

<b>NUMBER</b>	<b>SIL1907</b>
<b>TO</b>	<b>F-Series Maintenance Providers</b>
<b>SUBJECT</b>	<b>Spectrum Analyzer Setup and Testing Points</b>
<b>REVISION</b>	Rev A
<b>DATE</b>	<b>11/8/19</b>

## **AFFECTED ASTRONICS AEROSAT PRODUCT**

<b>DESCRIPTION</b>	<b>Antenna Control Modem Unit, High Power Transceiver, Fuselage Mounted Unit</b>
<b>PART NUMBER</b>	<b>002-2000-000X, 005-1040-000X, 70-100-0000-0X</b>
<b>PART NUMBER REVISION</b>	Rev ALL

### **1.0 COMPLIANCE - RECOMMENDED**

This Service Information Letter (SIL) is recommended as guidance when using a spectrum analyzer while troubleshooting the Astronics AeroSat F-Series SATCOM system.

### **2.0 BACKGROUND**

Guidance is needed on the setup and sampling points while testing with a spectrum analyzer on the Astronics AeroSat F-Series SATCOM system.

### **3.0 PURPOSE**

The purpose of this SIL is to guide in the use of the Spectrum Analyzer for Astronics AeroSat F-Series troubleshooting.

### **4.0 SCOPE**

This SIL is applicable for all Astronics AeroSat F-Series SATCOM systems.

### **5.0 APPROVAL**

Astronics AeroSat Field Service Engineering approves this SIL.

## 6.0 RECOMMENDED ACTION

### 6.1 Recommended Base Spectrum Analyzer Setup

- a) Set Attenuation to 0 dB
- b) Set at least a 10/1 ratio between the Resolution Bandwidth (RBW) and Video Bandwidth (VBW) (If manual VBW/RBW setting is available this can be set there)
- c) Adjust Reference Level so trace is visible

### 6.2 Recommended L Band Testing Setup

- a) RX L Band
  - a. Set Start Freq to 950 MHz
  - b. Set Stop Freq to 2000 MHz
- b) TX L Band
  - a. Set Start Freq to 950 MHz
  - b. Set Stop Freq to 1700 MHz

### 6.3 Recommended Ku Band Testing Setup

- a) RX Ku Band
  - a. Set Start Freq to 10.7 GHz
  - b. Set Stop Freq to 12.7 GHz
- b) TX Ku Band
  - a. Set Start Freq to 13.75 GHz
  - b. Set Stop Freq to 14.5 GHz

**CAUTION:** *When sampling TX Ku Band signals use of an attenuator is required to prevent damage the input to the Spectrum Analyzer input.*

### 6.4 Recommended Test Points (See Figure 1)

- a) RX L Band – Coax Connected to J8 on ACMU (TNC Connector)
- b) TX L Band – Coax Connected to J4 on HPT (TNC Connector)
- c) RX Ku Band – Coax Connected to J8 on HPT (N Connector) or P3 Coax at FMU (N Connector)
- d) TX Ku Band – J7 on HPT (005-1040-0000 only) or at TX Bulkhead Adaptor under Radome (N Connector)

*Note: If testing RX path, allow system to point to spacecraft then disable Point prior to disconnecting RF/IF connector. This prevents modem from pointing to other spacecraft automatically as commanded by modem.*

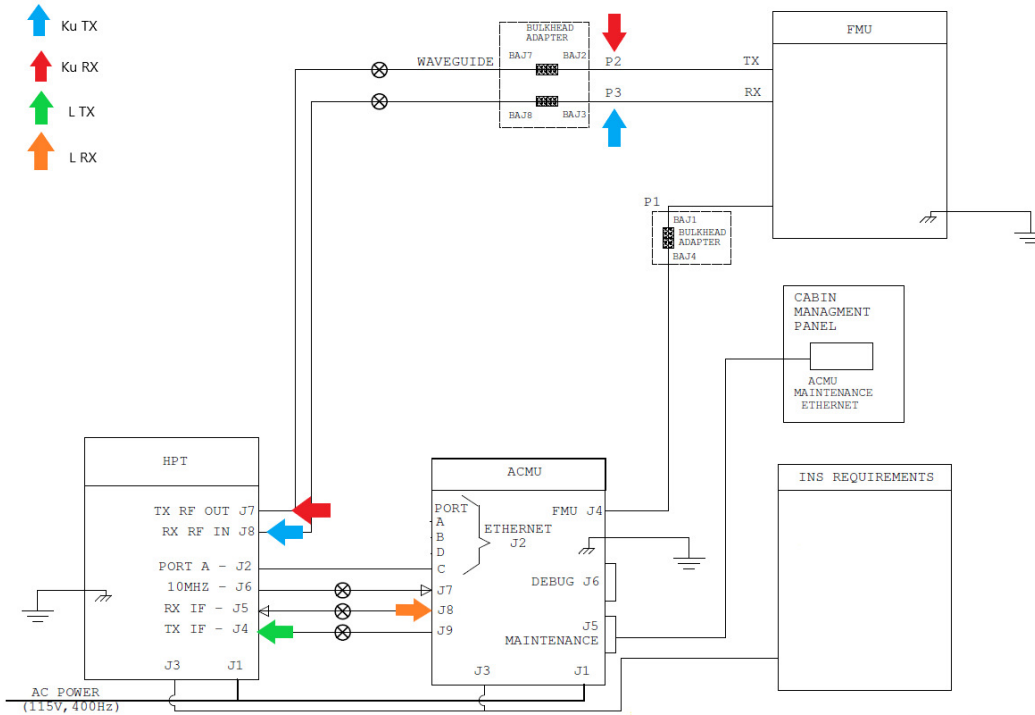


Figure 1

Test Locations

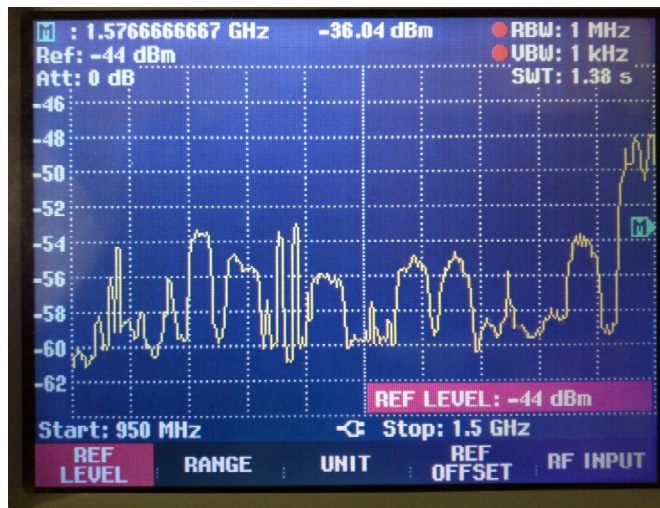


Figure 2

Example of Ku Plot on Satellite

Note: L band plot should match Ku band plot at L band sample point



**CONTACT INFORMATION**

For questions regarding this Service Information Letter, please contact Astronics AeroSat Product Support.

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