

# Test Report # 317205 A

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**Equipment Under Test:** Spot-r Relay Pod

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**Test Date(s):** 10/24/17 – 6/12/18

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**Prepared for:** Triax Technologies  
Attn: Justin Morgenthau  
330 Roberts Street  
Suite 205  
East Hartford, CT 06108, USA

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**Report Issued by: Shane Dock, EMC Engineer**

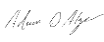
Signature:



Date: 9/18/2018

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**Report Reviewed by: Adam Alger, Quality Manager**

Signature: 

Date: 08/14/2018

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**Report Constructed by: Shane Dock, EMC Engineer**

Signature:



Date: 8/14/2018

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## Laird Technologies Test Services in Review

The Laird Technologies, Inc. laboratory located at W66 N220 Commerce Court Cedarburg, Wisconsin, 53012 USA is recognized through the following organizations:



### **A2LA – American Association for Laboratory Accreditation**

*Accreditation based on ISO/IEC 17025: 2005 with Electrical (EMC) Scope*

*A2LA Certificate Number: 1255.01*

*Scope of accreditation includes all test methods listed herein, unless otherwise noted.*



### **Federal Communications Commission (FCC) – USA**

*Accredited recognition of two 3 meter Semi-Anechoic Chambers*

*Accredited Test Firm Registration Number: 953492*



### **Innovation, Science and Economic Development Canada**

*ISED Site listing of two 3 meter Semi-Anechoic Chambers based on RSS-GEN – Issue 4*

*File Number: IC 3088A-2*

*File Number: IC 3088A-3*

Company: Triax Technologies	Page 3 of 27	Name: Spot-r Relay Pod
Report: 317205 A		Model: RP-2
Job: C-2756		Serial: See Section 2.1

## 1 TEST REPORT SUMMARY

During **10/24/17 – 6/12/18** the Equipment Under Test (EUT), **Spot-r Relay Pod**, as provided by **Triax Technologies** was tested to the following requirements:

Requirement	Description	Specification	Method	Result
FCC: 15.247 (a)(2) IC: RSS-247 5.2 (a)	Digital Modulation System 6 dB bandwidth	500 kHz	ANSI C63.10	Pass
FCC: 2.1049 IC: RSS-GEN 6.6	Occupied Bandwidth	Reported	ANSI C63.10	Pass
FCC: 15.247 (b)(3) IC: RSS-247 5.4 (d)	Maximum Conducted Output Power	30 dBm	ANSI C63.10	Pass
FCC: 15.247 (e) IC: RSS-247 5.2 (b)	Digital Modulation System Power Spectral Density	8 dBm / 3 kHz	ANSI C63.10	Pass
FCC: 15.247 (d) IC: RSS-247 5.5	RF Spurious Emissions at the Transmitter Antenna Terminal	20 dBc	ANSI C63.10	Pass
FCC: 15.247 (d) IC: RSS-GEN 8.10	Spurious Radiated Emissions in Restricted Bands	FCC 15.209 RSS-GEN 8.9	ANSI C63.10	Pass
FCC: 2.1055 (d) IC: RSS-GEN 6.11	Frequency Stability	Reported	ANSI C63.10	Pass
FCC: 15.207 IC: RSS-GEN 8.8	AC Power Line Conducted Emissions	0.150-30 MHz	ANSI C63.10	N/A (Battery Powered)

### Notice:

The results relate only to the item tested and described in this report. Any modifications made to the equipment under test after the specified test date(s) may invalidate the data herein.

If the resulting measurement margin is seen to be within the uncertainty value, as listed in this report, the possibility exists that this unit may not meet the required limit specification if subsequently tested.

## 2 CLIENT INFORMATION

<b>Company Name</b>	Triax Technologies
<b>Contact Person</b>	Justin Morgenthau
<b>Address</b>	330 Roberts Street Suite 205 East Hartford, CT 06108, USA

### 2.1 Equipment Under Test (EUT) Information

*The following information has been supplied by the client*

<b>Product Name</b>	Spot-r Relay Pod
<b>Model Number</b>	RP-2
<b>Serial Number</b>	CRP0204-00004005
<b>FCC/IC #</b>	FCC: 2AGHIRP01 IC: 21358-RP01

### 2.2 Product Description

The Spot-r Relay Pod is a key component of the Spot-r network. It is the intermediary between all Spot-r devices (Clip, EquipTag, EvacTag, etc.) and our Cloud Pod. It communicates with our devices at regular intervals, collecting key data regarding status, position and event signal and relays this data to our Cloud Pod for transmission into the cloud.

### 2.3 Modifications Incorporated for Compliance

None noted at time of test

### 2.4 Deviations and Exclusions from Test Specifications

None noted at time of test

### 2.5 Additional Information

Unit tested on Channels 1, 32, and 63 (902.5 MHz, 914.9 MHz, 927.3 MHz). Unit programmed via serial connection with a terminal access program like PuTTY. Power setting of 15 used.

### 3 REFERENCES

Publication	Edition	Date
CFR 47 Part 15	-	2018
ANSI C63.10	-	2013
RSS-247	2	2017
RSS GEN	4	2014

## 4 UNCERTAINTY SUMMARY

Using the guidance of the following publications the calculated measurement uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level, using a coverage factor of  $k = 2$ .

