

L1L2-RA-2

GPS Active DAGR Antenna

DESCRIPTION

The L1L2-RA-2 is a dual band active L1/L2 GPS antenna which is specifically designed for operation with the US DoD DAGR military grade receiver. The L1L2-RA-2 is available with a hard mount, TNC connector, and in multiple colors (per FED-STD-595B).

FEATURES

- Designed Specifically for Operation with the Defense Advanced GPS Receiver (DAGR)
- L1/L2 Dual Band
- Specification Compliant Performance Over the Entire Environmental and Voltage Range
- Bottom Mount
- Multiple Color Options

OPTIONS

The L1L2-RA-2 comes with many available options to meet specific needs. Please contact GPS Source via phone, email, or visit the website for further information on product options and specifications.



1 L1L2-RA-2 Specifications

Table 1-1. Electrical Specifications

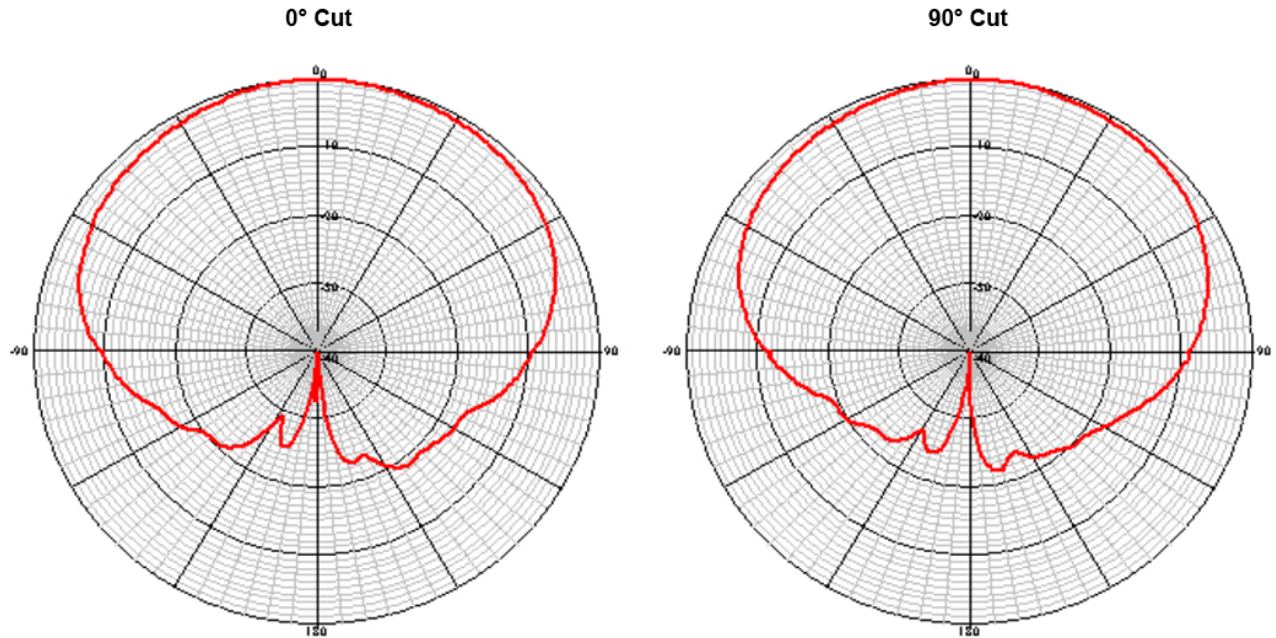
Operating Temperature -54°C to 71°C

| Parameter | | Conditions | Min | Typ | Max | Units |
|----------------------------|-----------|----------------------------------|------|---------|------|-------|
| Frequency Range (Passband) | L1 | Ant: Output = 50Ω | 1560 | 1575.42 | 1590 | MHz |
| | L2 | | 1212 | 1227.60 | 1242 | |
