 | 4.3 | 1.0 | 256.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 45.9 | 54.0 | -8.1 | Mid Channel, EUT Horizontal |
| 4574.842 | 41.3 | 4.3 | 2.7 | 309.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 45.6 | 54.0 | -8.4 | Mid Channel, EUT Vertical |
| 4512.485 | 41.3 | 4.2 | 1.6 | 197.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 45.5 | 54.0 | -8.5 | Low Channel, EUT on Side |
| 4637.417 | 38.7 | 4.4 | 2.7 | 299.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 43.1 | 54.0 | -10.9 | High Channel, EUT Vertical |
| 4637.433 | 38.4 | 4.4 | 1.0 | 282.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 42.8 | 54.0 | -11.2 | High Channel, EUT Horizontal |
| 3709.975 | 40.0 | 2.5 | 1.0 | 262.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 42.5 | 54.0 | -11.5 | High Channel, EUT Horizontal |
| 3660.025 | 37.3 | 2.1 | 3.2 | 235.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 39.4 | 54.0 | -14.6 | Mid Channel, EUT Horizontal |
| 3610.025 | 36.6 | 1.9 | 1.0 | 178.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 38.5 | 54.0 | -15.5 | Low Channel, EUT Horizontal |
| 3709.958 | 35.7 | 2.5 | 1.1 | 44.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 38.2 | 54.0 | -15.8 | High Channel, EUT Vertical |
| 2782.442 | 40.9 | -2.8 | 1.1 | 329.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 38.1 | 54.0 | -15.9 | High Channel, EUT Vertical |
| 2707.408 | 39.8 | -3.2 | 1.0 | 189.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 36.6 | 54.0 | -17.4 | Low Channel, EUT Horizontal |
| 3659.992 | 34.0 | 2.1 | 3.4 | 278.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 36.1 | 54.0 | -17.9 | Mid Channel, EUT Vertical |
| 2745.033 | 38.3 | -3.0 | 1.2 | 106.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 35.3 | 54.0 | -18.7 | Mid Channel, EUT Vertical |
| 2745.058 | 38.1 | -3.0 | 1.0 | 194.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 35.1 | 54.0 | -18.9 | Mid Channel, EUT Horizontal |
| 4512.325 | 50.9 | 4.2 | 2.7 | 286.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 55.1 | 74.0 | -18.9 | Low Channel, EUT Vertical |
| 3609.942 | 32.7 | 1.9 | 1.1 | 52.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 34.6 | 54.0 | -19.4 | Low Channel, EUT Vertical |
| 4512.750 | 50.1 | 4.2 | 1.0 | 268.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 54.3 | 74.0 | -19.7 | Low Channel, EUT Horizontal |

| Freq (MHz) | Amplitude (dBuV) | Factor (dB) | Antenna Height (meters) | Azimuth (degrees) | Test Distance (meters) | External Attenuation (dB) | Polarity/Transducer Type | Detector | Distance Adjustment (dB) | Adjusted (dBuV/m) | Spec. Limit (dBuV/m) | Compared to Spec. (dB) | Comments |
|------------|------------------|-------------|-------------------------|-------------------|------------------------|---------------------------|--------------------------|----------|--------------------------|-------------------|----------------------|------------------------|------------------------------|
| 4512.435 | 49.9 | 4.2 | 2.6 | 219.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 54.1 | 74.0 | -19.9 | Low Channel, EUT on Side |
| 2707.492 | 36.3 | -3.2 | 1.2 | 226.0 | 3.0 | 0.0 | Horz | AV | 0.0 | 33.1 | 54.0 | -20.9 | Low Channel, EUT Vertical |
| 2782.417 | 35.0 | -2.8 | 1.0 | 286.0 | 3.0 | 0.0 | Vert | AV | 0.0 | 32.2 | 54.0 | -21.8 | High Channel, EUT Horizontal |
| 4512.815 | 47.6 | 4.2 | 1.0 | 58.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 51.8 | 74.0 | -22.2 | Low Channel, EUT Vertical |
| 4512.280 | 47.3 | 4.2 | 1.0 | 275.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 51.5 | 74.0 | -22.5 | Low Channel, EUT Horizontal |
| 4574.900 | 46.4 | 4.3 | 1.0 | 256.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 50.7 | 74.0 | -23.3 | Mid Channel, EUT Horizontal |
| 4575.142 | 46.1 | 4.4 | 2.7 | 309.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 50.5 | 74.0 | -23.5 | Mid Channel, EUT Vertical |
| 4512.325 | 46.2 | 4.2 | 1.6 | 197.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 50.4 | 74.0 | -23.6 | Low Channel, EUT on Side |
| 4637.550 | 45.4 | 4.4 | 2.7 | 299.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 49.8 | 74.0 | -24.2 | High Channel, EUT Vertical |
| 4637.292 | 45.2 | 4.4 | 1.0 | 282.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 49.6 | 74.0 | -24.4 | High Channel, EUT Horizontal |
| 3709.633 | 45.7 | 2.5 | 1.0 | 262.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 48.2 | 74.0 | -25.8 | High Channel, EUT Horizontal |
| 3660.183 | 44.8 | 2.1 | 3.2 | 235.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 46.9 | 74.0 | -27.1 | Mid Channel, EUT Horizontal |
| 3709.675 | 43.5 | 2.5 | 1.1 | 44.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 46.0 | 74.0 | -28.0 | High Channel, EUT Vertical |
| 3609.792 | 44.1 | 1.9 | 1.0 | 178.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 46.0 | 74.0 | -28.0 | Low Channel, EUT Horizontal |
| 3660.025 | 42.8 | 2.1 | 3.4 | 278.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 44.9 | 74.0 | -29.1 | Mid Channel, EUT Vertical |
| 3610.008 | 42.9 | 1.9 | 1.1 | 52.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 44.8 | 74.0 | -29.2 | Low Channel, EUT Vertical |
| 2782.650 | 46.2 | -2.8 | 1.1 | 329.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 43.4 | 74.0 | -30.6 | High Channel, EUT Vertical |
| 2707.650 | 46.6 | -3.2 | 1.0 | 189.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 43.4 | 74.0 | -30.6 | Low Channel, EUT Horizontal |
| 2745.192 | 45.6 | -3.0 | 1.0 | 194.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 42.6 | 74.0 | -31.4 | Mid Channel, EUT Horizontal |
| 2744.933 | 45.2 | -3.0 | 1.2 | 106.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 42.2 | 74.0 | -31.8 | Mid Channel, EUT Vertical |
| 2707.983 | 44.9 | -3.2 | 1.2 | 226.0 | 3.0 | 0.0 | Horz | PK | 0.0 | 41.7 | 74.0 | -32.3 | Low Channel, EUT Vertical |
| 2782.075 | 43.6 | -2.8 | 1.0 | 286.0 | 3.0 | 0.0 | Vert | PK | 0.0 | 40.8 | 74.0 | -33.2 | High Channel, EUT Horizontal |

DUTY CYCLE



XMit 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Keysight | N5182B | TFU | 27-Oct-15 | 27-Oct-18 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | S.M. Electronics | SA26B-10 | AWR | 24-Oct-17 | 24-Oct-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The Duty Cycle (x) of the single channel operation of the radio as controlled by the provided test software was measured for each of the EUT operating modes.

There is no compliance requirement to be met by this test, so therefore no Pass / Fail criteria.

The measurements were made using a zero span on the spectrum analyzer to see the pulses in the time domain. The transmit power was set to its default maximum.

The duty cycle was calculated by dividing the transmission pulse duration (T) by the total period of a single on and total off time.

If the transmit duty cycle < 98 percent, burst gating may have been used during some of the other tests in this report to only take the measurement during the burst duration.

DUTY CYCLE



Tbitx 2017.12.14

XMI 2017.12.13

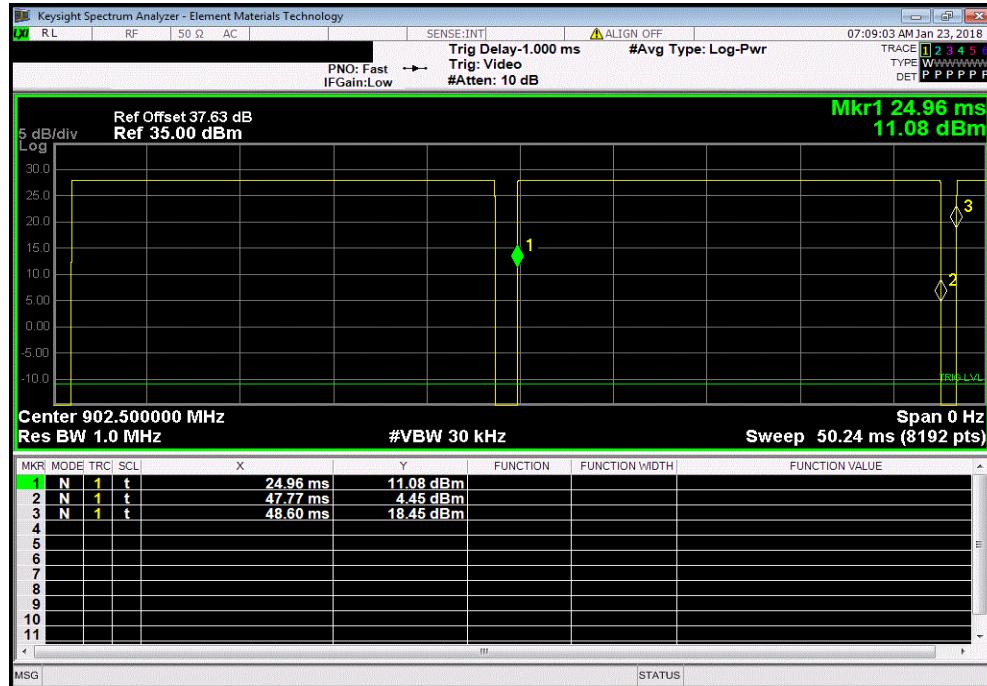
| EUT: | Voyager Pro | | Work Order: | POLR0007 | |
|-------------------------------|------------------------------|-----------|-------------------|------------------|-----------|
| Serial Number: | 1 | | Date: | 22-Jan-18 | |
| Customer: | Polaris Industries, Inc. | | Temperature: | 22.3 °C | |
| Attendees: | Stephen Reid and Ed Vaynberg | | Humidity: | 38.1% RH | |
| Project: | None | | Barometric Pres.: | 1029 mbar | |
| Tested by: | Jeff Alcock | Power: | 14.0 VDC | Job Site: | EV06 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2018 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| None | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | Number of Pulses | Value (%) |
| | | | Pulse Width | Period | Limit (%) |
| FSK, Single Channel | | | 22.818 ms | 23.647 ms | N/A |
| Low Channel, 902.5 MHz | | | N/A | N/A | N/A |
| Low Channel, 902.5 MHz | | | 22.812 ms | 23.64 ms | N/A |
| Mid Channel, 915 MHz | | | N/A | N/A | N/A |
| Mid Channel, 915 MHz | | | 22.807 ms | 24.579 ms | N/A |
| High Channel, 927.5 MHz | | | N/A | N/A | N/A |
| High Channel, 927.5 MHz | | | | | N/A |

DUTY CYCLE

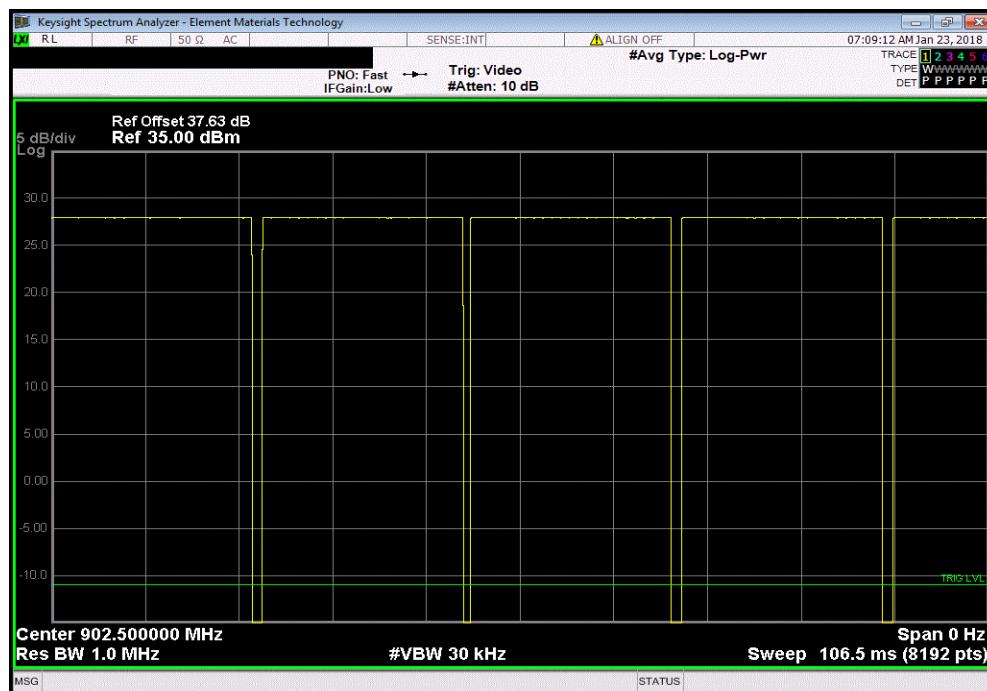


TbTx 2017-12-14 XMII 2017-12-13

| FSK, Single Channel, Low Channel, 902.5 MHz | | | | | | |
|---|-----------|------------------|-----------|-----------|---------|-----|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 22.818 ms | 23.647 ms | 1 | 96.5 | N/A | N/A | N/A |



| FSK, Single Channel, Low Channel, 902.5 MHz | | | | | | |
|---|--------|------------------|-----------|-----------|---------|-----|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| N/A | N/A | 5 | N/A | N/A | N/A | N/A |



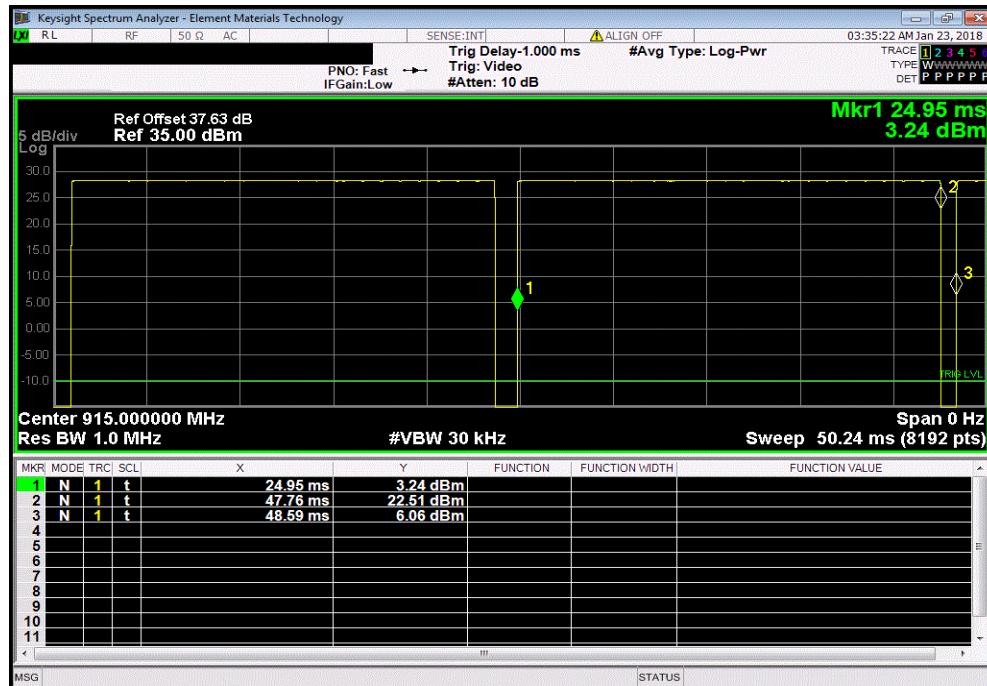
DUTY CYCLE



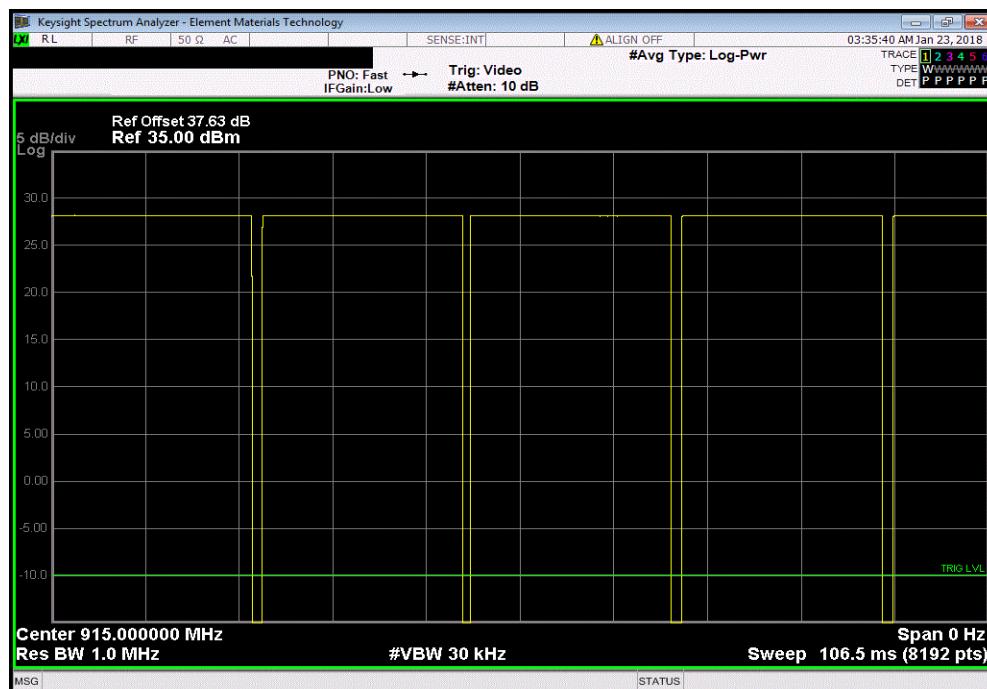
TbtTx 2017.12.14

XMit 2017.12.13

| FSK, Single Channel, Mid Channel, 915 MHz | | | | | | |
|---|----------|------------------|-----------|-----------|---------|--|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| 22.812 ms | 23.64 ms | 1 | 96.5 | N/A | N/A | |



| FSK, Single Channel, Mid Channel, 915 MHz | | | | | | |
|---|--------|------------------|-----------|-----------|---------|-----|
| Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results | |
| | N/A | N/A | 5 | N/A | N/A | N/A |