References	Version / Date
CISPR 16-4-1	Ed. 2 (2009-02)
CISPR 16-4-2	Ed. 2 (2011-06)
CISPR 32	Ed. 1 (2012-01)
ANSI C63.23	2012
A2LA P103	February 4, 2016
A2LA P103c	August 10, 2015
ETSI TR 100-028	V1.3.1 (2001-03)

Measurement Type	Configuration	Uncertainty $\pm$
Radiated Emissions	Biconical Antenna	5.0 dB
Radiated Emissions	Log Periodic Antenna	5.3 dB
Radiated Emissions	Horn Antenna	4.7 dB
AC Line Conducted Emissions	Artificial Mains Network	3.4 dB
Telecom Conducted Emissions	Asymmetric Artificial Network	4.9 dB
Disturbance Power Emissions	Absorbing Clamp	4.1 dB
Radiated Immunity	3 Volts/meter	2.2 dB
Conducted Immunity	CDN/EM/BCI	2.4/3.5/3.4 dB
EFT Burst/Surge	Peak pulse voltage	164 volts
ESD Immunity	15 kV level	1377 Volts

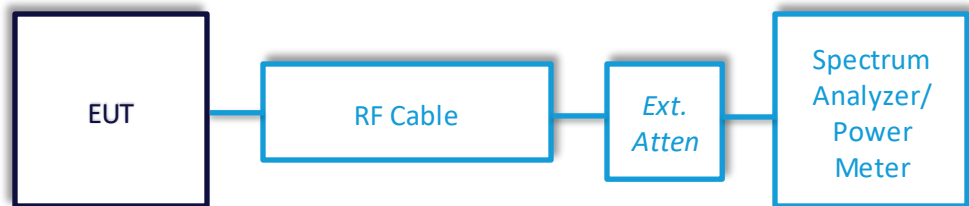
Parameter	ETSI U.C. $\pm$	U.C. $\pm$
Radio Frequency, from F0	$1 \times 10^{-7}$	$0.55 \times 10^{-7}$
Occupied Channel Bandwidth	5 %	2 %
RF conducted Power (Power Meter)	1.5 dB	1.2 dB
RF conducted emissions (Spectrum Analyzer)	3.0 dB	1.7 dB
All emissions, radiated	6.0 dB	5.3 dB
Temperature	1° C	0.65° C
Humidity	5 %	2.9 %
Supply voltages	3 %	1 %

## 5 TEST DATA

### 5.1 Antenna Port Conducted Emissions

<b>Description of Measurement</b>	<p>The direct measurement of emissions at the antenna port of the EUT is achieved by use of a RF connection to a spectrum analyzer or power meter.</p> <p>The cable and attenuator factors are loaded into the analyzer or power meter allowing for direct measurement readings without the need for further corrections.</p>
<b>Example Calculations</b>	<p>Measurement (dBm) + Cable factor (dB) + External Attenuator (dB) = Corrected Reading (dBm)</p> <p>Margin (dB) = Limit (dBm) – Corrected Reading (dBm)</p>

#### Block Diagram





### 5.1.1 Antenna Port Antenna Port Conducted Emissions – Bandwidth

<b>Operator</b>	Shane Dock
<b>Test Date</b>	10/23/17, 6/12/18
<b>Location</b>	Conducted RF Measurement Area
<b>Temp. / R.H.</b>	74 degrees F/37% RH
<b>Requirement</b>	OBW: FCC: 2.1049 IC: RSS-GEN 6.6  DTS BW: FCC: 15.247 (a)(2) IC: RSS-247 5.2 (1)
<b>Method</b>	ANSI C63.10 Section 6.9.2 and 11.8

#### Limits:

<b>6 dB BW (MHz)</b>
> 500

#### Test Parameters

<b>Frequency</b>	902.5 MHz, 914.9 MHz, 927.3 MHz
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#### Tables

Channel	Low	Mid	High
6dB BW (kHz)	510.0	508.4	509.5
99% BW (kHz)	530.1	529.3	529.1

#### Instrumentation



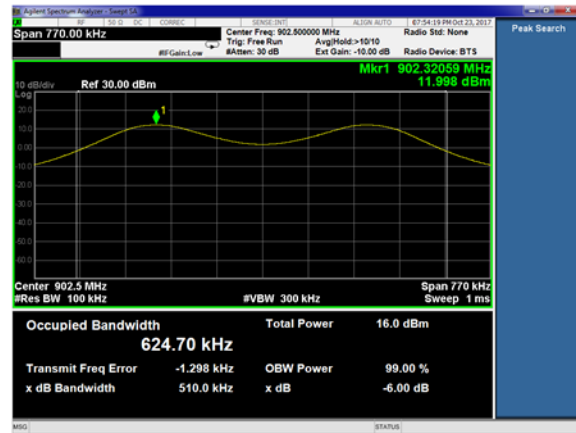
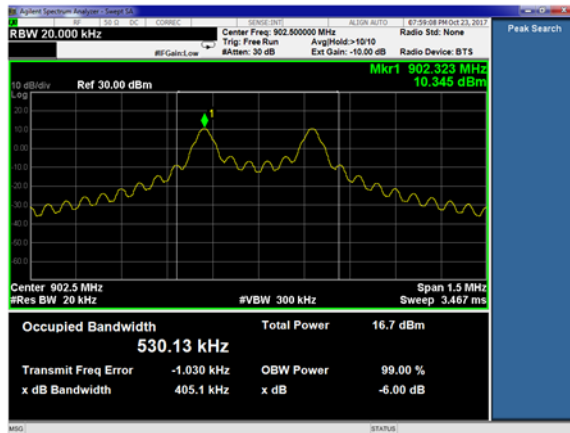
Date : 1-Aug-2017			Test : Conducted RF Testing			Job # : C-2756		
PE: Shane Dock			Customer : Triax Technologies			Quote #: 317205		
No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	EE 960087	Spectrum Analyzer	Agilent	N9010A	MY53400296	12/22/2016	12/22/2017	Active Calibration
2	AA 960143	Phaseflex	Gore	EKD01D01048.0	5546519	6/29/2016	12/31/2017	Active Calibration

#### June Testing

1	EE 960087	Analyzer - Spectrum	Agilent	N9010A	MY53400296	4/25/2018	4/25/2019	Active Calibration
2	AA 960143	Cable	Gore	EKD01D01048.0	5546519	11/15/2017	11/15/2018	Active Verification

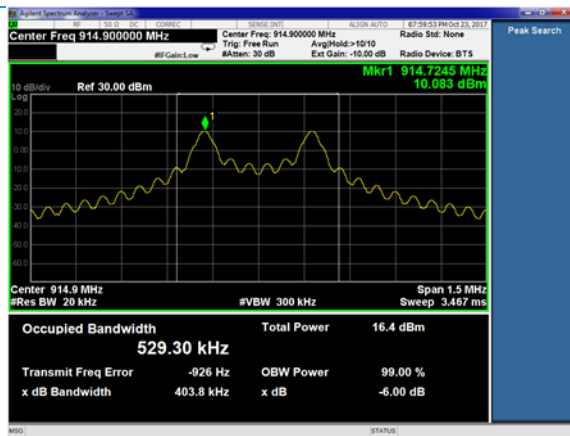
Company: Triax Technologies	Page 9 of 27	Name: Spot-r Relay Pod
Report: 317205 A		Model: RP-2
Job: C-2756		Serial: See Section 2.1

## Plots



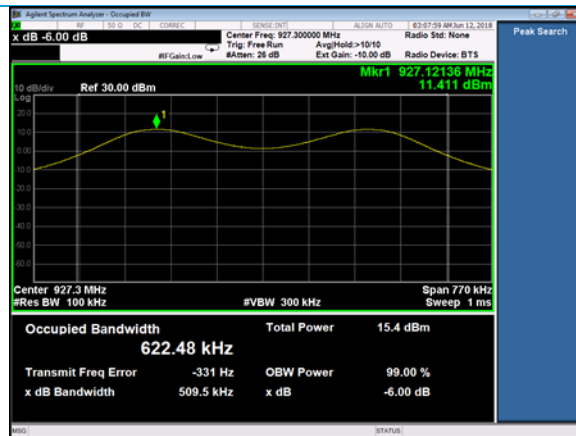
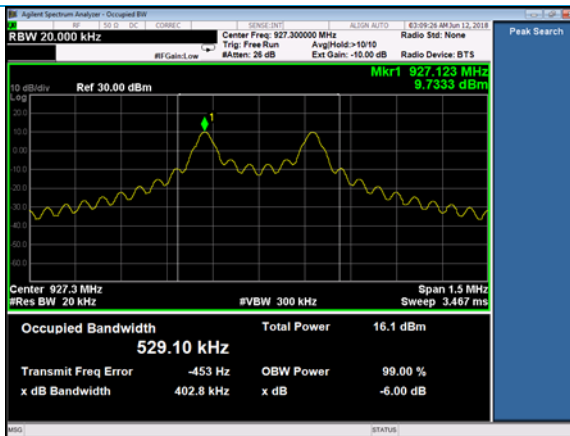
99% BW Low

6 dB BW Low



99% BW Mid

6 dB BW Mid



99% BW High

6 dB BW High

### 5.1.2 Antenna Port Conducted Emissions – Maximum Conducted Output Power

<b>Operator</b>	Shane Dock
<b>Test Date</b>	10/23/17, 6/12/18
<b>Location</b>	Conducted RF Measurement Area
<b>Temp. / R.H.</b>	74 degrees F/37% RH
<b>Requirement</b>	FCC: 15.247 (b)(3) IC: RSS-247 5.4 (d)
<b>Method</b>	ANSI C63.10 Section 11.9.1.1

#### Limits:

Maximum Conducted Output Power (watts)	Maximum Conducted Output Power (dBm)
1	30

#### Test Parameters

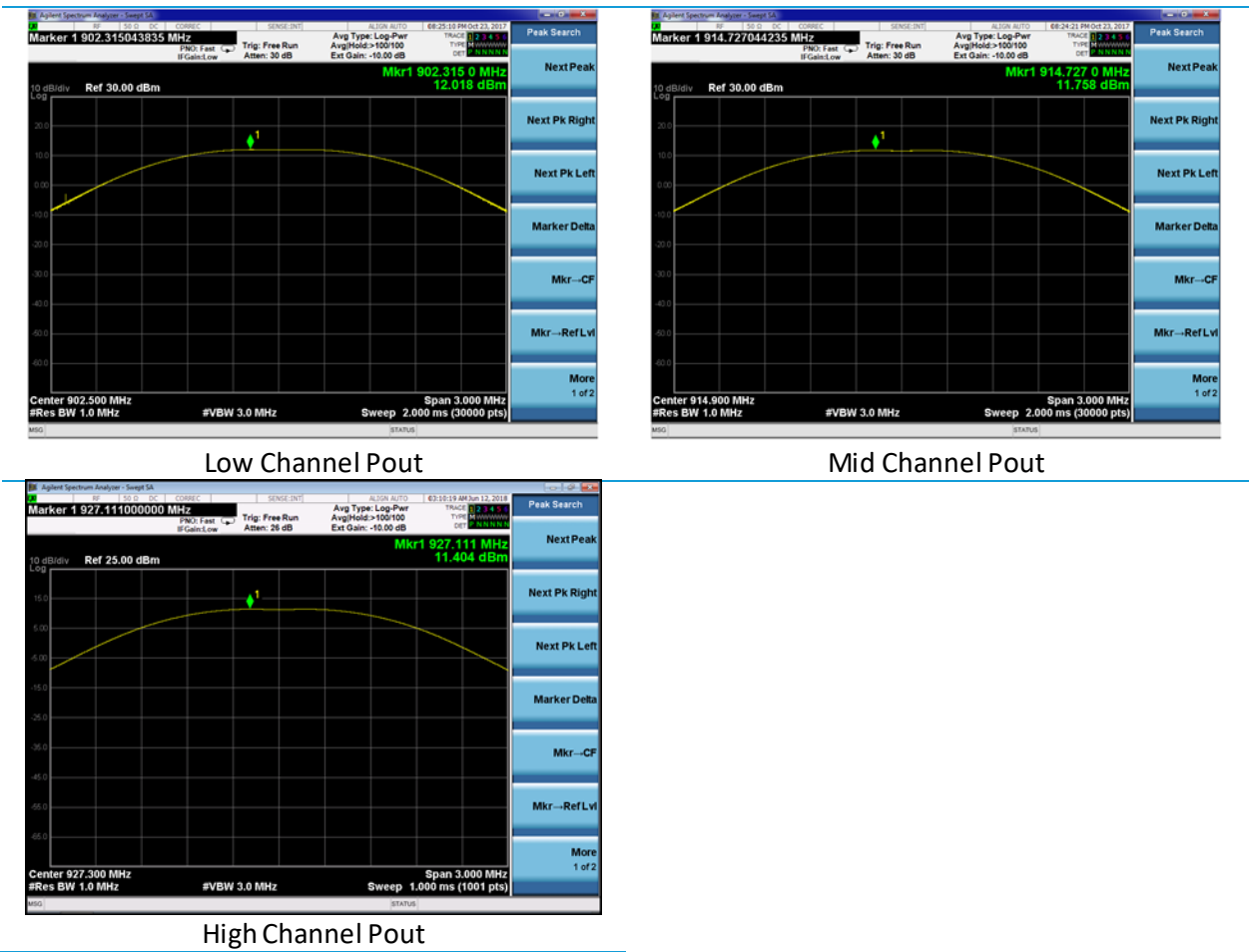
<b>Frequency</b>	902.5 MHz, 914.9 MHz, 927.3 MHz
<b>RBW</b>	1 MHz