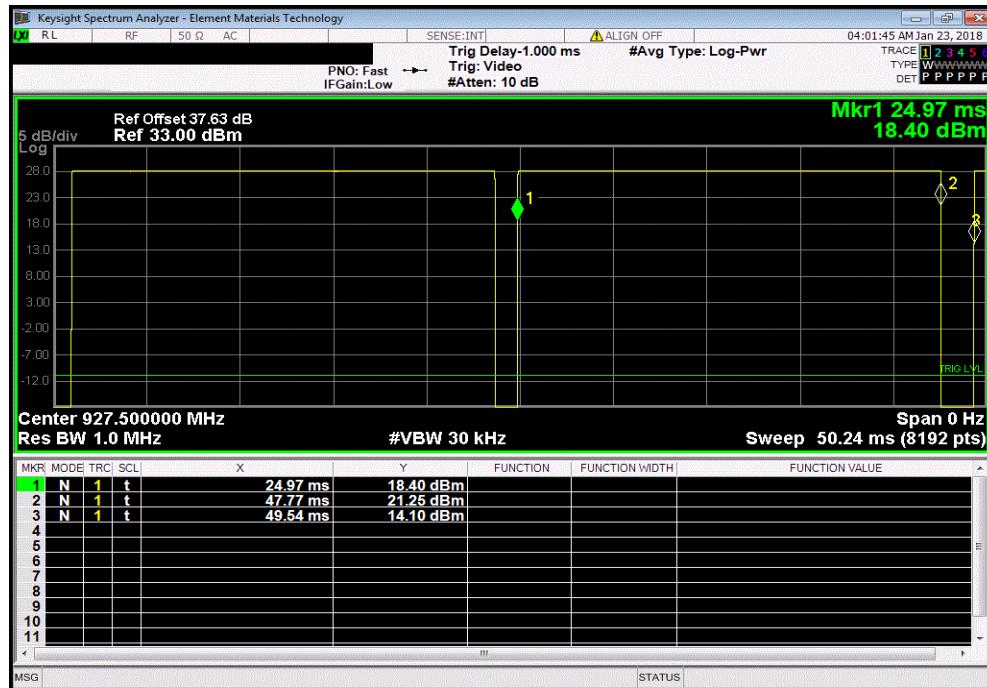


DUTY CYCLE

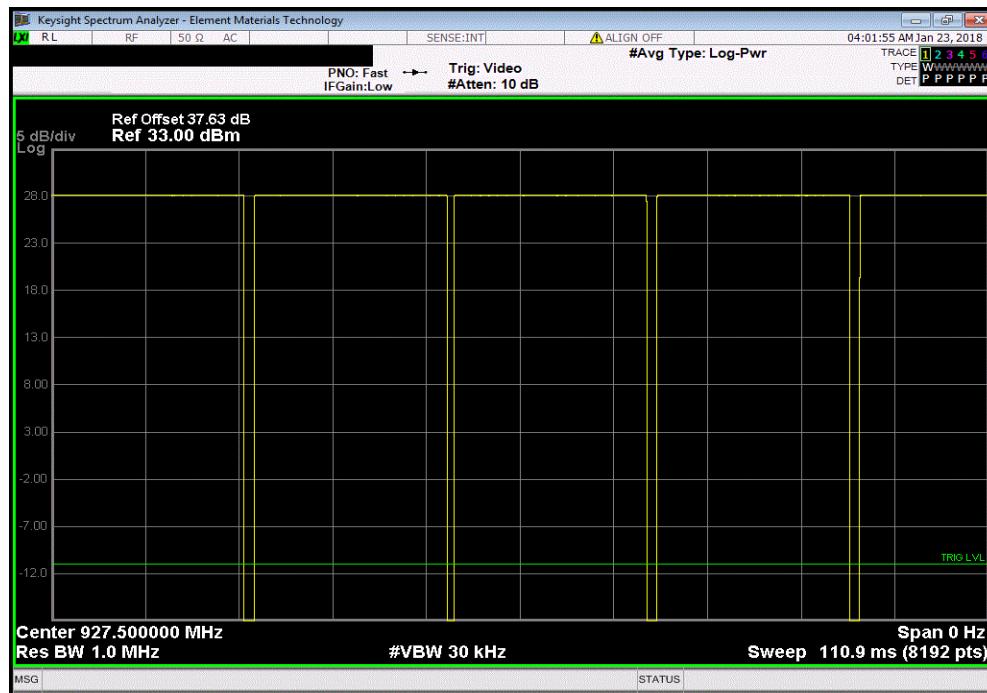


TbTx 2017.12.14 XM1 2017.12.13

| FSK, Single Channel, High Channel, 927.5 MHz | | | | | | |
|--|-------------|-----------|------------------|-----------|-----------|---------|
| | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
| | 22.807 ms | 24.579 ms | 1 | 92.8 | N/A | N/A |



| FSK, Single Channel, High Channel, 927.5 MHz | | | | | | |
|--|-------------|--------|------------------|-----------|-----------|---------|
| | Pulse Width | Period | Number of Pulses | Value (%) | Limit (%) | Results |
| | N/A | N/A | 5 | N/A | N/A | N/A |



CARRIER FREQUENCY SEPARATION



XMit 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Keysight | N5182B | TFU | 27-Oct-15 | 27-Oct-18 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | S.M. Electronics | SA26B-10 | AWR | 24-Oct-17 | 24-Oct-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The channel carrier frequencies in the 902 - 928 MHz band must be separated by 25 kHz or the 20dB bandwidth of the hopping channel, whichever is greater. Or, if the output power is less than 125 mW, the channel separation can be 25 kHz or 2/3 of the 20dB bandwidth. The EUT was operated in pseudorandom hopping mode. The spectrum was scanned across two adjacent peaks. The separation between the peaks of these channels was measured.

CARRIER FREQUENCY SEPARATION



TbTx 2017.12.14

XMI 2017.12.13

| | | | | | |
|-------------------------------|------------------------------|-----------|----------------------|-----------|-----------|
| EUT: | Voyager Pro | | Work Order: | POLR0007 | |
| Serial Number: | 1 | | Date: | 22-Jan-18 | |
| Customer: | Polaris Industries, Inc. | | Temperature: | 22.4 °C | |
| Attendees: | Stephen Reid and Ed Vaynberg | | Humidity: | 37.6% RH | |
| Project: | None | | Barometric Pres.: | 1029 mbar | |
| Tested by: | Jeff Alcocke | Power: | 14.0 VDC | Job Site: | EV06 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2018 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| None | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | Value | Limit (±) |
| | | | 0.2 MHz | 146 kHz | Results |
| FSK, Hopping | | | Mid Channel, 915 MHz | | |

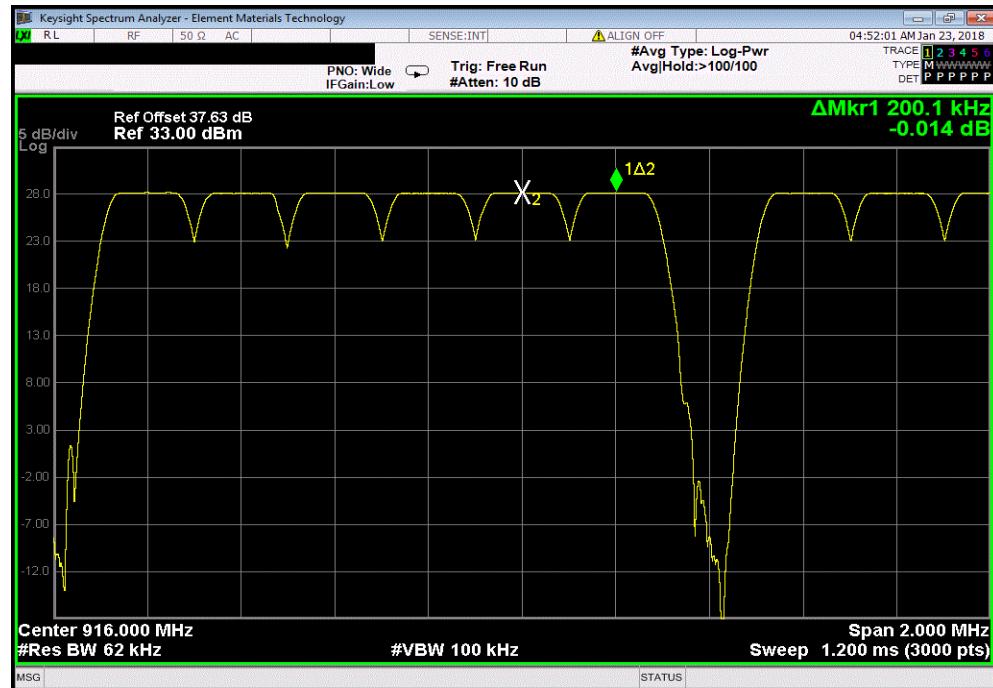
CARRIER FREQUENCY SEPARATION



TbtTx 2017.12.14

XMit 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz | | | | | | |
|------------------------------------|--|--|---------|--------------|---------|--|
| | | | Value | Limit (≥) | Results | |
| | | | 0.2 MHz | 146 kHz | Pass | |



NUMBER OF HOPPING FREQUENCIES



XMit 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Keysight | N5182B | TFU | 27-Oct-15 | 27-Oct-18 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | S.M. Electronics | SA26B-10 | AWR | 24-Oct-17 | 24-Oct-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The number of hopping frequencies was measured across the authorized band. The hopping function of the EUT was enabled.

NUMBER OF HOPPING FREQUENCIES



TbitTx 2017.12.14

XMI 2017.12.13

| | | | |
|-------------------------------|------------------------------|-------------------|---|
| EUT: | Voyager Pro | Work Order: | POLR0007 |
| Serial Number: | 1 | Date: | 22-Jan-18 |
| Customer: | Polaris Industries, Inc. | Temperature: | 22.4 °C |
| Attendees: | Stephen Reid and Ed Vaynberg | Humidity: | 37.5% RH |
| Project: | None | Barometric Pres.: | 1029 mbar |
| Tested by: | Jeff Alcocke | Power: | 14.0 VDC |
| TEST SPECIFICATIONS | | Test Method | ANSI C63.10:2013 |
| FCC 15.247:2018 | | | |
| COMMENTS | None | | |
| DEVIATIONS FROM TEST STANDARD | | | |
| None | | | |
| Configuration # | 1 | Signature |  |
| | | | Number of Channels |
| | | | Limit (±) |
| | | | Results |

FSK, Hopping

Mid Channel, 915 MHz

60

50

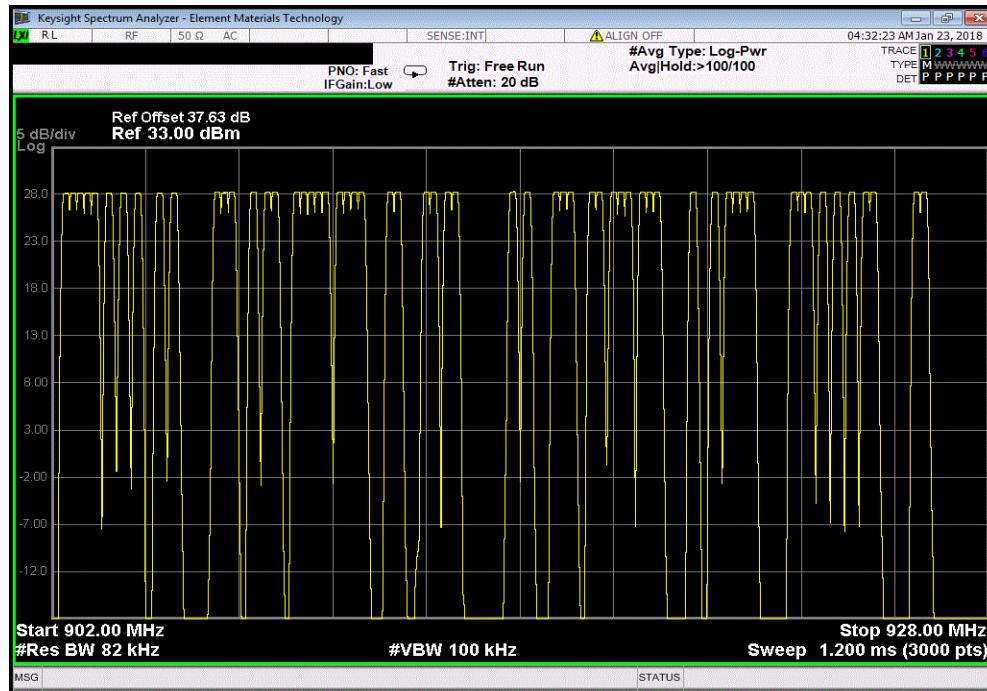
Pass

NUMBER OF HOPPING FREQUENCIES



TbTx 2017.12.14 XMII 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz | | | Number of Channels | Limit (≥) | Results |
|------------------------------------|----|--|--------------------|-----------|---------|
| 60 | 50 | | Pass | | |



DWELL TIME



XMit 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Agilent | N5183A | TID | 25-Apr-17 | 25-Apr-19 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Attenuator | Fairview Microwave | SA26B-10 | TWH | 15-Apr-17 | 15-Apr-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The average dwell time per hopping channel was measured at one hopping channel in the middle of the authorized band. The hopping function of the EUT was enabled.

The average Dwell Time of any frequency shall not be greater than 0.4 seconds within a 20 second period.

DWELL TIME



XMIT 2017.12.13

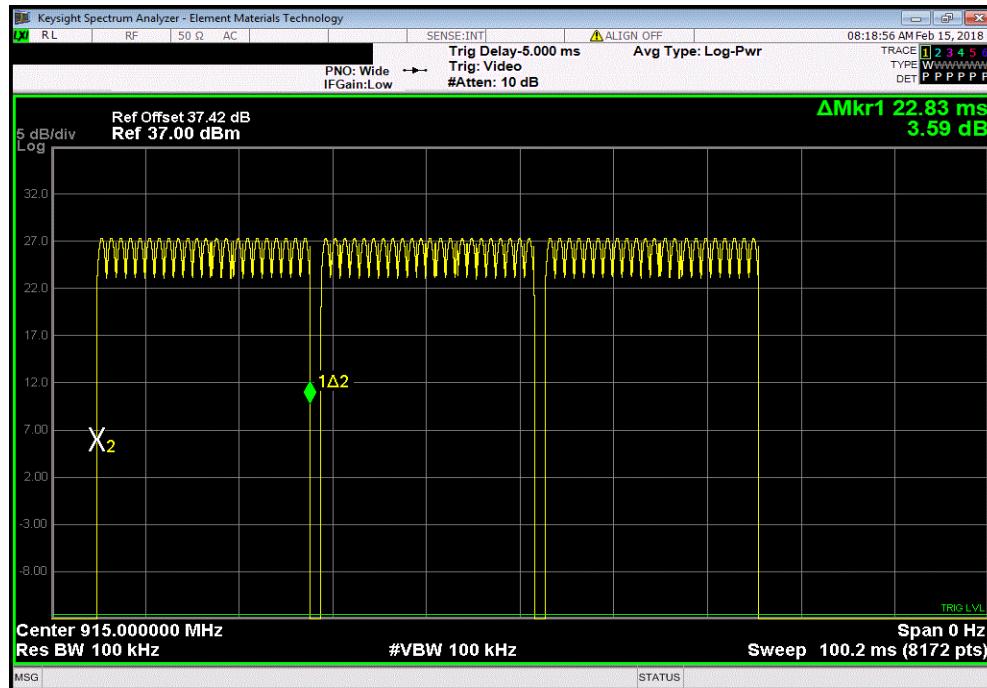
| EUT: | Voyager Pro | | Work Order: | POLR0007 | | |
|-------------------------------|--------------------------|------------------|-------------------|---------------|---------------|-------------------------------|
| Serial Number: | 1 | | Date: | 14-Feb-18 | | |
| Customer: | Polaris Industries, Inc. | | Temperature: | 21.9 °C | | |
| Attendees: | None | | Humidity: | 34% RH | | |
| Project: | None | | Barometric Pres.: | 1023 mbar | | |
| Tested by: | Jeff Alcocke | Power: | 14.0 VDC | Job Site: | EV06 | |
| TEST SPECIFICATIONS | | Test Method | | | | |
| FCC 15.247:2018 | | ANSI C63.10:2013 | | | | |
| COMMENTS | | | | | | |
| None | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | |
| None | | | | | | |
| Configuration # | 1 | Signature | | | | |
| | | | Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period |
| FSK, Hopping | | | | | | |
| Mid Channel, 915 MHz | | | | | | |
| Pulse 1 | 22.83 | - | - | - | - | - |
| Pulse 2 | 381.2 | - | - | - | - | - |
| 20 sec Duration 1 | - | 9 | 0 | 205.47 | - | - |
| 20 sec Duration 2 | - | 3 | 1 | 449.69 | - | - |
| 20 sec Duration 3 | - | 0 | 2 | 762.40 | - | - |
| 20 sec Duration 4 | - | 6 | 0 | 136.98 | - | - |
| 20 sec Duration 5 | - | 6 | 0 | 136.98 | - | - |
| 20 sec Duration 6 | - | 3 | 1 | 449.69 | - | - |
| 20 sec Duration 7 | - | 6 | 1 | 518.18 | - | - |
| 20 sec Duration 8 | - | 9 | 0 | 205.47 | - | - |
| 20 sec Duration 9 | - | 9 | 0 | 205.47 | - | - |
| 20 sec Duration 10 | - | 6 | 1 | 518.18 | - | - |
| 20 sec Duration 11 | - | 3 | 1 | 449.69 | - | - |
| 20 sec Duration 12 | - | 9 | 0 | 205.47 | - | - |
| 20 sec Duration 13 | - | 6 | 0 | 136.98 | - | - |
| 20 sec Duration 14 | - | 6 | 1 | 518.18 | - | - |
| 20 sec Duration 15 | - | 9 | 0 | 205.47 | - | - |
| 20 sec Duration 16 | - | 6 | 0 | 136.98 | - | - |
| 20 sec Duration 17 | - | 3 | 0 | 68.49 | - | - |
| 20 sec Duration 18 | - | 6 | 0 | 136.98 | - | - |
| 20 sec Duration 19 | - | 9 | 0 | 205.47 | - | - |
| 20 sec Duration 20 | - | 6 | 0 | 136.98 | - | - |
| Calculation | - | - | - | - | 289.46 | ≤ 400 |
| | | | | | | Pass |

DWELL TIME

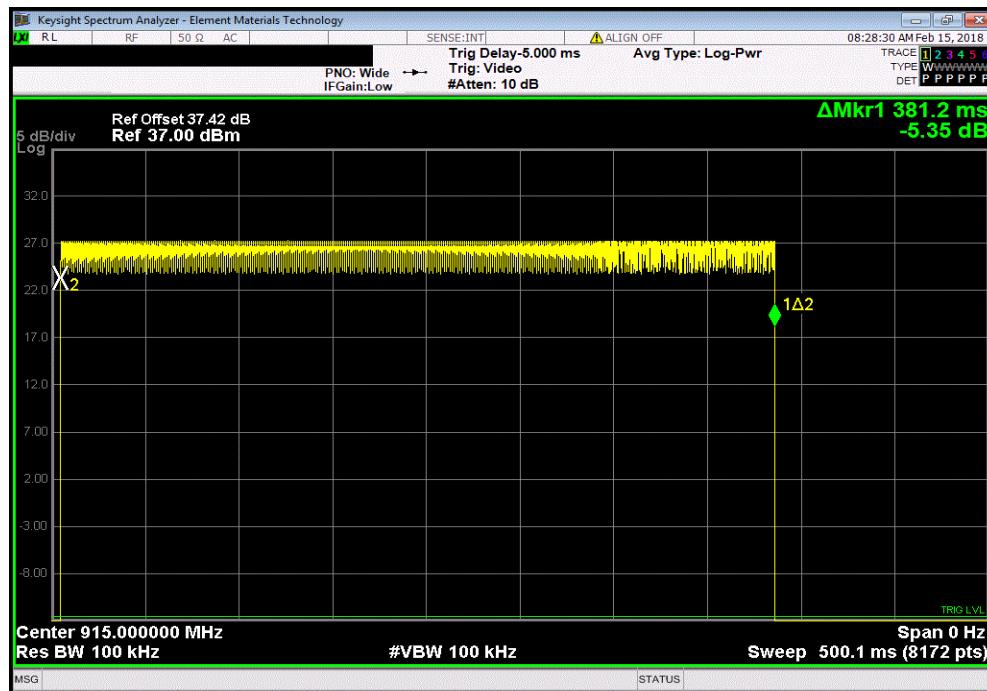


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, Pulse 1 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| 22.83 | - | - | - | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, Pulse 2 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| 381.2 | - | - | - | - | - | - |

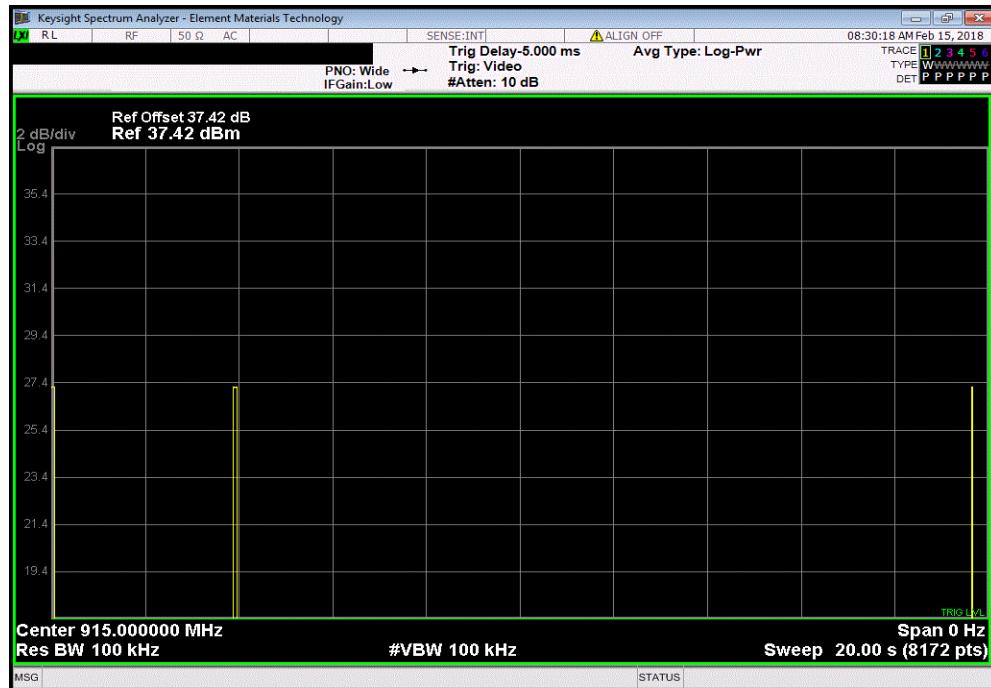


DWELL TIME

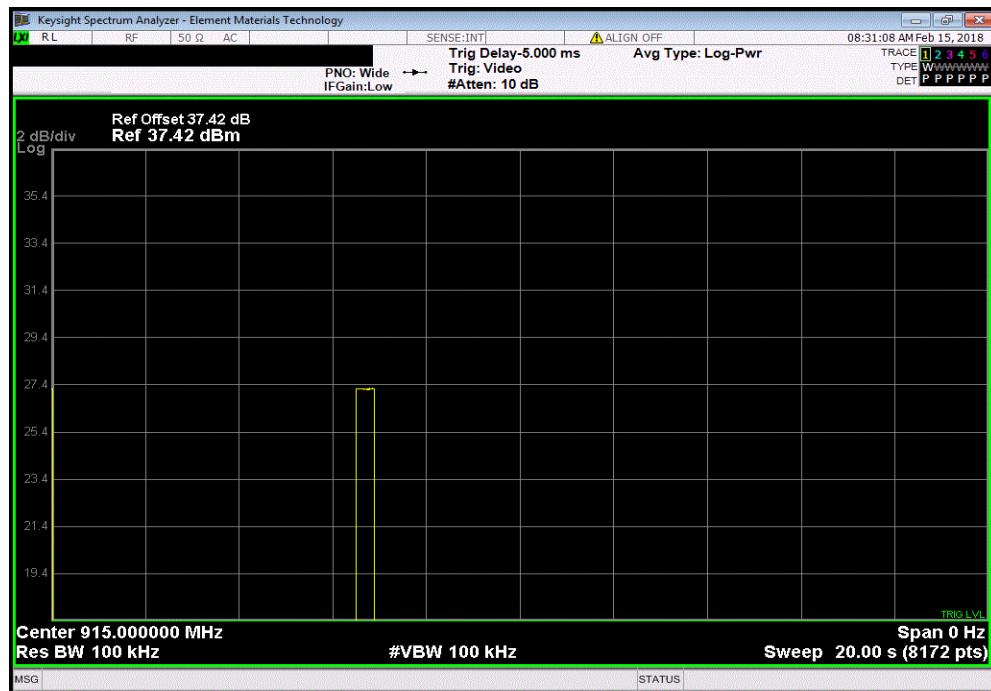


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 1 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 9 | 0 | 205.47 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 2 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 3 | 1 | 449.69 | - | - | - |

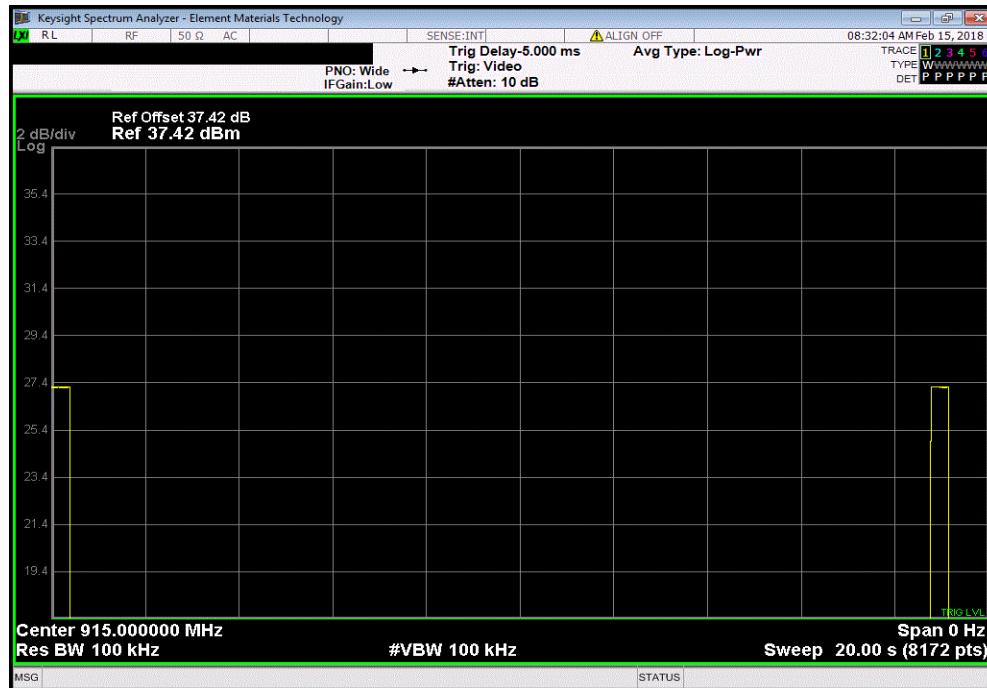


DWELL TIME

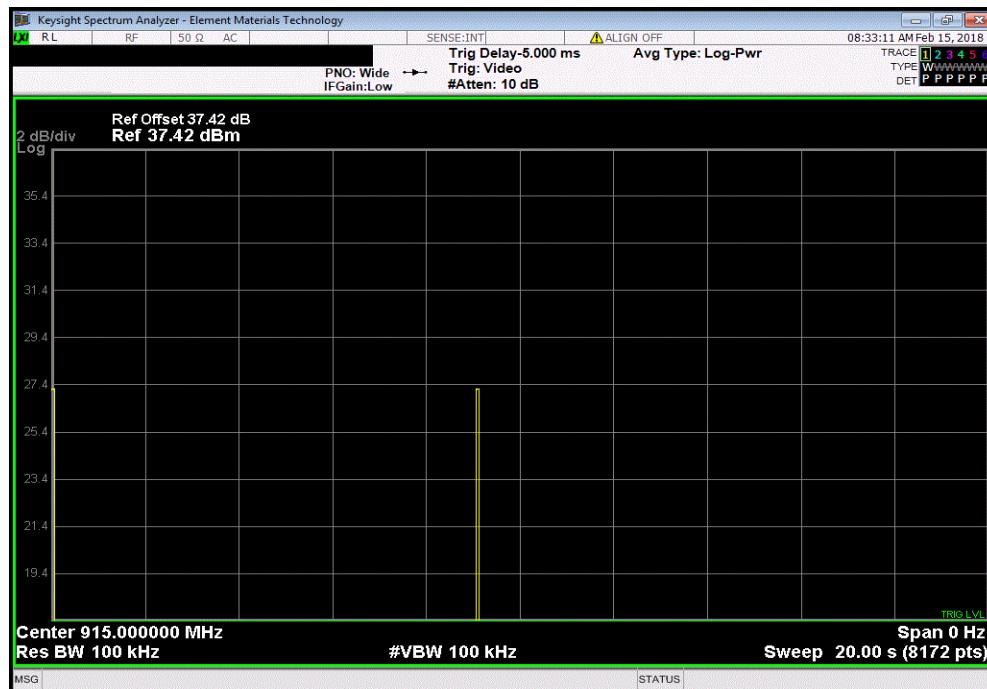


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 3 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 0 | 2 | 762.4 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 4 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 0 | 136.98 | - | - | - |

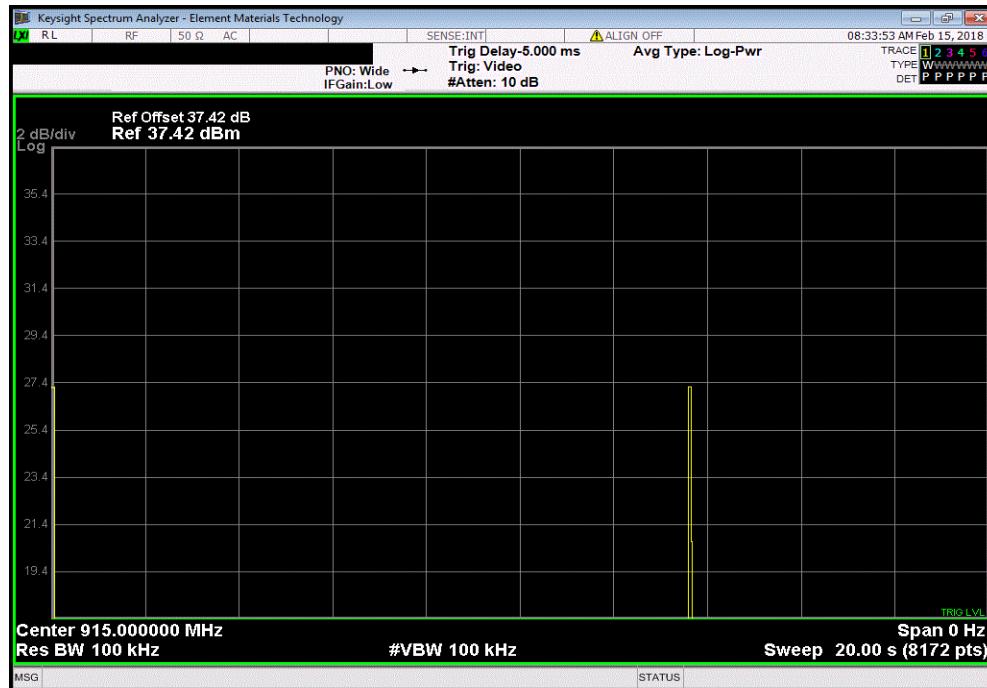


DWELL TIME

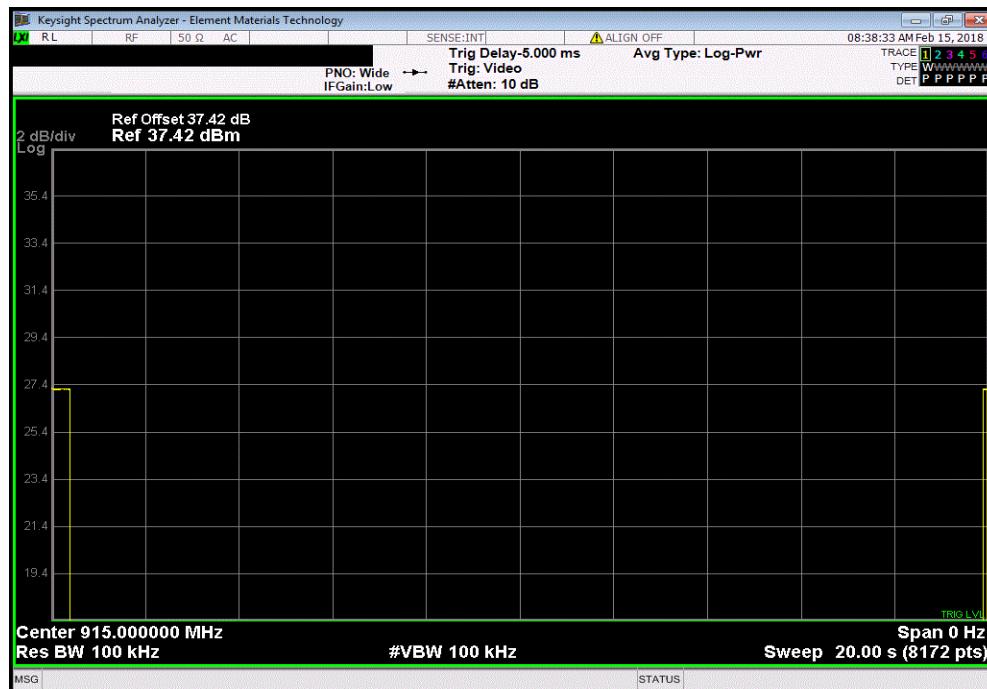


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 5 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 0 | 136.98 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 6 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 3 | 1 | 449.69 | - | - | - |