#### Table

Channel	Low	Mid	High
Pout Conducted (dBm)	12.018	11.758	11.404

**Worst Case Margin = 30.000 dBm – (12.018 dBm) = 17.982 dB**

# Plots



### 5.1.3 Antenna Port Conducted Emissions – RF Spurious Emissions

<b>Operator</b>	Shane Dock
<b>Test Date</b>	10/23/18, 6/12/18
<b>Location</b>	Conducted RF Measurement Area
<b>Temp. / R.H.</b>	74 degrees F/37% RH
<b>Requirement</b>	15.247 ( d )
<b>Method</b>	ANSI C63.10 Section 11.11

#### Limits:

<b>RF Spurious Limit</b>
20 dBc

#### Test Parameters

<b>Frequency</b>	30-25000 MHz
<b>Settings</b>	902.5 MHz, 914.9 MHz, 927.3 MHz
<b>RBW</b>	100k
<b>VBW</b>	300k
<b>Trace</b>	Max Hold
<b>Detector</b>	Peak

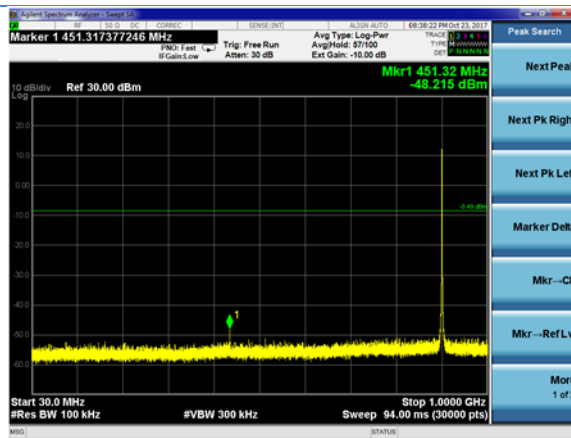
#### Table

Channel	Frequency (MHz)	Peak Reading (dBm)	Peak Limit (dBm)	Peak Margin (dB)
Low	902.0	-15.4	-8.0	7.4
High	928.0	-21.6	-7.6	14.0

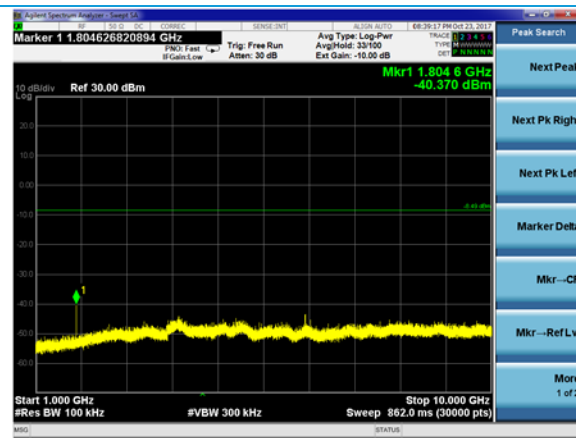
# Plots

## Reference Levels (Worst-Case Shown)

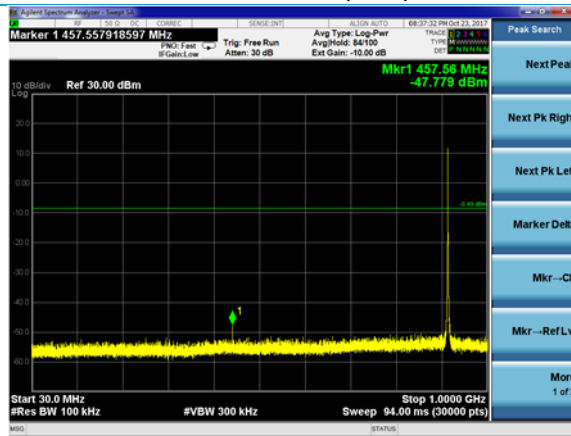




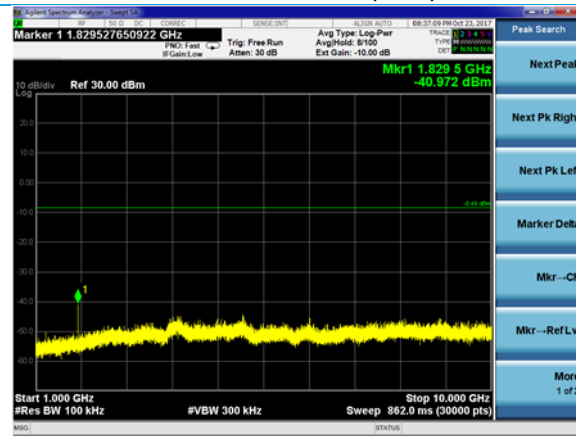
30-1000 MHz (Low)



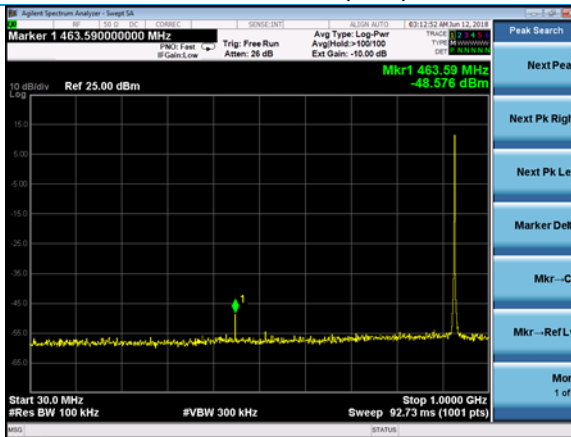
1000-10000 MHz (Low)