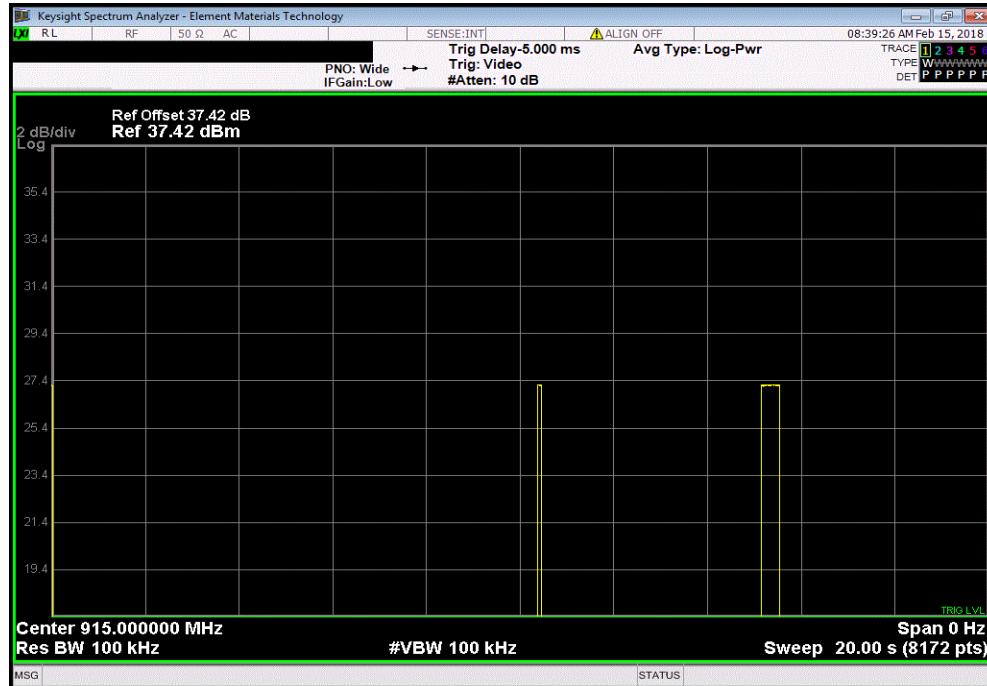


DWELL TIME

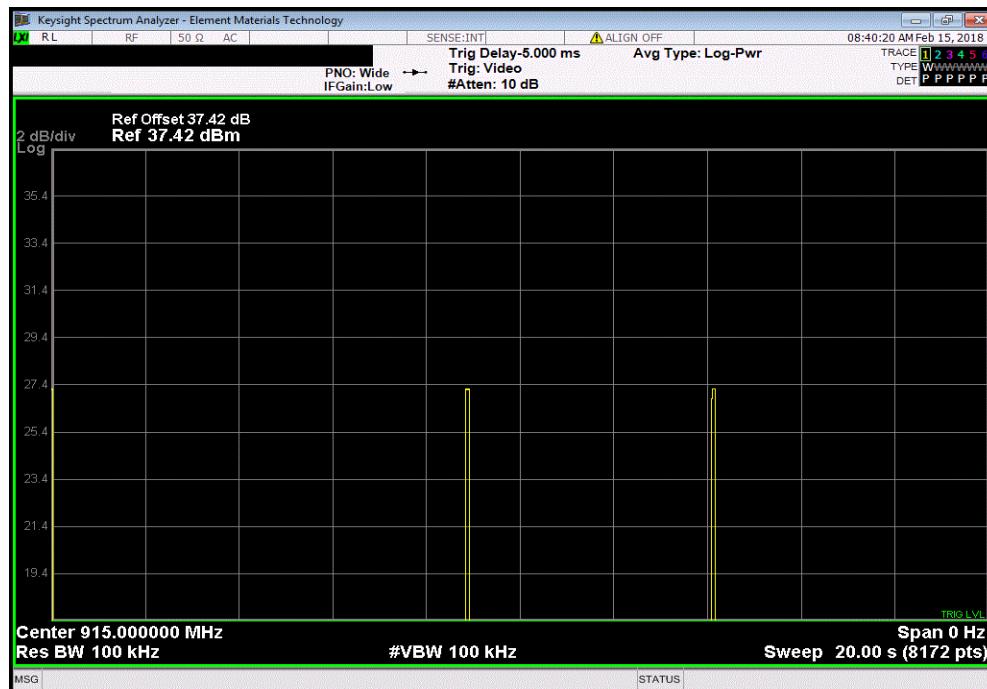


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 7 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 1 | 518.18 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 8 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 9 | 0 | 205.47 | - | - | - |

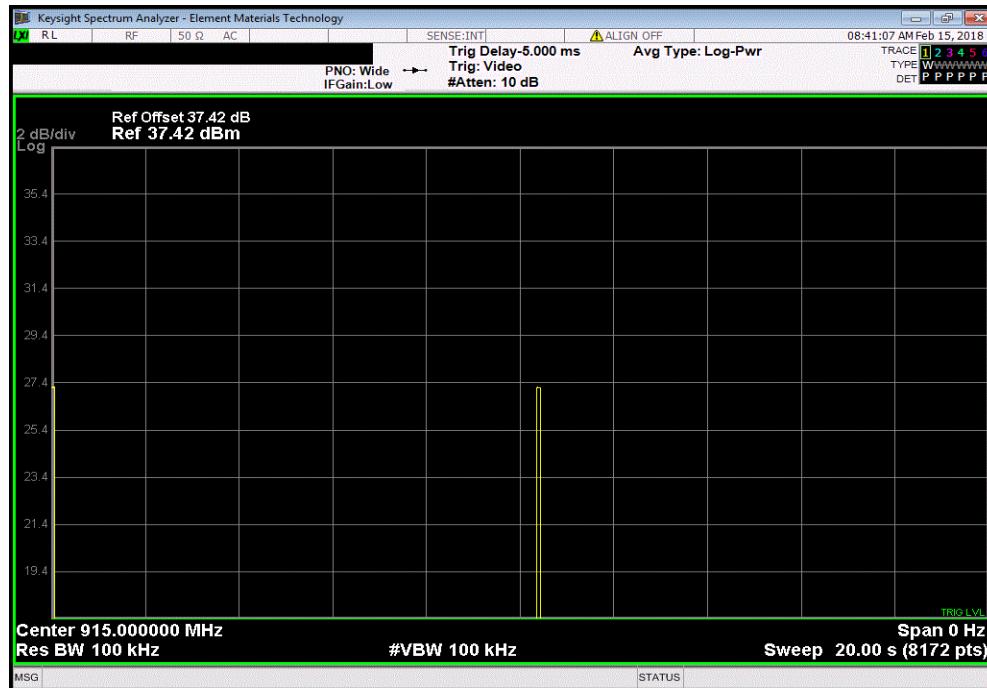


DWELL TIME

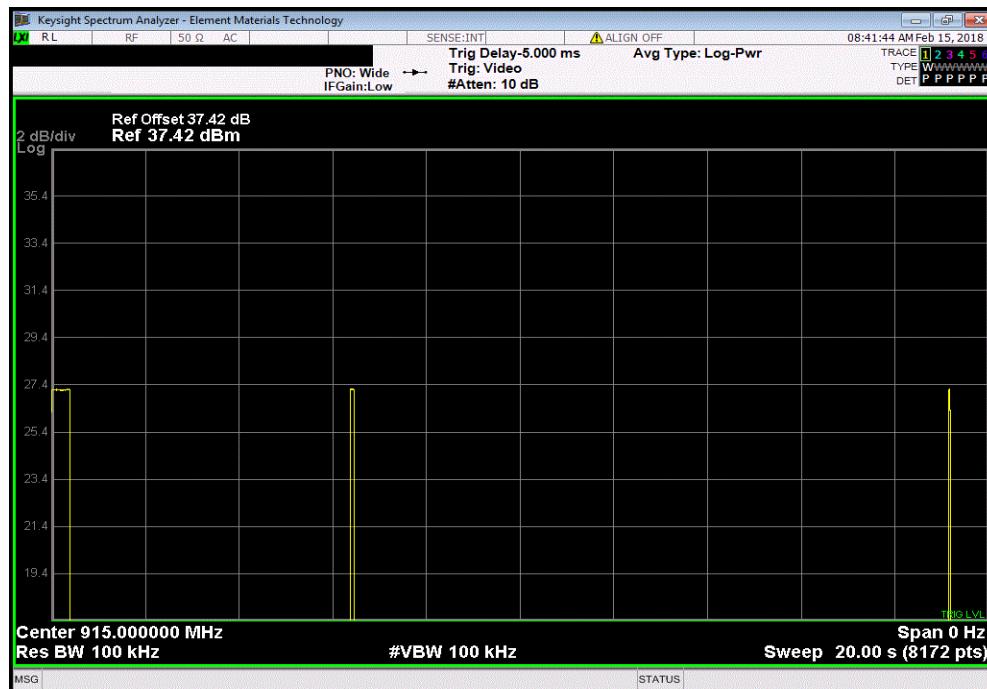


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 9 | | | | | | |
|---|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 9 | 0 | 205.47 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 10 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 1 | 518.18 | - | - | - |

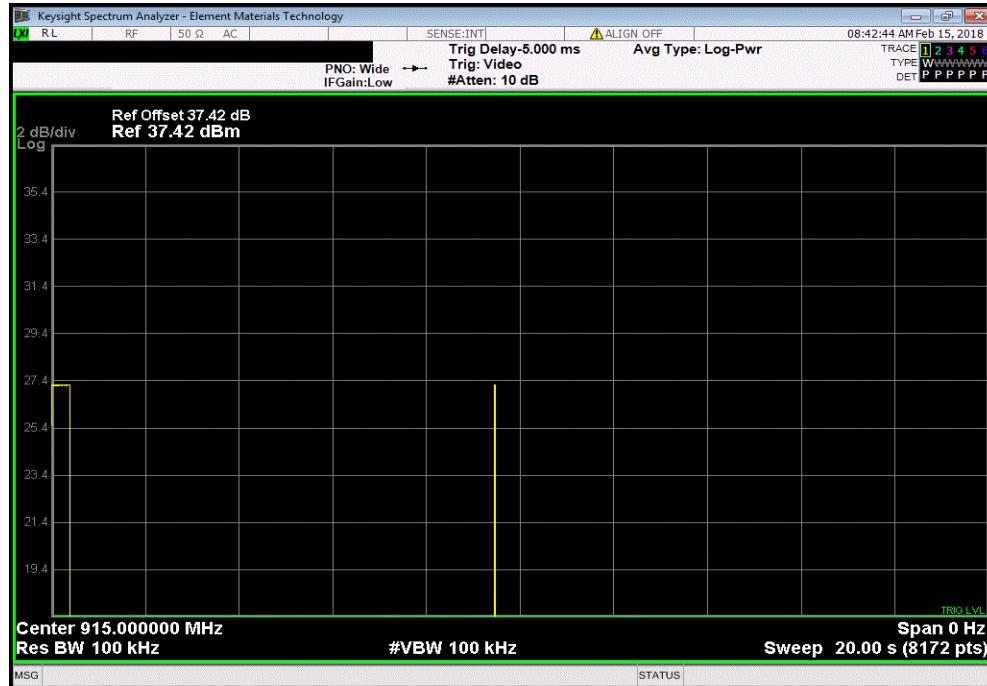


DWELL TIME

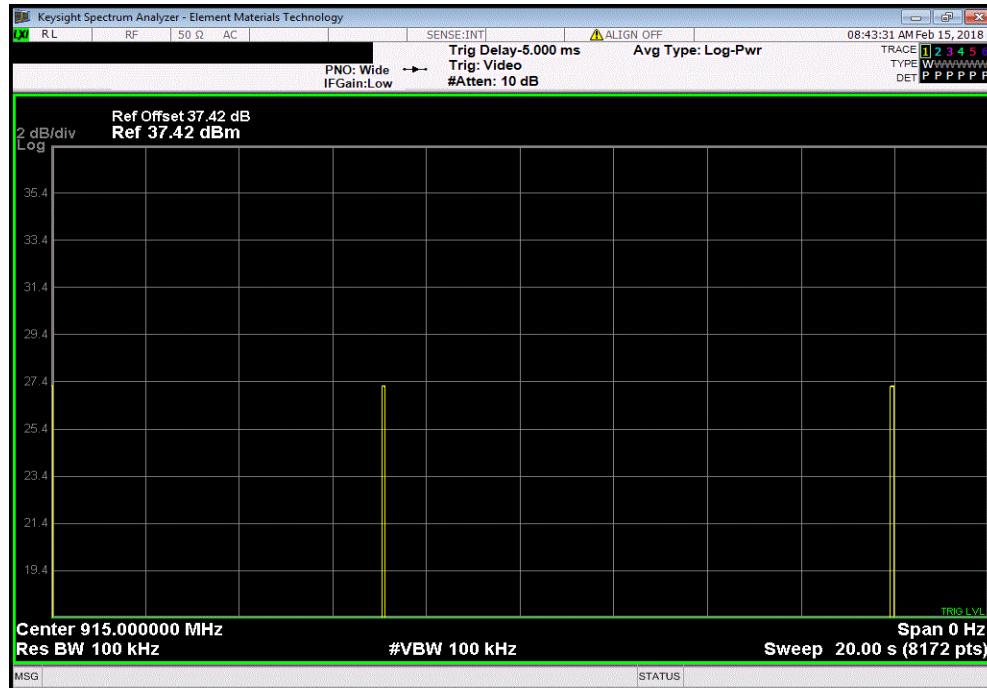


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 11 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 3 | 1 | 449.69 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 12 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 9 | 0 | 205.47 | - | - | - |

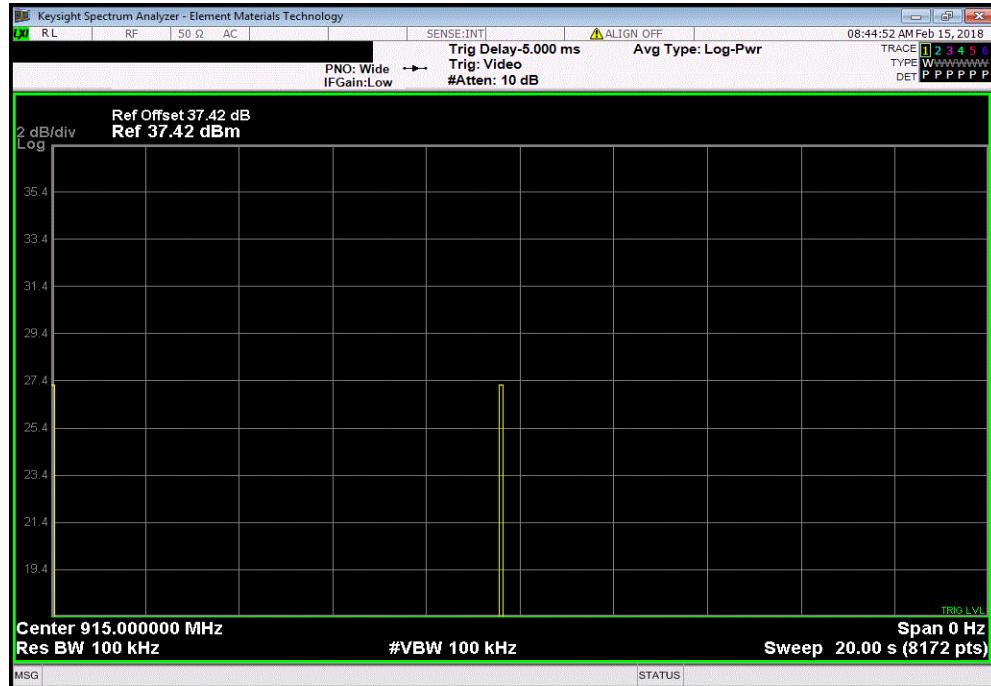


DWELL TIME

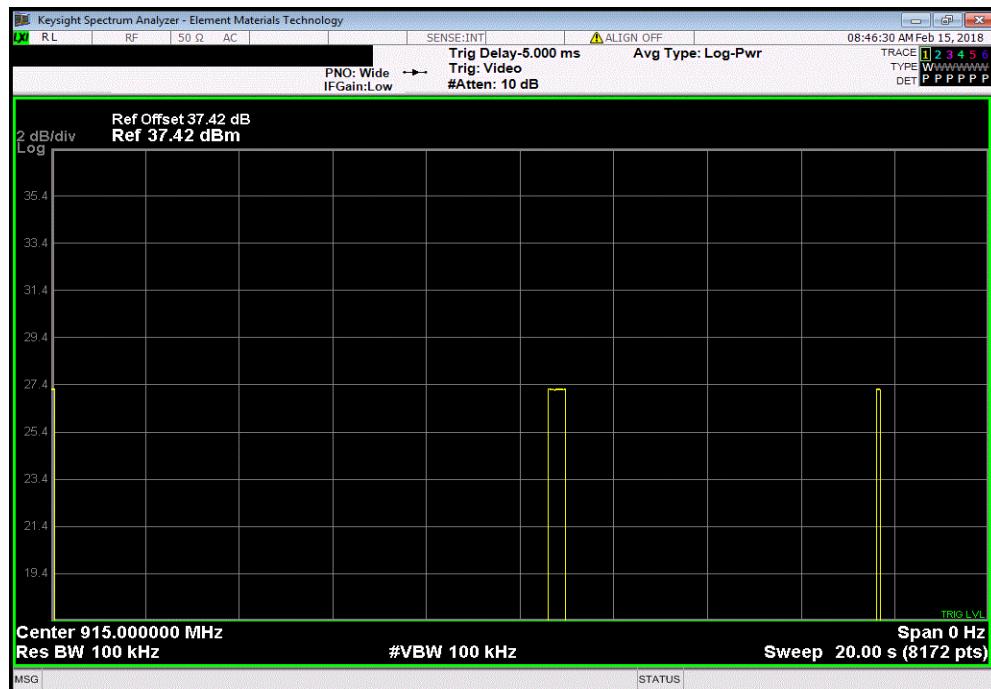


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 13 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 0 | 136.98 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 14 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 1 | 518.18 | - | - | - |

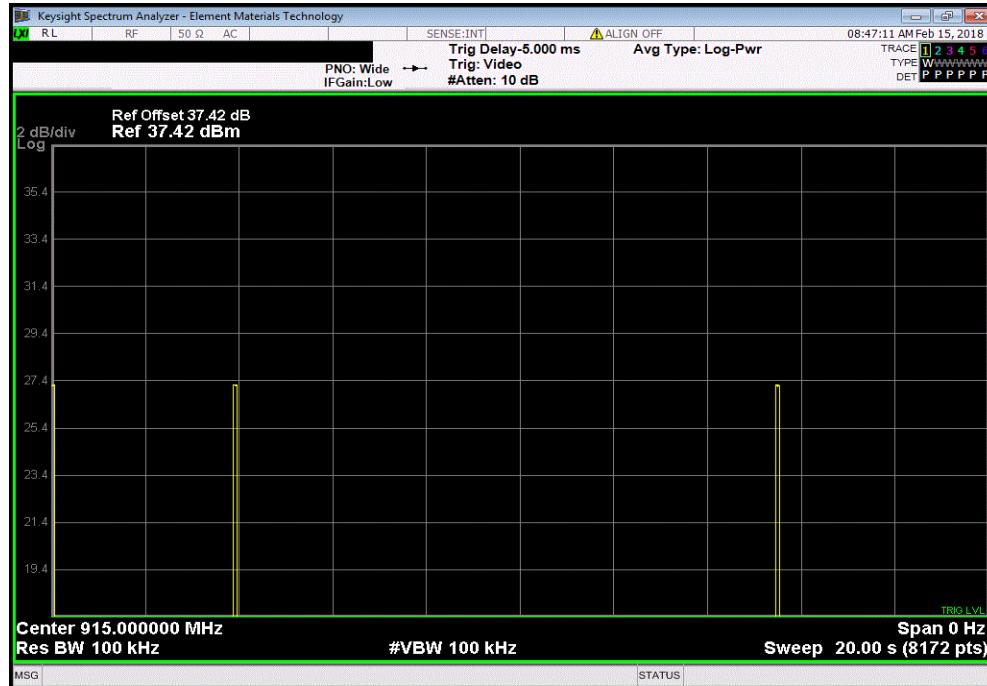


DWELL TIME

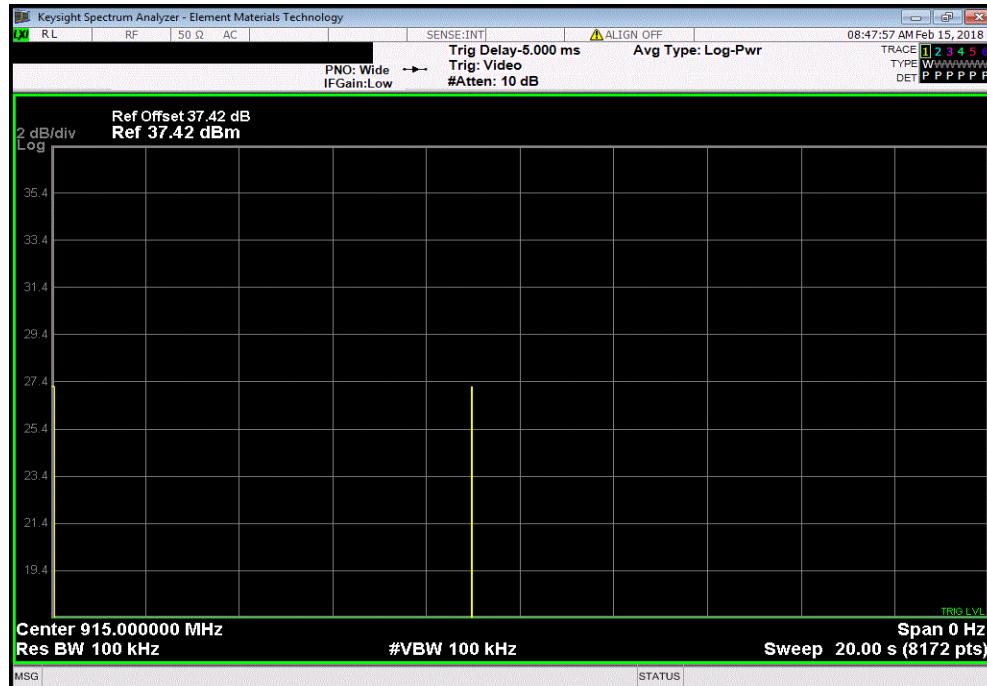


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 15 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 9 | 0 | 205.47 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 16 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 0 | 136.98 | - | - | - |

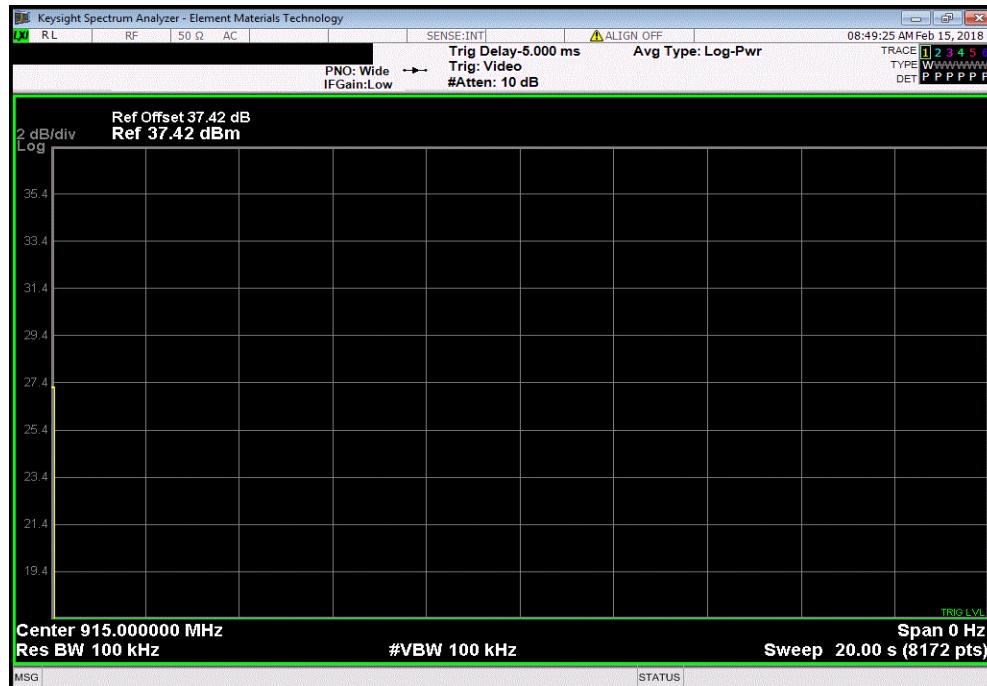


DWELL TIME

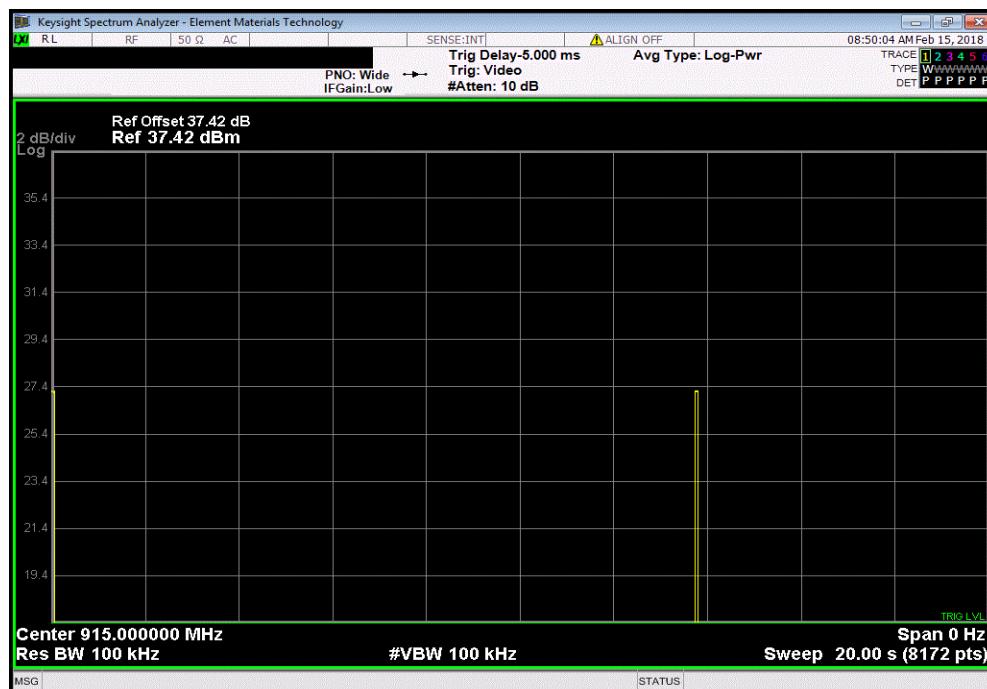


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 17 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 3 | 0 | 68.49 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 18 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 0 | 136.98 | - | - | - |

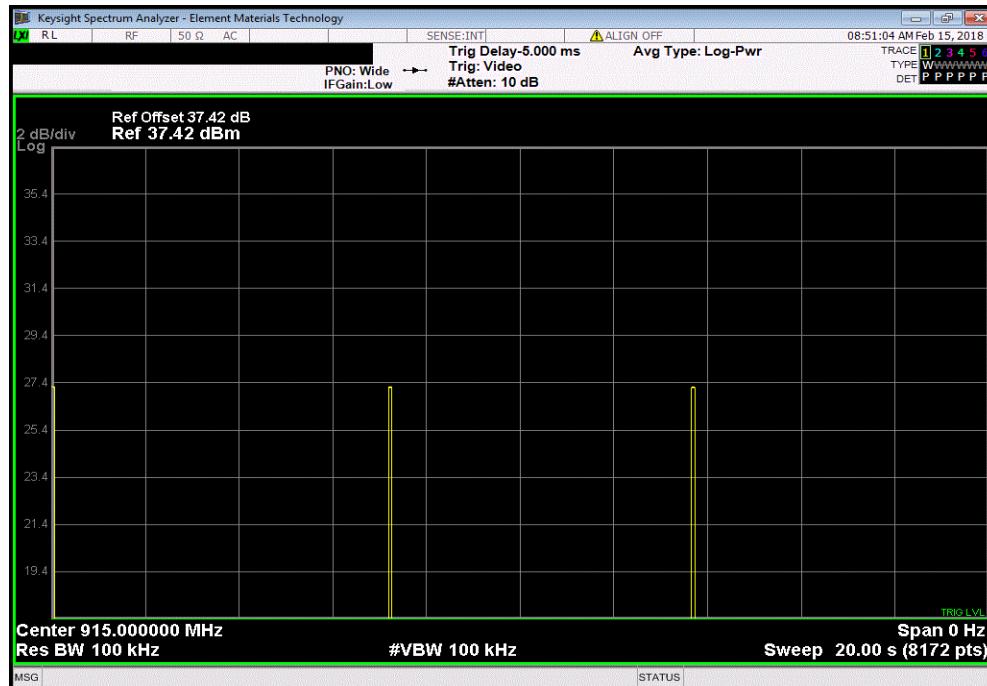


DWELL TIME

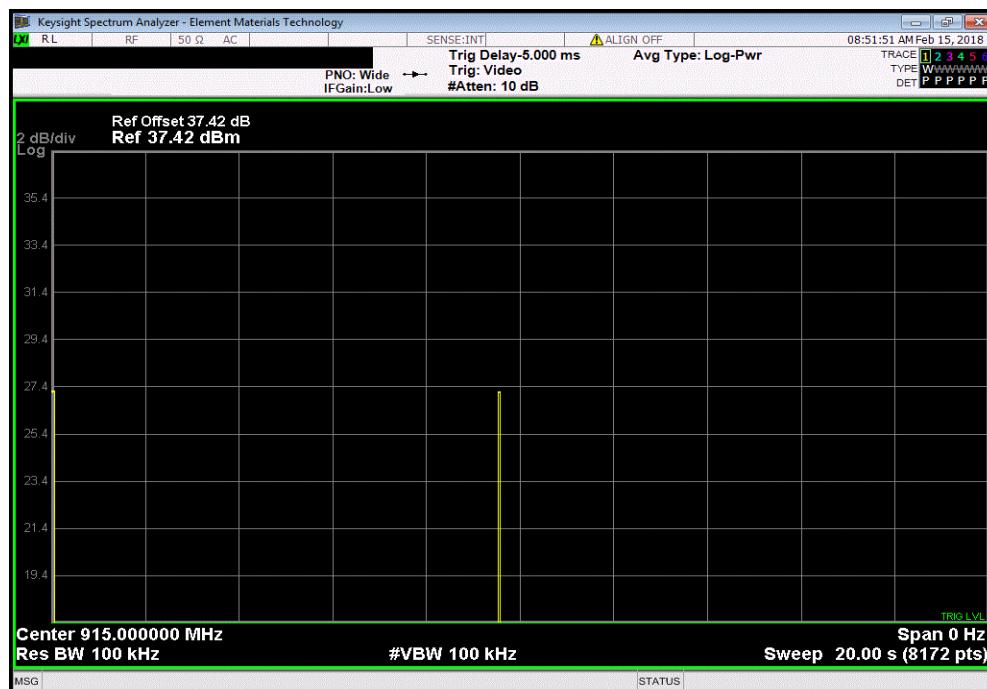


XMI 2017.12.13

| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 19 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 9 | 0 | 205.47 | - | - | - |



| FSK, Hopping, Mid Channel, 915 MHz, 20 sec Duration 20 | | | | | | |
|--|---------------|---------------|-------------------------------|---------------------|------------|--------|
| Duration (ms) | Count Pulse 1 | Count Pulse 2 | Dwell Time (ms) 20 sec period | Avg Dwell Time (ms) | Limit (ms) | Result |
| - | 6 | 0 | 136.98 | - | - | - |



OUTPUT POWER



XMit 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Keysight | N5182B | TFU | 27-Oct-15 | 27-Oct-18 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | S.M. Electronics | SA26B-10 | AWR | 24-Oct-17 | 24-Oct-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The peak output power was measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting in a no hop mode at the data rate(s) listed in the datasheet.

The method found in ANSI C63.10:2013 Section 7.8.5 was used for a FHSS radio.

De Facto EIRP Limit: The EUT meets the de facto EIRP limit of +36 dBm.