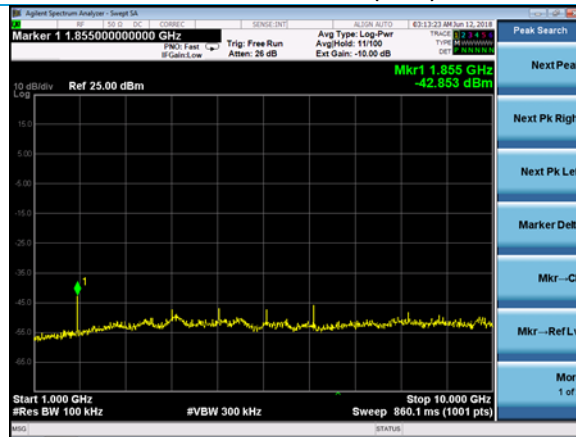
30-1000 MHz (Mid)



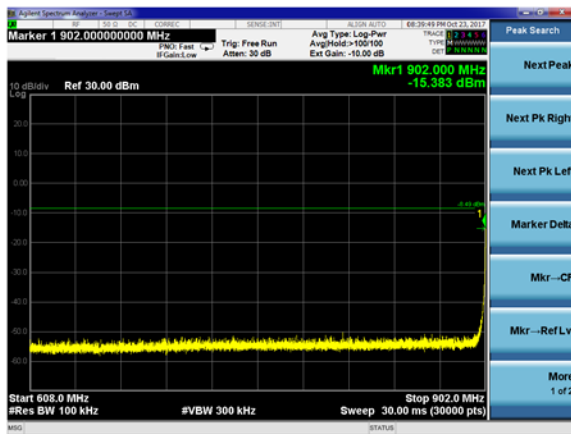
1000-10000 MHz (Mid)



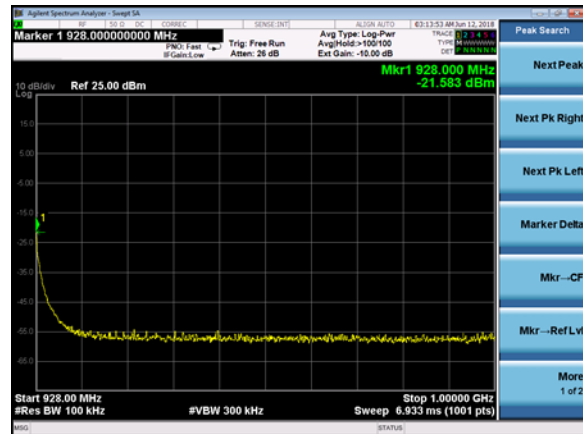
30-1000 MHz (High)



1000-10000 MHz (High)



Lower Band Edge



Upper Band Edge



#### 5.1.4 Antenna Port Conducted Emissions – Power Spectral Density

<b>Operator</b>	Shane Dock
<b>Test Date</b>	10/23/17, 6/12/18
<b>Location</b>	Conducted RF Measurement Area
<b>Temp. / R.H.</b>	74 degrees F/37% RH
<b>Requirement</b>	15.247 ( e )
<b>Method</b>	ANSI C63.10 11.10.2

#### Limits:

<b>PSD (dBm/3 kHz)</b>
< 8

#### Test Parameters

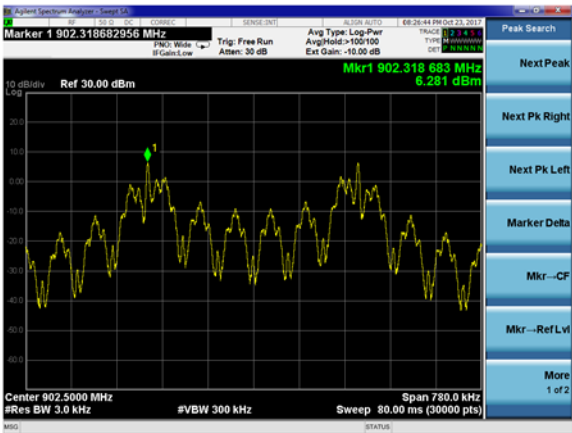
<b>Frequency</b>	902.5 MHz, 914.9 MHz, 927.3 MHz
<b>RBW</b>	3kHz
<b>VBW</b>	300kHz
<b>Trace</b>	Max Hold
<b>Detector</b>	Peak

#### Table

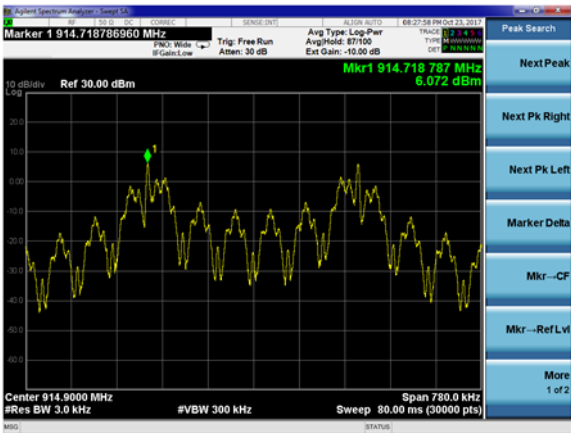
Channel	Low	Mid	High
PSD (dBm)	6.281	6.072	5.586

**Worst Case Margin = 8.000 dBm – (6.281 dBm) = 1.719 dB**

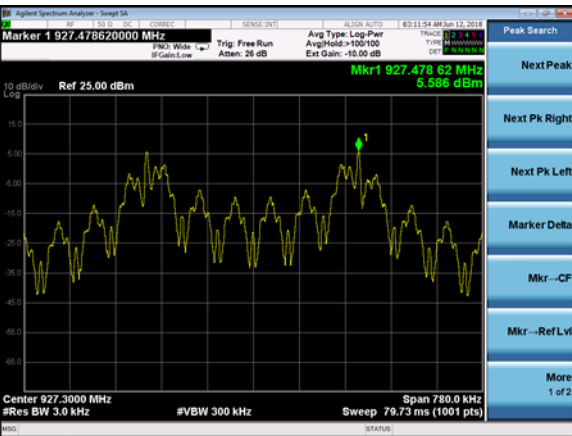
# Plots



Low Channel



Mid Channel



High Channel

### 5.1.5 Antenna Port Conducted Emissions – Frequency Stability

<b>Operator</b>	Shane Dock
<b>Test Date</b>	6/5/18
<b>Location</b>	Conducted RF Measurement Area
<b>Temp. / R.H.</b>	74.3 degrees F/46.6%
<b>Requirement</b>	FCC: 2.1055 (d) IC: RSS-GEN 6.11
<b>Method</b>	ANSI C63.10 Section 6.8