OUTPUT POWER



Tbitx 2017.12.14

XMI 2017.12.13

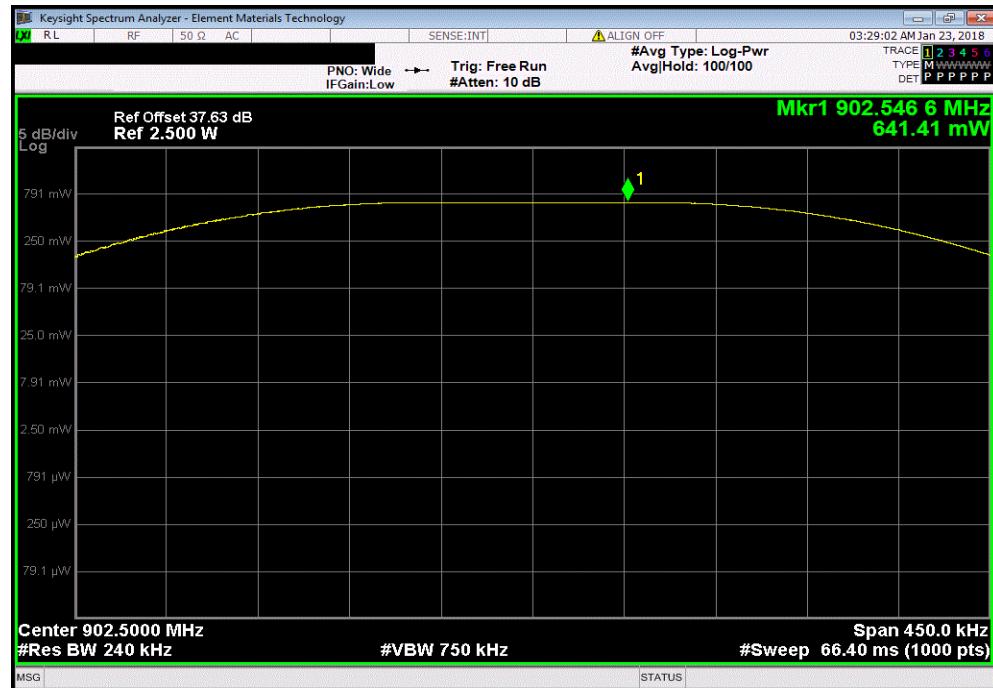
| | | | | | |
|-------------------------------|------------------------------|-----------|-------------------|-----------|-----------|
| EUT: | Voyager Pro | | Work Order: | POLR0007 | |
| Serial Number: | 1 | | Date: | 22-Jan-18 | |
| Customer: | Polaris Industries, Inc. | | Temperature: | 22.4 °C | |
| Attendees: | Stephen Reid and Ed Vaynberg | | Humidity: | 37.8% RH | |
| Project: | None | | Barometric Pres.: | 1030 mbar | |
| Tested by: | Jeff Alcocke | Power: | 14.0 VDC | Job Site: | EV06 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2018 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| None | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | Value | Limit (<) |
| | | | 641.41 mW | 1 W | Pass |
| | | | 657.79 mW | 1 W | Pass |
| | | | 652.79 mW | 1 W | Pass |
| FSK, Single Channel | | | | | |
| Low Channel, 902.5 MHz | | | | | |
| Mid Channel, 915 MHz | | | | | |
| High Channel, 927.5 MHz | | | | | |

OUTPUT POWER



TbTx 2017-12-14 XM1 2017-12-13

| FSK, Single Channel, Low Channel, 902.5 MHz | | | Value | Limit (≤) | Result |
|---|--|--|-----------|-----------|--------|
| | | | 641.41 mW | 1 W | Pass |



| FSK, Single Channel, Mid Channel, 915 MHz | | | Value | Limit (≤) | Result |
|---|--|--|-----------|-----------|--------|
| | | | 657.79 mW | 1 W | Pass |

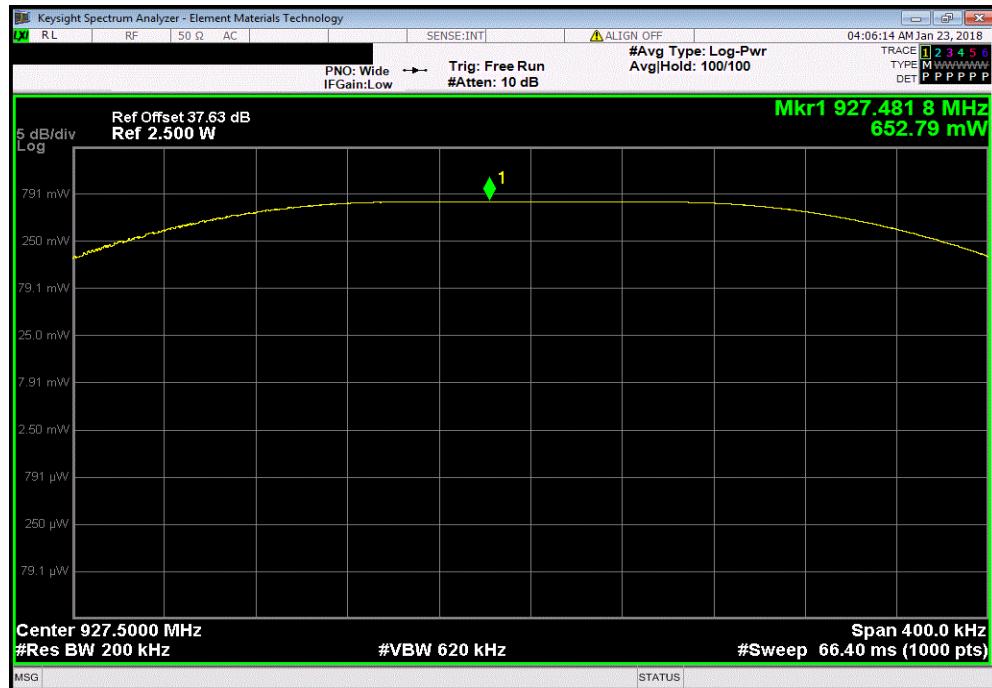


OUTPUT POWER



TbTx 2017.12.14 XMII 2017.12.13

| FSK, Single Channel, High Channel, 927.5 MHz | | | Value | Limit (<) | Result |
|--|--|--|-----------|-----------|--------|
| | | | 652.79 mW | 1 W | Pass |



BAND EDGE COMPLIANCE



XMil 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Keysight | N5182B | TFU | 27-Oct-15 | 27-Oct-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | S.M. Electronics | SA26B-10 | AWR | 24-Oct-17 | 24-Oct-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to low and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no hop mode. The channels closest to the band edges were selected.

The spectrum was scanned below the lower band edge and above the higher band edge.

BAND EDGE COMPLIANCE



Tbitx 2017.12.14

XMI 2017.12.13

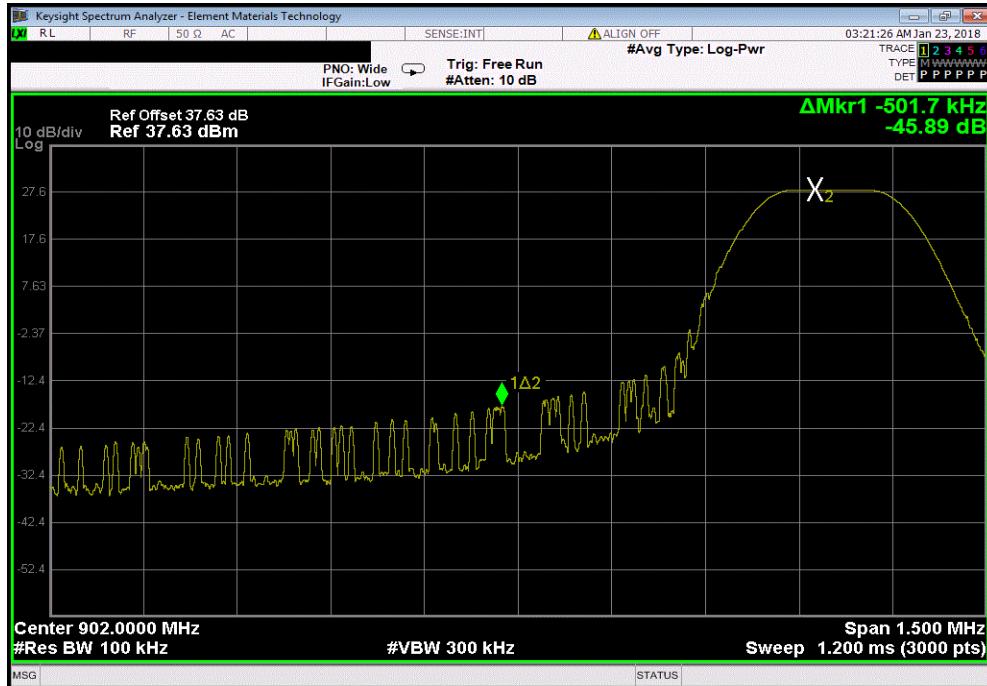
| | | | | | |
|-------------------------------|------------------------------|-----------|-------------------|-------------|---------------|
| EUT: | Voyager Pro | | Work Order: | POLR0007 | |
| Serial Number: | 1 | | Date: | 22-Jan-18 | |
| Customer: | Polaris Industries, Inc. | | Temperature: | 22.1 °C | |
| Attendees: | Stephen Reid and Ed Vaynberg | | Humidity: | 37.6% RH | |
| Project: | None | | Barometric Pres.: | 1029 mbar | |
| Tested by: | Jeff Alcocke | Power: | 14.0 VDC | Job Site: | EV06 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2018 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| None | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | Value (dBc) | Limit ≤ (dBc) |
| | | | | -45.89 | -20 |
| | | | | -46.93 | -20 |
| | | | | Pass | |
| FSK, Single Channel | | | | Pass | |
| Low Channel, 902.5 MHz | | | | | |
| High Channel, 927.5 MHz | | | | | |

BAND EDGE COMPLIANCE

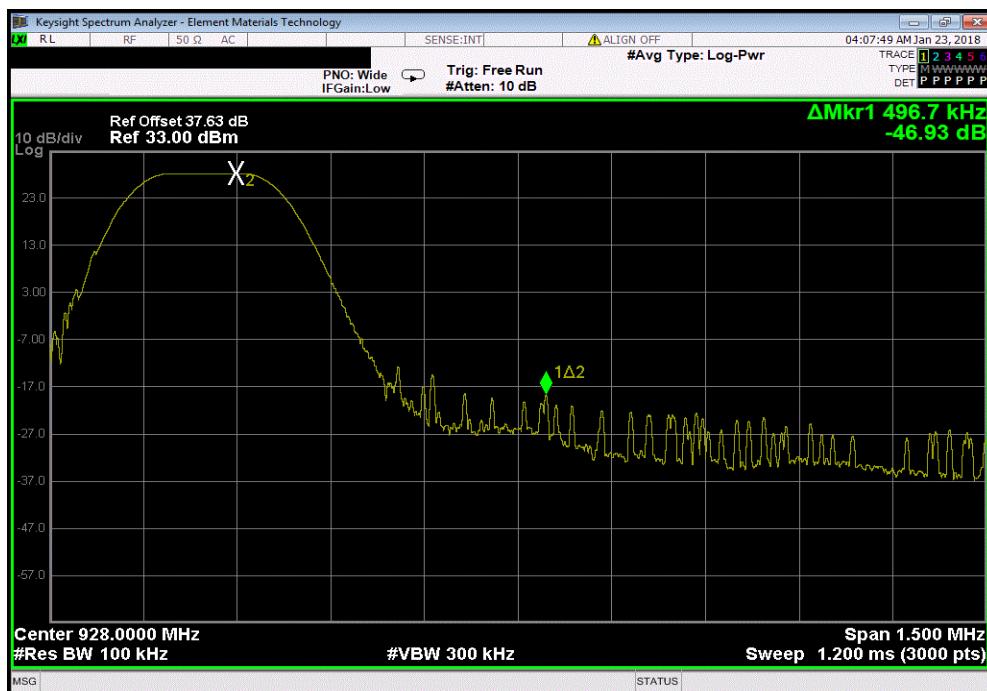


TbTx 2017-12-14 XMII 2017-12-13

| FSK, Single Channel, Low Channel, 902.5 MHz | | | |
|---|------------------|--------|--|
| Value (dBc) | Limit ≤ (dBc) | Result | |
| -45.89 | -20 | Pass | |



| FSK, Single Channel, High Channel, 927.5 MHz | | | |
|--|------------------|--------|--|
| Value (dBc) | Limit ≤ (dBc) | Result | |
| -46.93 | -20 | Pass | |



BAND EDGE COMPLIANCE - HOPPING MODE



XMIT 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Keysight | N5182B | TFU | 27-Oct-15 | 27-Oct-18 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | S.M. Electronics | SA26B-10 | AWR | 24-Oct-17 | 24-Oct-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions at the edges of the authorized band were measured with the EUT set to its normal pseudo-random hopping sequence. The EUT was transmitting at the data rate(s) listed in the datasheet.

The spectrum was scanned below the lower band edge and above the higher band edge.

BAND EDGE COMPLIANCE - HOPPING MODE



TbTx 2017.12.14

XMI 2017.12.13

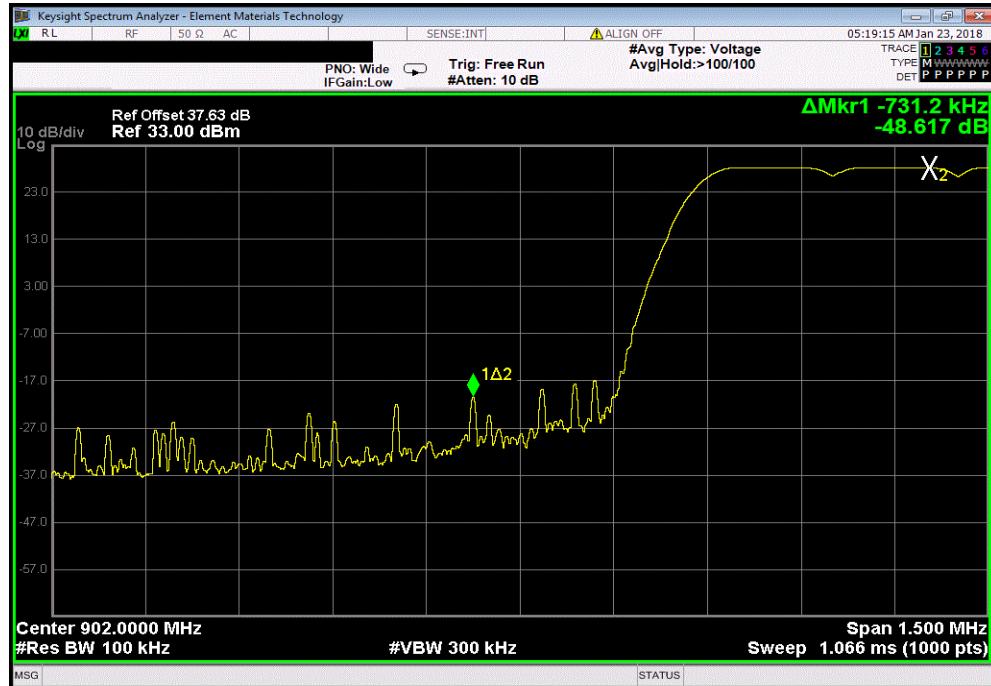
| | | | | | |
|-------------------------------|------------------------------|-----------|-------------------|-------------|---------------|
| EUT: | Voyager Pro | | Work Order: | POLR0007 | |
| Serial Number: | 1 | | Date: | 22-Jan-18 | |
| Customer: | Polaris Industries, Inc. | | Temperature: | 22.2 °C | |
| Attendees: | Stephen Reid and Ed Vaynberg | | Humidity: | 37.6% RH | |
| Project: | None | | Barometric Pres.: | 1029 mbar | |
| Tested by: | Jeff Alcocke | Power: | 14.0 VDC | Job Site: | EV06 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2018 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| None | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature | | Value (dBc) | Limit ≤ (dBc) |
| | | | | -48.62 | -20 |
| | | | | -53.36 | -20 |
| FSK, Hopping | | | | Pass | Pass |
| Low Channel, 902.5 MHz | | | | | |
| High Channel, 927.5 MHz | | | | | |

BAND EDGE COMPLIANCE - HOPPING MODE

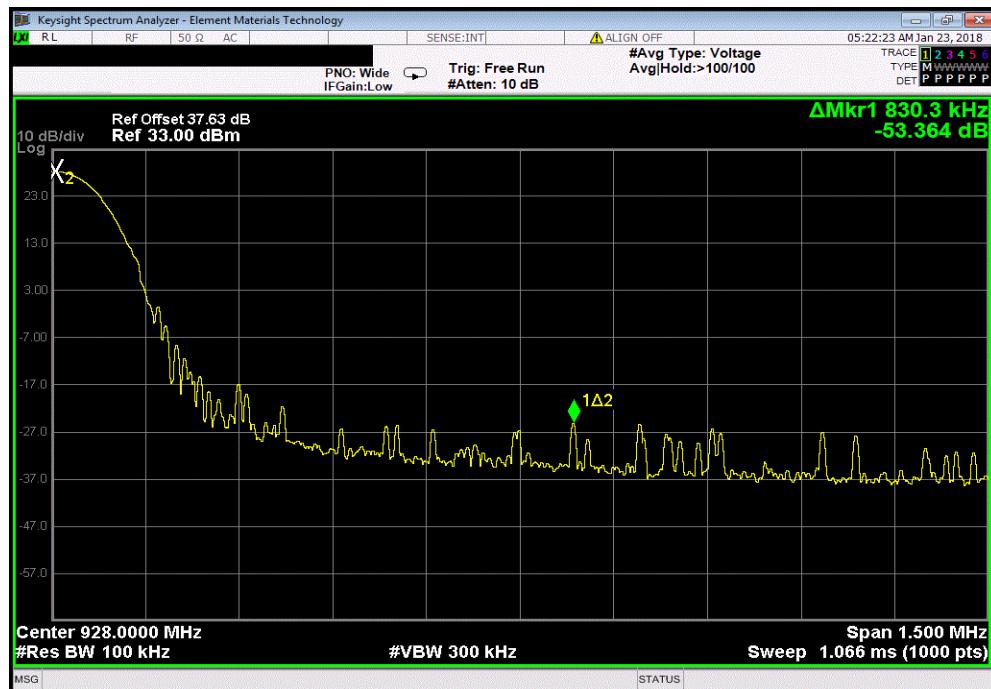


TbTx 2017-12-14 XMII 2017-12-13

| FSK, Hopping, Low Channel, 902.5 MHz | | | |
|--------------------------------------|------------------|--------|--|
| Value (dBc) | Limit ≤ (dBc) | Result | |
| -48.62 | -20 | Pass | |



| FSK, Hopping, High Channel, 927.5 MHz | | | |
|---------------------------------------|------------------|--------|--|
| Value (dBc) | Limit ≤ (dBc) | Result | |
| -53.36 | -20 | Pass | |



OCCUPIED BANDWIDTH



XMit 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Keysight | N5182B | TFU | 27-Oct-15 | 27-Oct-18 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | S.M. Electronics | SA26B-10 | AWR | 24-Oct-17 | 24-Oct-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The 20 dB occupied bandwidth was measured with the EUT set to low, medium and high transmit frequencies in the band. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode.