#### Test Parameters

<b>Channels</b>	Low, Mid, High
<b>Frequencies (Nominal)</b>	902.5 MHz, 914.9 MHz, 927.3 MHz
<b>Voltages</b>	2.7, 3.2, 3.7 VDC

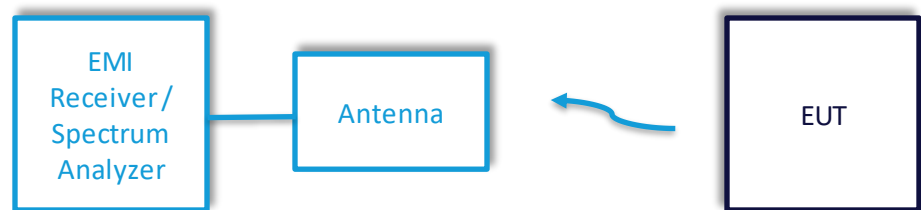
Table (Values below listed in Hz at the given voltages)

Channel	2.7 VDC	3.2 VDC	3.7 VDC	Deviation (Hz)
Low Channel	902497832	902497624	902498682	1058
Mid Channel	914896192	914895196	914896026	996
High Channel	927296732	927297520	927298226	1494

## 5.2 Radiated Emissions

<b>Description of Measurement</b>	<p>The frequency spectrum is investigated for intentional and /or unintentional signals emanating from the EUT by use of a standardized test site and measurement antenna.</p> <p>The antenna, cable, pre-amp, and other necessary measurement system correction factors are loaded onto the EMI receiver / spectrum analyzer when the measurements are performed allowing the data to be gathered and reported as corrected values.</p> <p>The maximum emissions from the EUT are determined by turn-table azimuth rotation (360°) and scanning of the measurement antenna. Maximized levels are noted at degree values of azimuth, measurement antenna height, and measurement antenna polarity.</p>
<b>Example Calculations</b>	<p>Measurement (dBμV) + Cable factor (dB) + Other (dB) + Antenna Factor (dB/m) = Corrected Reading (dBμV/m)</p> <p>Margin (dB) = Limit (dBμV/m) - Corrected Reading (dBμV/m)</p> <p>Example at 4000 MHz:            Reading = 40 dBμV + 3.4 dB + 0.9 dB + 6.5 dB/m = 50.8 dBμV/m            Average Limit = 20 log (500) = 54 dBμV/m            Margin = 54 dBμV/m - 50.8 dBμV/m = 3.2 dB</p>

### Block Diagram



### 5.2.1 Radiated Emissions

<b>Operator</b>	Shane Dock
<b>Test Date</b>	10/24/17, 2/6/18
<b>Location</b>	Chamber 3, Chamber 5
<b>Temp. / R.H.</b>	70 degrees F/ 40% RH
<b>Requirement</b>	FCC: 15.247 (d)
<b>Method</b>	IC: RSS-GEN 8.10

#### Limits:

	30-88 MHz	88-216 MHz	216 – 960 MHz	960+ MHz
Field Strength ( $\mu\text{V}/\text{m}$ )	100	150	200	500
Field Strength ( $\text{dB}\mu\text{V}/\text{m}$ )	40.0	43.5	46.0	54.0

#### Test Parameters

<b>Frequency</b>	30-25000 MHz
<b>Distance</b>	3m
<b>Settings</b>	Unit tested at Low, Mid, High Channels
<b>Settings</b>	RBW = 120kHz, VBW 1.2 MHz (<1 GHz) RBW = 1 MHz, VBW = 3 MHz (>1 GHz) VBW = 10 Hz for Average measurements (Tx signal is 100%)
<b>Notes</b>	Measurements taken in restricted bands. For measurements above 1 GHz, antenna used with a tilt gear to keep EUT within the cone of radiation. Absorbers were also added to the floor of the chamber while measuring emissions above 1 GHz. Emissions below 200MHz are not a function of the EUT.
<b>Example Calculation</b>	Limit ( $\text{dB}\mu\text{V}$ ) = $20 * \log[\text{Limit } (\mu\text{V})]$ $40 = 20 * \log(100)$ Raw Data + Antenna Factor + Cable Factor = Reported Data $19.77 \text{ dB}\mu\text{V} + 12.50 \text{ dB/m} + 0.93 \text{ dB} = 33.20 \text{ dB}\mu\text{V/m}$

## Instrumentation



Date : 18-Jul-2017

Test : Spurious Emissions

Job # : C-2756

PE: Shane Dock

Customer : Triax Technologies

Quote #: 317205

No.	Asset #	Description	Manufacturer	Model #	Serial #	Cal Date	Cal Due Date	Equipment Status
1	AA 960007	Double Ridge Horn Antenna	EMCO	3115	9311-4138	8/30/2017	8/30/2018	Active Calibration
2	AA 960171	Cable - low loss 6m	A.H. Systems, Inc	SAC-26G-6	386	3/31/2016	12/11/2017	Active Verification
3	EE 960087	Spectrum Analyzer	Agilent	N9010A	MY53400296	12/22/2016	12/22/2017	Active Calibration
4	AA 960156	High Pass Filter 900 MHz	KWM	HFF-L-14185	none	8/29/2017	8/29/2018	Active Calibration
5	AA 960078	Log Periodic Antenna	EMCO	93146	9701-4855	4/17/2017	4/17/2018	Active Calibration
6	AA 960128	Biconical Antenna	ETS Lindgren	3110B	00062899	4/13/2017	4/13/2018	Active Calibration
7	EE 960085	EMI Receiver	Agilent	N9038A	MY51210148	5/12/2017	5/12/2018	Active Calibration
8	AA 960081	Double Ridge Horn Antenna	EMCO	3115	6907	3/17/2017	3/17/2018	Active Calibration