OCCUPIED BANDWIDTH



TbTx 2017.12.14

XMI 2017.12.13

| | | | | | |
|-------------------------------|------------------------------|-----------|---|-----------|-----------|
| EUT: | Voyager Pro | | Work Order: | POLR0007 | |
| Serial Number: | 1 | | Date: | 22-Jan-18 | |
| Customer: | Polaris Industries, Inc. | | Temperature: | 22.4 °C | |
| Attendees: | Stephen Reid and Ed Vaynberg | | Humidity: | 37.6% RH | |
| Project: | None | | Barometric Pres.: | 1029 mbar | |
| Tested by: | Jeff Alcocke | Power: | 14.0 VDC | Job Site: | EV06 |
| TEST SPECIFICATIONS | | | Test Method | | |
| FCC 15.247:2018 | | | ANSI C63.10:2013 | | |
| COMMENTS | | | | | |
| None | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | |
| None | | | | | |
| Configuration # | 1 | Signature |  | Value | Limit (S) |
| | | | 146.315 kHz | 500 kHz | Pass |
| | | | 137.141 kHz | 500 kHz | Pass |
| | | | 140.196 kHz | 500 kHz | Pass |

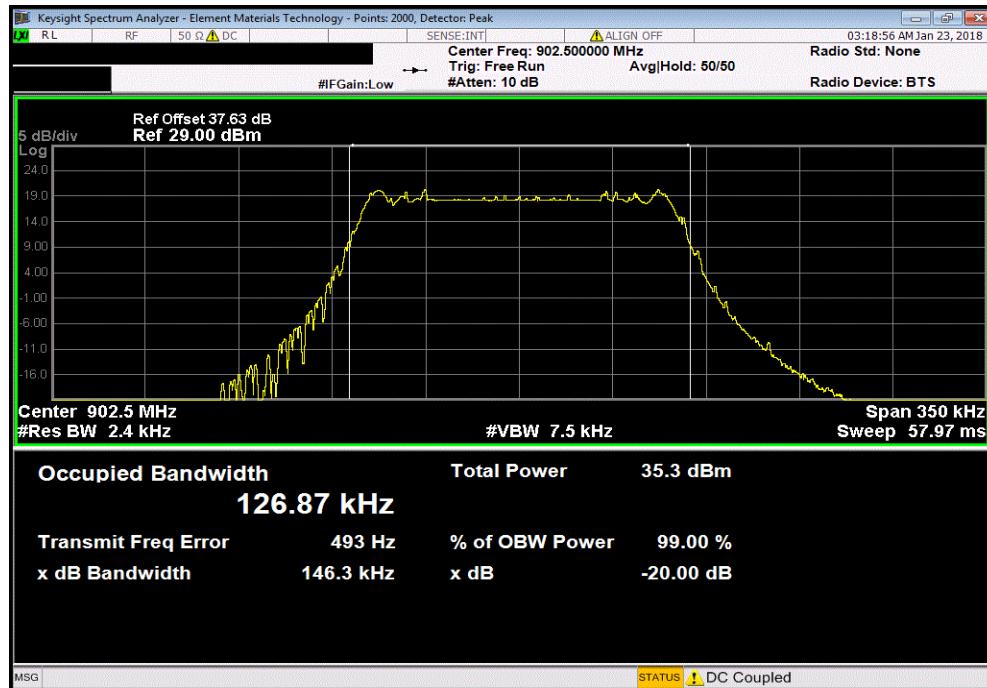
FSK, Single Channel
 Low Channel, 902.5 MHz
 Mid Channel, 915 MHz
 High Channel, 927.5 MHz

OCCUPIED BANDWIDTH

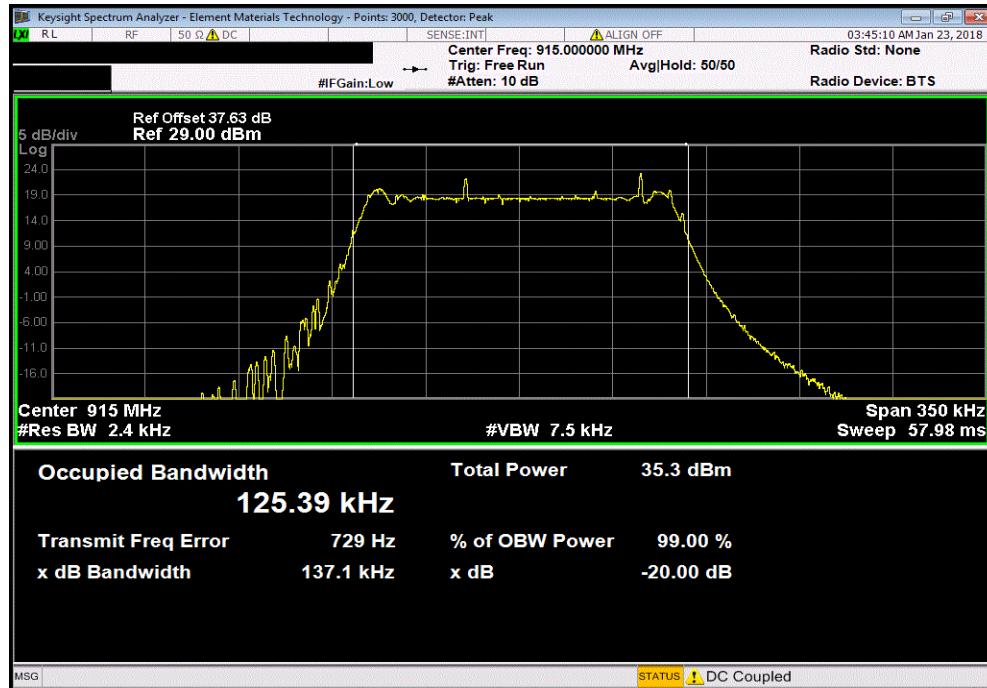


TbTx 2017-12-14 XMII 2017-12-13

| FSK, Single Channel, Low Channel, 902.5 MHz | | | Limit |
|---|---------|--------|-------|
| Value | (≤) | Result | |
| 146.315 kHz | 500 kHz | Pass | |



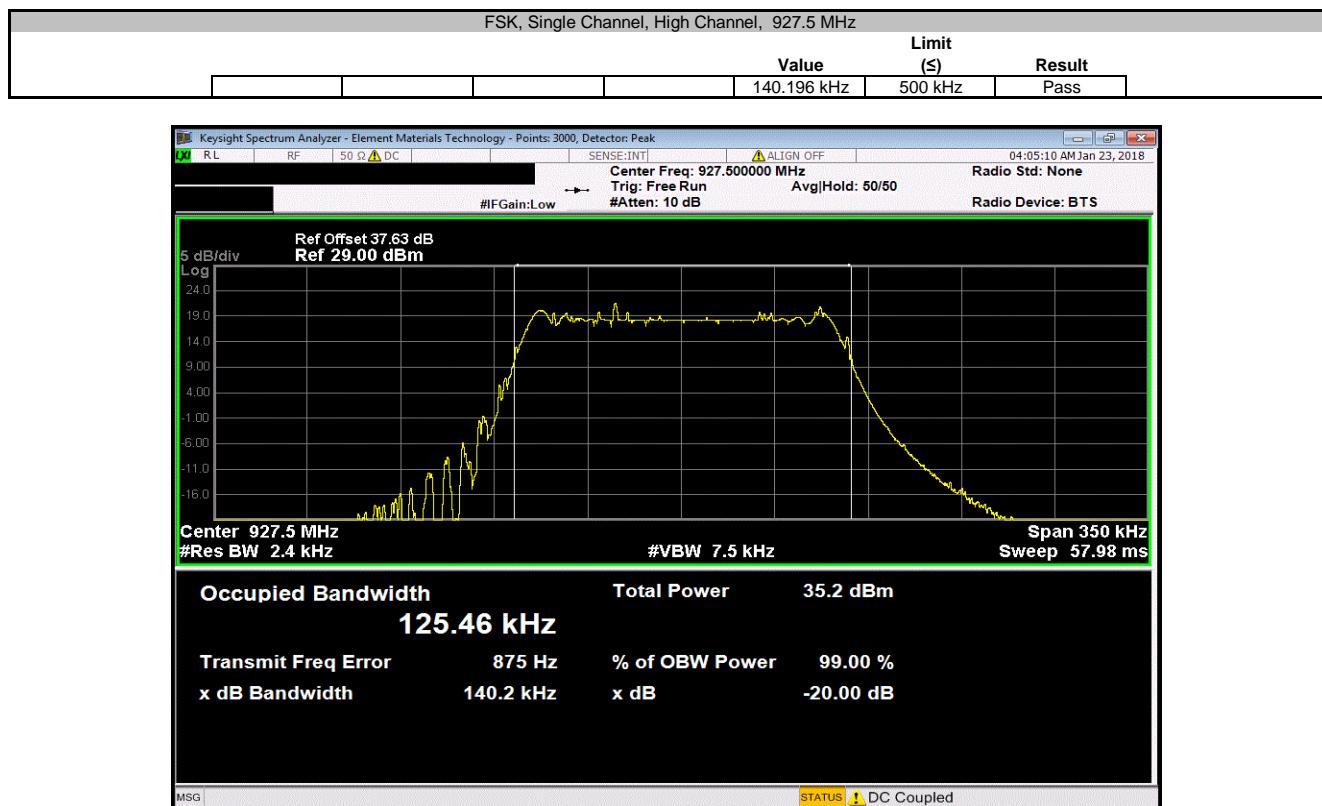
| FSK, Single Channel, Mid Channel, 915 MHz | | | Limit |
|---|---------|--------|-------|
| Value | (≤) | Result | |
| 137.141 kHz | 500 kHz | Pass | |





OCCUPIED BANDWIDTH

TbTx 2017.12.14 XMII 2017.12.13



SPURIOUS CONDUCTED EMISSIONS



XMit 2017.12.13

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

| Description | Manufacturer | Model | ID | Last Cal. | Cal. Due |
|------------------------------|--------------------|-----------------------|-----|-----------|-----------|
| Generator - Signal | Keysight | N5182B | TFU | 27-Oct-15 | 27-Oct-18 |
| Cable | Micro-Coax | UFD150A-1-0720-200200 | EVH | 30-May-17 | 30-May-18 |
| Attenuator | S.M. Electronics | SA26B-10 | AWR | 24-Oct-17 | 24-Oct-18 |
| Attenuator | Fairview Microwave | 18B5W-26 | RFZ | 6-Sep-17 | 6-Sep-18 |
| Block - DC | Fairview Microwave | SD3379 | AMW | 5-Jun-17 | 5-Jun-18 |
| Analyzer - Spectrum Analyzer | Keysight | N9010A | AFP | 14-Aug-17 | 14-Aug-18 |

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The spurious RF conducted emissions were measured with the EUT set to low, medium and high transmit frequencies. The EUT was transmitting at the data rate(s) listed in the datasheet in a no-hop mode. For each transmit frequency, the spectrum was scanned throughout the specified frequency range.

SPURIOUS CONDUCTED EMISSIONS



Tbitx 2017.12.14

XMI 2017.12.13

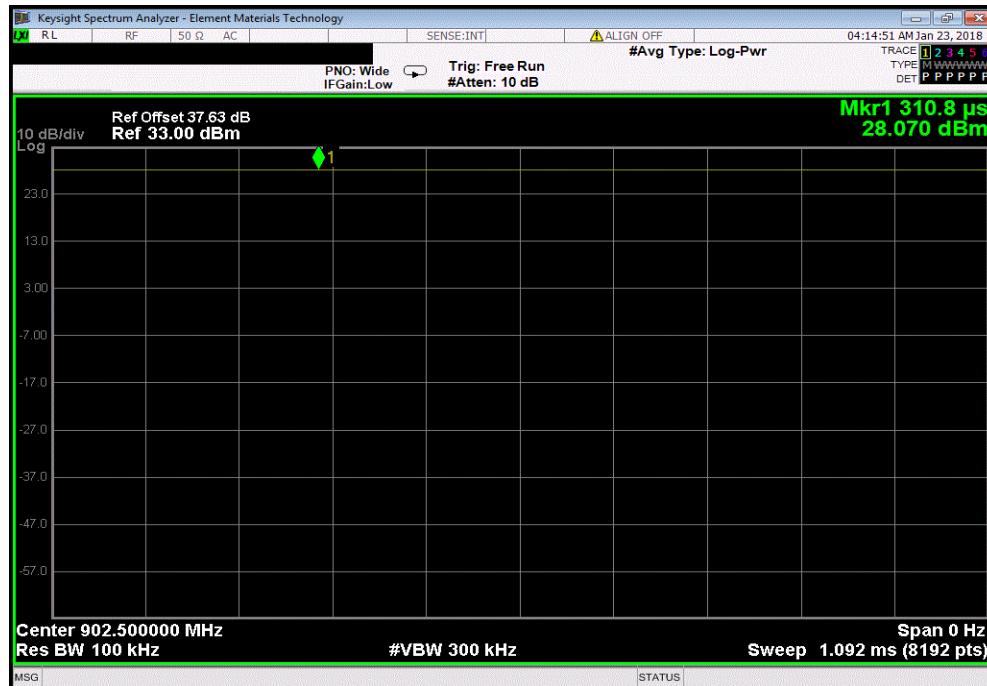
| EUT: | Voyager Pro | | Work Order: | POLR0007 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------------------------|-----------|-------------------|-----------------|---------------|--------|------------------------|-------------|-----|-----|-----|------------------------|-----------------|--------|-----|------|------------------------|-----------------|--------|-----|------|----------------------|-------------|-----|-----|-----|----------------------|-----------------|--------|-----|------|----------------------|-----------------|--------|-----|------|-------------------------|-------------|-----|-----|-----|-------------------------|-----------------|--------|-----|------|-------------------------|-----------------|--------|-----|------|
| Serial Number: | 1 | | Date: | 22-Jan-18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Customer: | Polaris Industries, Inc. | | Temperature: | 22.4 °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Attendees: | Stephen Reid and Ed Vaynberg | | Humidity: | 37.9% RH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project: | None | | Barometric Pres.: | 1030 mbar | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tested by: | Jeff Alcocke | Power: | 14.0 VDC | Job Site: | EV06 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TEST SPECIFICATIONS | | | Test Method | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FCC 15.247:2018 | | | ANSI C63.10:2013 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COMMENTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DEVIATIONS FROM TEST STANDARD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Configuration # | 1 | Signature | Frequency Range | Max Value (dBc) | Limit ≤ (dBc) | Result | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FSK, Single Channel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="0"> <tr> <td>Low Channel, 902.5 MHz</td> <td>Fundamental</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Low Channel, 902.5 MHz</td> <td>30 MHz - 12 GHz</td> <td>-54.74</td> <td>-20</td> <td>Pass</td> </tr> <tr> <td>Low Channel, 902.5 MHz</td> <td>12 GHz - 25 GHz</td> <td>-50.89</td> <td>-20</td> <td>Pass</td> </tr> <tr> <td>Mid Channel, 915 MHz</td> <td>Fundamental</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>Mid Channel, 915 MHz</td> <td>30 MHz - 12 GHz</td> <td>-58.15</td> <td>-20</td> <td>Pass</td> </tr> <tr> <td>Mid Channel, 915 MHz</td> <td>12 GHz - 25 GHz</td> <td>-50.09</td> <td>-20</td> <td>Pass</td> </tr> <tr> <td>High Channel, 927.5 MHz</td> <td>Fundamental</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>High Channel, 927.5 MHz</td> <td>30 MHz - 12 GHz</td> <td>-56.77</td> <td>-20</td> <td>Pass</td> </tr> <tr> <td>High Channel, 927.5 MHz</td> <td>12 GHz - 25 GHz</td> <td>-50.56</td> <td>-20</td> <td>Pass</td> </tr> </table> | | | | | | | Low Channel, 902.5 MHz | Fundamental | N/A | N/A | N/A | Low Channel, 902.5 MHz | 30 MHz - 12 GHz | -54.74 | -20 | Pass | Low Channel, 902.5 MHz | 12 GHz - 25 GHz | -50.89 | -20 | Pass | Mid Channel, 915 MHz | Fundamental | N/A | N/A | N/A | Mid Channel, 915 MHz | 30 MHz - 12 GHz | -58.15 | -20 | Pass | Mid Channel, 915 MHz | 12 GHz - 25 GHz | -50.09 | -20 | Pass | High Channel, 927.5 MHz | Fundamental | N/A | N/A | N/A | High Channel, 927.5 MHz | 30 MHz - 12 GHz | -56.77 | -20 | Pass | High Channel, 927.5 MHz | 12 GHz - 25 GHz | -50.56 | -20 | Pass |
| Low Channel, 902.5 MHz | Fundamental | N/A | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel, 902.5 MHz | 30 MHz - 12 GHz | -54.74 | -20 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Low Channel, 902.5 MHz | 12 GHz - 25 GHz | -50.89 | -20 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mid Channel, 915 MHz | Fundamental | N/A | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mid Channel, 915 MHz | 30 MHz - 12 GHz | -58.15 | -20 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mid Channel, 915 MHz | 12 GHz - 25 GHz | -50.09 | -20 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel, 927.5 MHz | Fundamental | N/A | N/A | N/A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel, 927.5 MHz | 30 MHz - 12 GHz | -56.77 | -20 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| High Channel, 927.5 MHz | 12 GHz - 25 GHz | -50.56 | -20 | Pass | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SPURIOUS CONDUCTED EMISSIONS