**Table**

Frequency (MHz)	Height (Cm)	Azimuth (degree)	Peak Reading (dBμV/m)	Average Reading (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Peak Margin (dB)	Avg. Margin (dB)	Antenna Polarity	EUT orientation	Channel
2707.8	153.00	220.00	46.4	39.6	74.0	54.0	27.6	14.4	H	V	1
2707.8	217.00	39.75	49.5	42.8	74.0	54.0	24.5	11.2	V	V	1
2707.8	266.00	0.00	49.2	42.5	74.0	54.0	24.8	11.5	H	H	1
2707.8	250.00	30.75	45.3	38.1	74.0	54.0	28.7	15.9	V	H	1
2707.8	171.47	29.75	48.3	41.2	74.0	54.0	25.7	12.8	H	F	1
2707.8	205.76	178.25	46.7	39.4	74.0	54.0	27.3	14.6	V	F	1
2745.0	277.90	13.00	49.5	42.9	74.0	54.0	24.5	11.1	V	V	32
2783.5	295.76	16.25	50.2	43.5	74.0	54.0	23.8	10.5	V	V	64

Frequency (MHz)	Height (Cm)	Azimuth (degree)	Peak Reading (dBμV/m)	Average Reading (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Peak Margin (dB)	Avg. Margin (dB)	Antenna Polarity	EUT orientation	Channel
3610.7	150.00	0.00	43.5	34.8	74.0	54.0	30.5	19.2	H	V	1
3610.7	110.19	267.25	43.4	34.3	74.0	54.0	30.6	19.7	V	V	1
3610.7	117.50	137.04	47.2	39.5	74.0	54.0	26.8	14.5	H	H	1
3610.7	221.90	9.75	43.8	35.3	74.0	54.0	30.2	18.7	V	H	1
3610.7	143.76	334.00	47.9	40.5	74.0	54.0	26.1	13.5	H	F	1
3610.7	278.76	271.25	41.5	31.7	74.0	54.0	32.5	22.3	V	F	1
3658.9	131.61	338.00	48.9	41.1	74.0	54.0	25.1	12.9	H	F	32
3710.1	139.09	336.00	47.8	40.2	74.0	54.0	26.2	13.8	H	F	64

Frequency (MHz)	Height (Cm)	Azimuth (degree)	Peak Reading (dBμV/m)	Average Reading (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Peak Margin (dB)	Avg. Margin (dB)	Antenna Polarity	EUT orientation	Channel
4513.4	141.04	144.00	45.5	37.3	74.0	54.0	28.5	16.7	H	V	1
4513.4	166.14	28.75	45.3	36.4	74.0	54.0	28.7	17.6	V	V	1
4513.4	230.61	37.25	46.2	38.2	74.0	54.0	27.8	15.8	H	H	1
4513.4	128.85	71.50	47.0	39.5	74.0	54.0	27.0	14.5	V	H	1
4513.4	138.33	335.50	48.0	40.4	74.0	54.0	26.0	13.6	H	F	1
4513.4	150.19	137.50	43.3	34.4	74.0	54.0	30.7	19.6	V	F	1
4575.4	213.00	339.50	49.2	41.8	74.0	54.0	24.9	12.2	H	F	32
4637.4	138.38	34.00	53.1	46.5	74.0	54.0	20.9	7.5	H	F	63

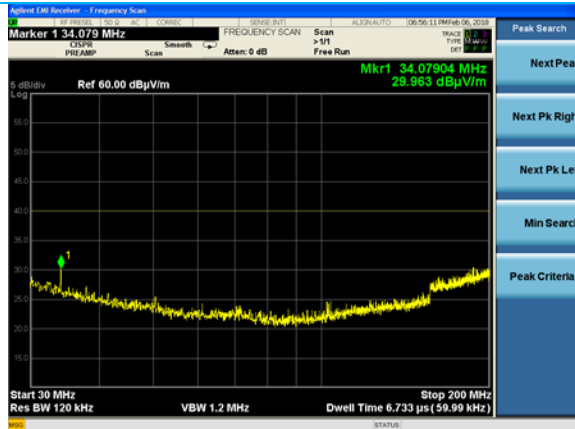
Frequency (MHz)	Height (Cm)	Azimuth (degree)	Peak Reading (dBμV/m)	Average Reading (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Peak Margin (dB)	Avg. Margin (dB)	Antenna Polarity	EUT orientation	Channel
5413.8	150.00	257.50	41.5	29.3	74.0	54.0	32.5	24.7	H	V	1
5413.8	269.23	148.25	45.4	37.0	74.0	54.0	28.6	17.0	V	V	1
5413.8	155.09	124.75	46.8	38.5	74.0	54.0	27.2	15.5	H	H	1
5413.8	260.71	70.25	44.6	35.0	74.0	54.0	29.4	19.0	V	H	1
5413.8	150.09	323.25	47.2	39.3	74.0	54.0	26.8	14.7	H	F	1
5413.8	252.57	56.00	43.0	32.1	74.0	54.0	31.0	21.9	V	F	1
5490.5	144.00	321.75	47.4	39.5	74.0	54.0	26.6	14.5	H	F	32
5564.9	100.61	320.75	50.4	39.6	74.0	54.0	23.6	14.4	H	F	63

Frequency (MHz)	Height (Cm)	Azimuth (degree)	Peak Reading (dBμV/m)	Average Reading (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Peak Margin (dB)	Avg. Margin (dB)	Antenna Polarity	EUT orientation	Channel
7317.8	147.04	130.00	45.0	35.2	74.0	54.0	29.0	18.8	V	V	32
7317.8	202.09	21.75	46.1	37.0	74.0	54.0	27.9	17.0	H	H	32
7320.6	183.66	275.50	43.4	33.2	74.0	54.0	30.6	20.8	V	H	32
7317.8	125.90	67.00	46.6	36.4	74.0	54.0	27.4	17.6	H	F	32
7419.7	166.85	19.75	44.1	33.7	74.0	54.0	29.9	20.3	H	H	63

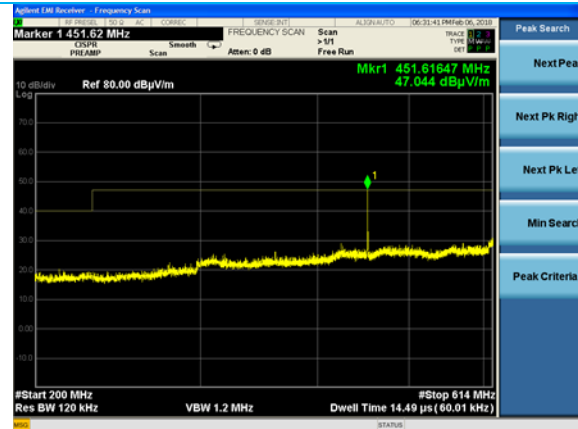
Frequency (MHz)	Height (Cm)	Azimuth (degree)	Peak Reading (dBμV/m)	Average Reading (dBμV/m)	Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Peak Margin (dB)	Avg. Margin (dB)	Antenna Polarity	EUT orientation	Channel
8124.1	117.52	39.25	47.8	40.1	74.0	54.0	26.2	13.9	H	V	1
8124.1	178.33	356.75	50.9	43.4	74.0	54.0	23.1	10.6	V	V	1
8124.1	143.23	15.75	52.6	45.8	74.0	54.0	21.4	8.2	H	H	1
8124.1	169.76	272.25	48.4	40.4	74.0	54.0	25.6	13.6	V	H	1
8124.1	106.47	18.75	51.1	44.0	74.0	54.0	22.9	10.0	H	F	1
8124.1	297.42	0.00	49.4	42.1	74.0	54.0	24.6	11.9	V	F	1
8235.7	138.14	16.00	51.2	44.1	74.0	54.0	22.9	9.9	H	H	32
8344.1	112.66	12.50	51.5	43.9	74.0	54.0	22.5	10.1	H	H	63



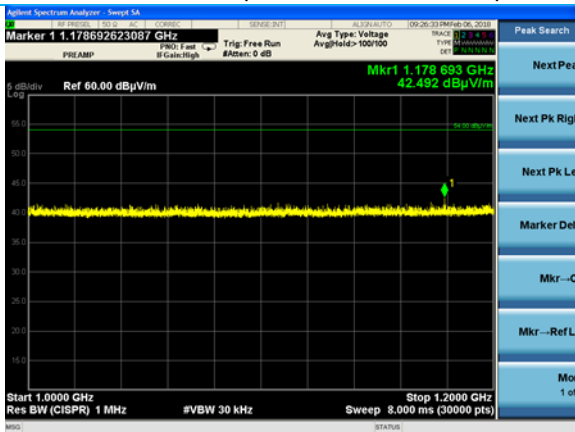
## Plots – Spurious Emissions



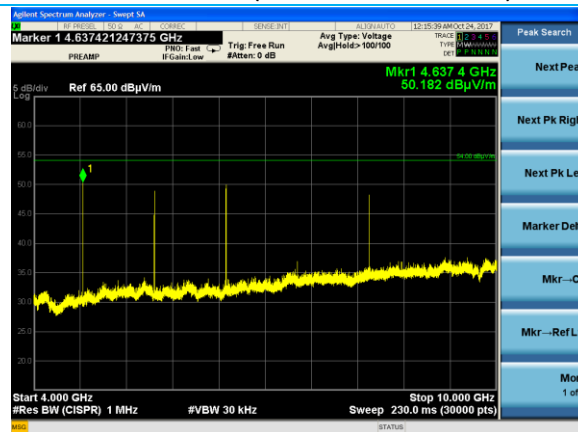
30-200 MHz (Vertical Polarization)



200-608 MHz (Vertical Polarization)

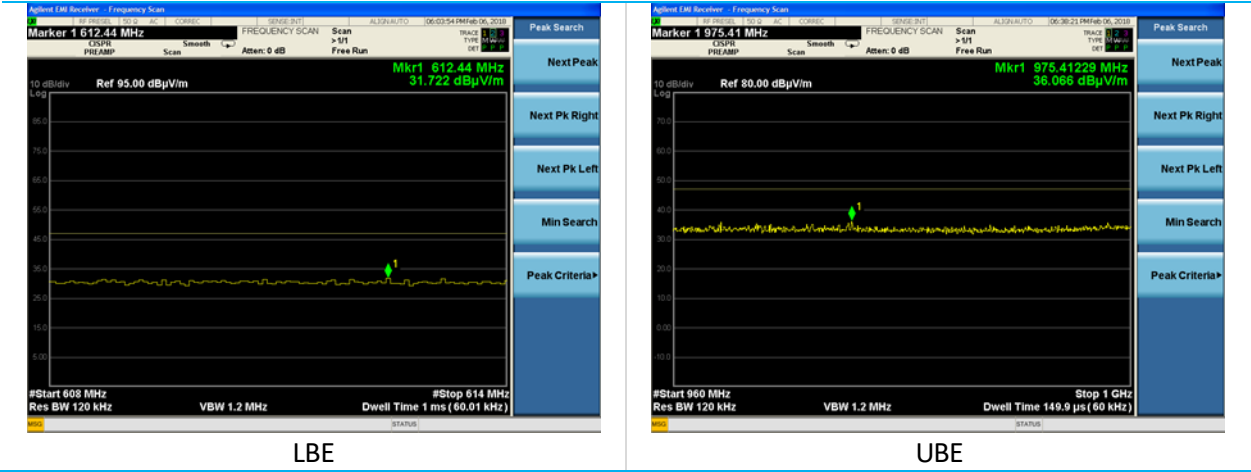


1000-1200 MHz (Horizontal Polarization)  
(Reduced BW)



1200-10000 MHz (Horizontal Polarization)  
(Reduced BW)

Plots – Band Edges



## 6 REVISION HISTORY

Version	Date	Notes	Person
V0	6/14/18	First Draft	Shane Dock
V1	8/14/18	Updated Draft	Shane Dock
V2	8/14/18	Final Draft	Shane Dock
V3	9/18/18	Updated References	Shane Dock
V4	11/27/18	Updated Instrumentation	Shane Dock

**END OF REPORT**