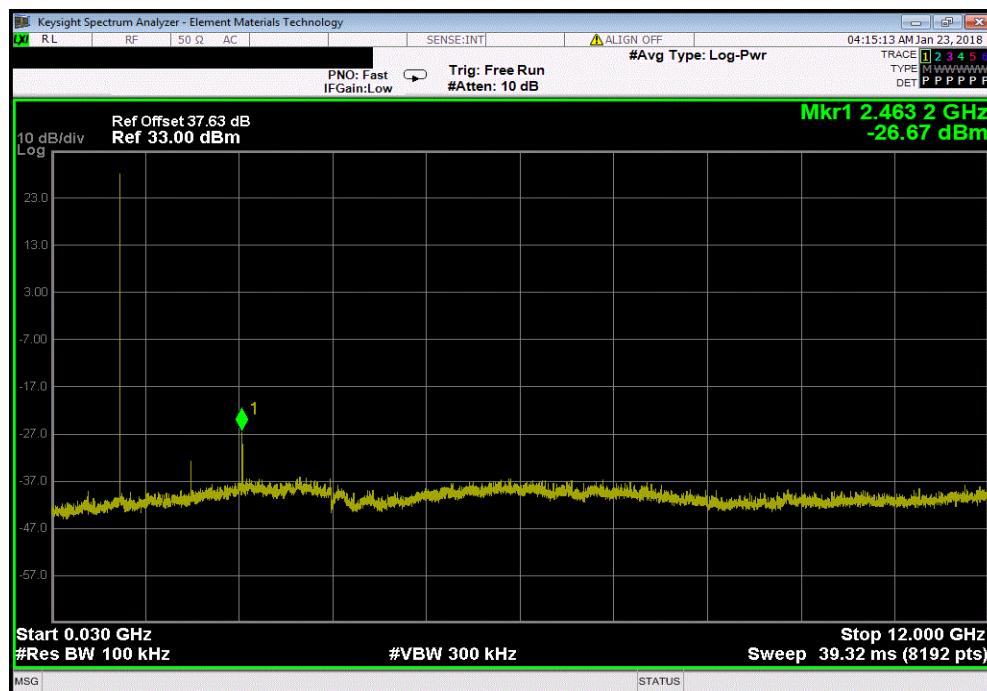


TbTx 2017-12-14 XM1 2017-12-13

| FSK, Single Channel, Low Channel, 902.5 MHz | | | | | |
|---|-----------------|---------------|--------|--|--|
| Frequency Range | Max Value (dBc) | Limit ≤ (dBc) | Result | | |
| Fundamental | N/A | N/A | N/A | | |



| FSK, Single Channel, Low Channel, 902.5 MHz | | | | | |
|---|-----------------|---------------|--------|--|--|
| Frequency Range | Max Value (dBc) | Limit ≤ (dBc) | Result | | |
| 30 MHz - 12 GHz | -54.74 | -20 | Pass | | |

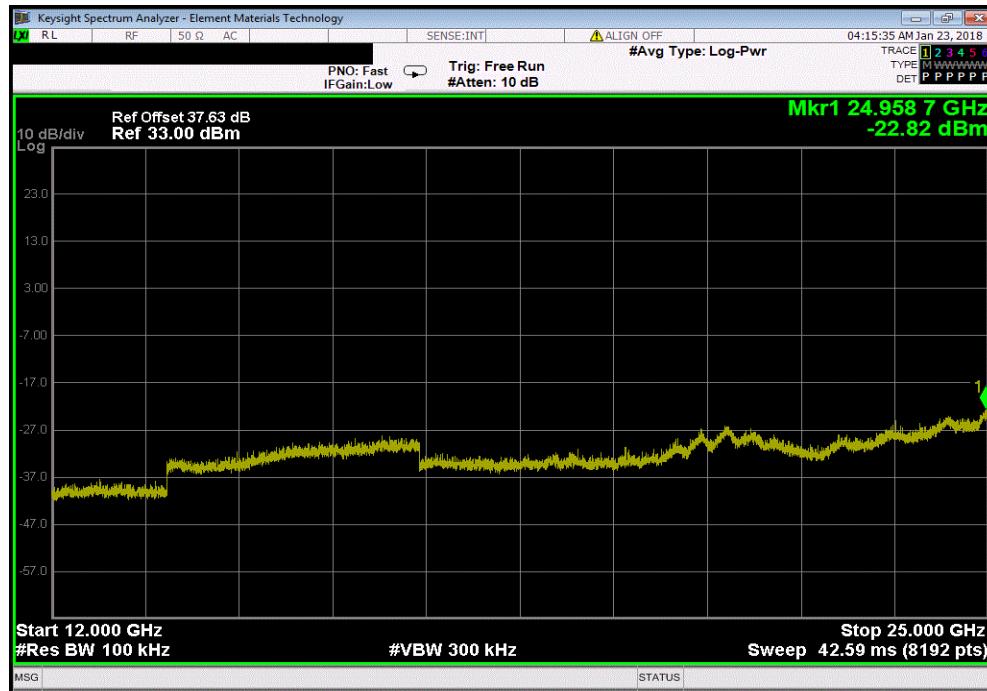


SPURIOUS CONDUCTED EMISSIONS

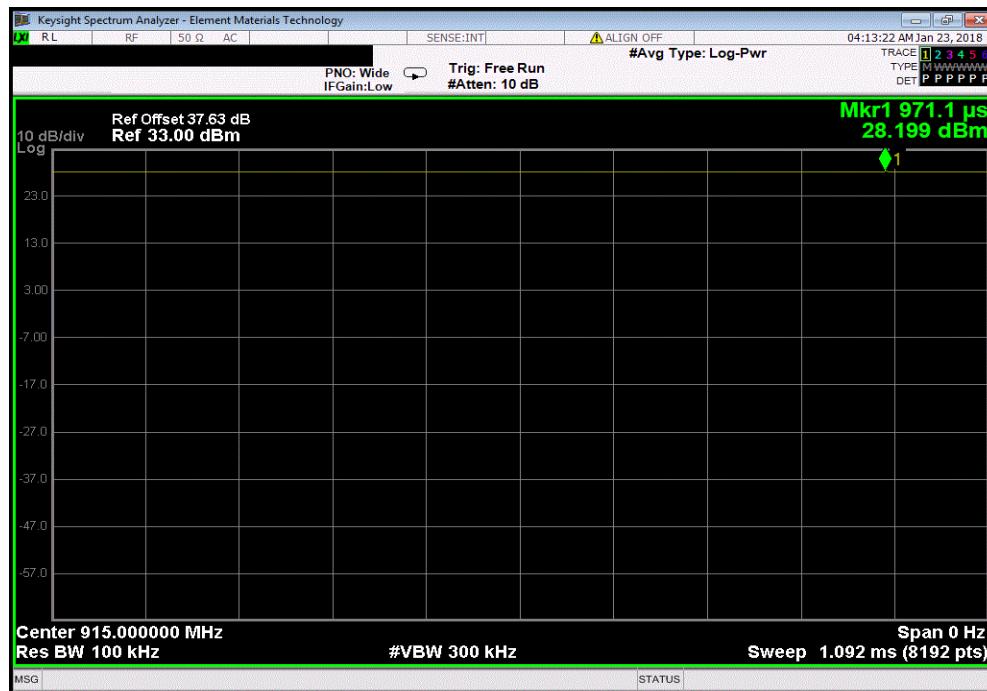


TbTx 2017-12-14 XMII 2017-12-13

| FSK, Single Channel, Low Channel, 902.5 MHz | | | |
|---|-----------------|---------------|--------|
| Frequency Range | Max Value (dBc) | Limit ≤ (dBc) | Result |
| 12 GHz - 25 GHz | -50.89 | -20 | Pass |



| FSK, Single Channel, Mid Channel, 915 MHz | | | |
|---|-----------------|---------------|--------|
| Frequency Range | Max Value (dBc) | Limit ≤ (dBc) | Result |
| Fundamental | N/A | N/A | N/A |

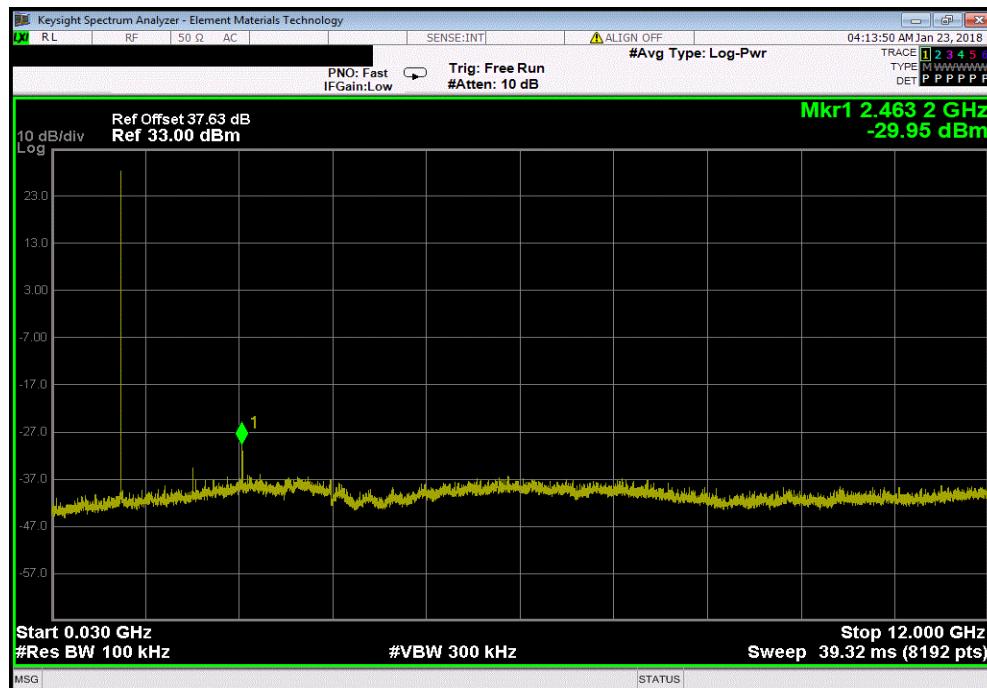


SPURIOUS CONDUCTED EMISSIONS

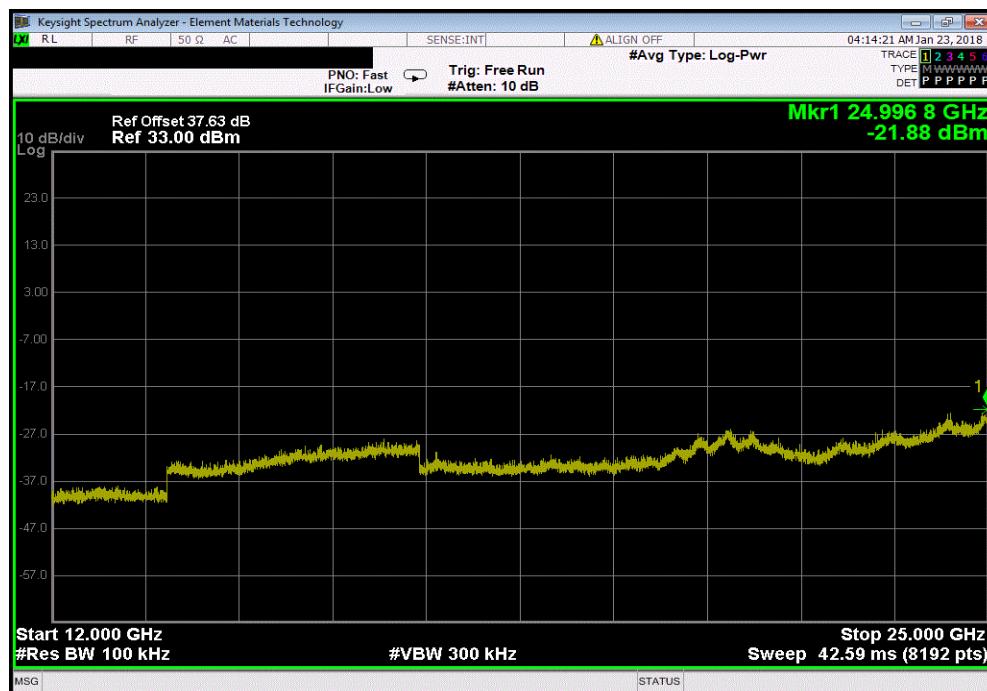


TbTx 2017-12-14 XMII 2017-12-13

| FSK, Single Channel, Mid Channel, 915 MHz | | | |
|---|-----------------|--------------------|--------|
| Frequency Range | Max Value (dBc) | Limit \leq (dBc) | Result |
| 30 MHz - 12 GHz | -58.15 | -20 | Pass |



| FSK, Single Channel, Mid Channel, 915 MHz | | | |
|---|-----------------|--------------------|--------|
| Frequency Range | Max Value (dBc) | Limit \leq (dBc) | Result |
| 12 GHz - 25 GHz | -50.09 | -20 | Pass |

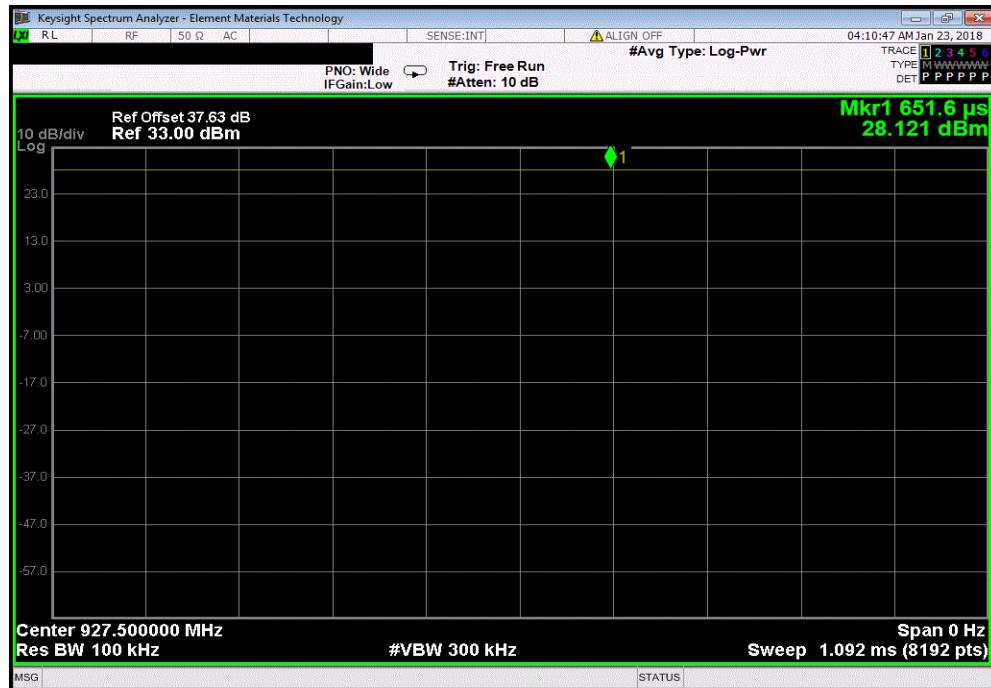


SPURIOUS CONDUCTED EMISSIONS

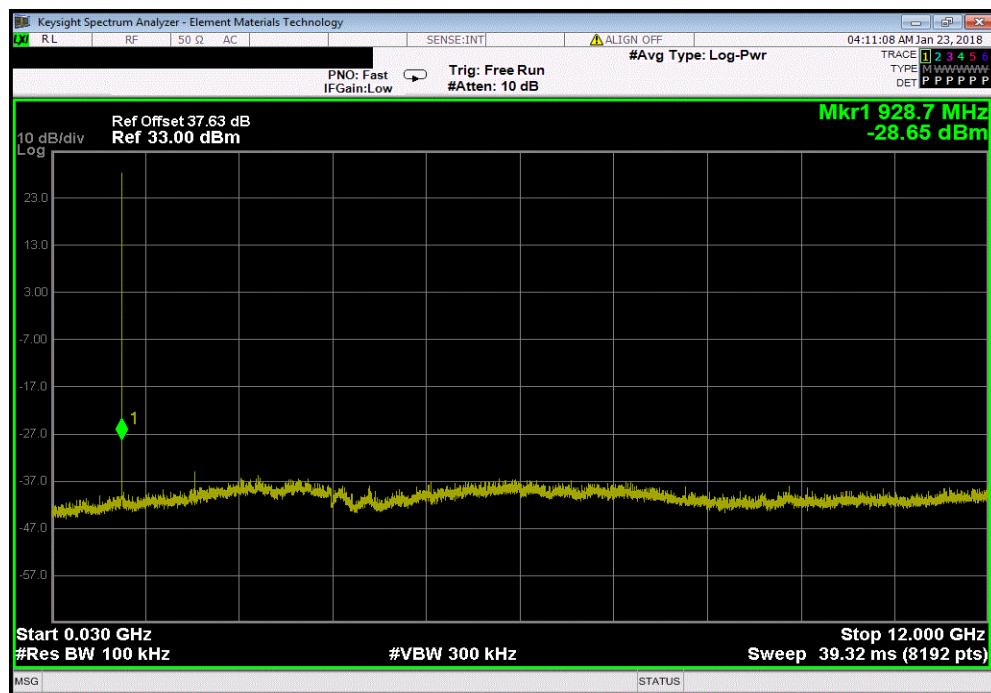


TbTx 2017.12.14 XMII 2017.12.13

| Frequency Range | | Max Value (dBc) | Limit \leq (dBc) | Result |
|-----------------|--|-----------------|--------------------|--------|
| Fundamental | | N/A | N/A | N/A |



| Frequency Range | | Max Value (dBc) | Limit \leq (dBc) | Result |
|-----------------|--|-----------------|--------------------|--------|
| 30 MHz - 12 GHz | | -56.77 | -20 | Pass |



SPURIOUS CONDUCTED EMISSIONS



TbTx 2017.12.14 XMII 2017.12.13

| FSK, Single Channel, High Channel, 927.5 MHz | | | |
|--|-----------------|--------------------|--------|
| Frequency Range | Max Value (dBc) | Limit \leq (dBc) | Result |
| 12 GHz - 25 GHz | -50.56 | -20 | Pass |