| Out Impedance | | | | 50 | | Ω |
| Element Gain | L1 | Output = 50Ω, 4ft G.P. | 3 | 3.4 | 4 | dBiC |
| | L2 | | 3 | 6.7 | 7 | |
| LNA Gain | L1 | Output = 50Ω | 24 | 26 | 28 | dB |
| | L2 | | 24 | 26 | 28 | |
| Output SWR | | Output = 50Ω | | | 2:1 | — |
| Required DC Input Voltage | | | 3.0 | | 16 | VDC |
| LNA Current | | Output = 50Ω, 3.3V | | 23 | 25 | mA |
| LNA OP1dB Compression | | | | 8 | | dBm |
| LNA OIP3 | | | | 20 | | dBm |
| Noise Figure | | Output = 50Ω, 3.3V | | | 3 | dB |
| Rejection | +/-50MHz | > 12dB | | | | |
| | +/-100MHz | > 42dB | | | | |
| Polarization | | Right Hand Circular | | | | |
| Axial Ratio at Peak | | 2dB Max | | | | |
| Beam Width | | 115° +/-5° at -3dB from Peak | | | | |
| Altitude | | 50,000ft | | | | |
| Lightning Protection | | DC Ground on the Antenna Element | | | | |

2 Performance Data

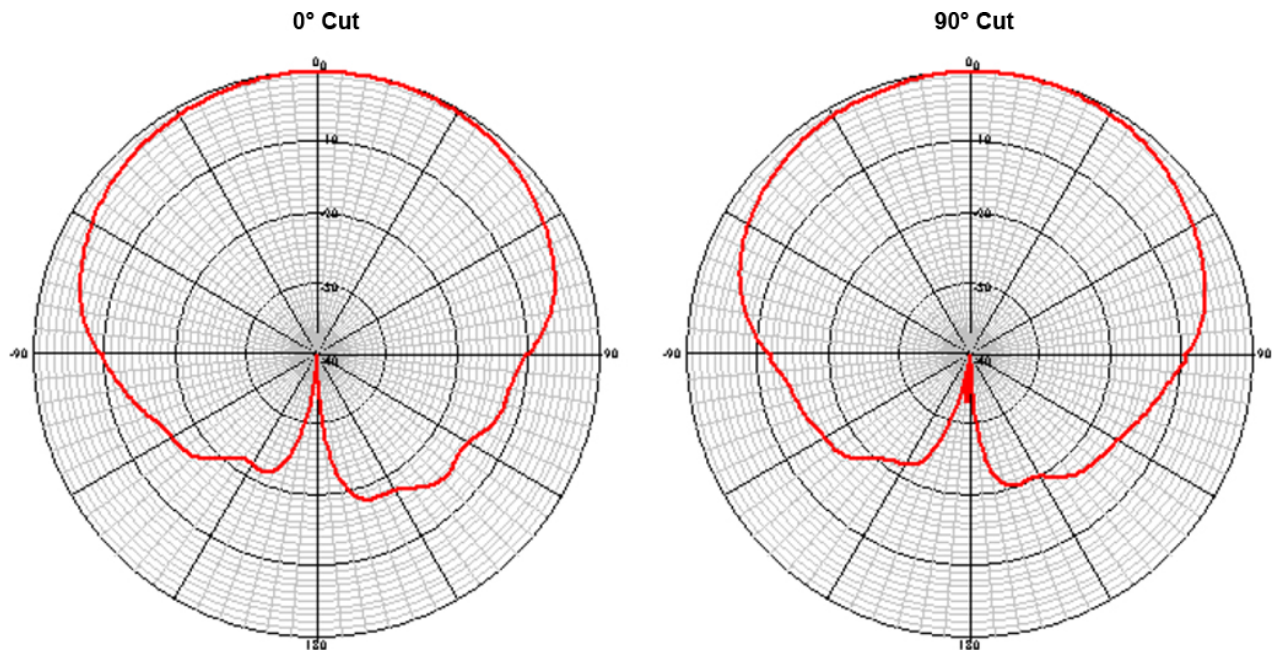
2.1 L1 Center Frequency

Figure 2-1. Far Field Plots No Ground Plane



2.2 L2 Center Frequency

Figure 2-2. Far Field Plots No Ground Plane



3 Environmental Requirements

The L1L2-RA-2 has been designed to meet the MIL-STD-810 following requirements.

Table 3-1. MIL-STD-810 Requirements

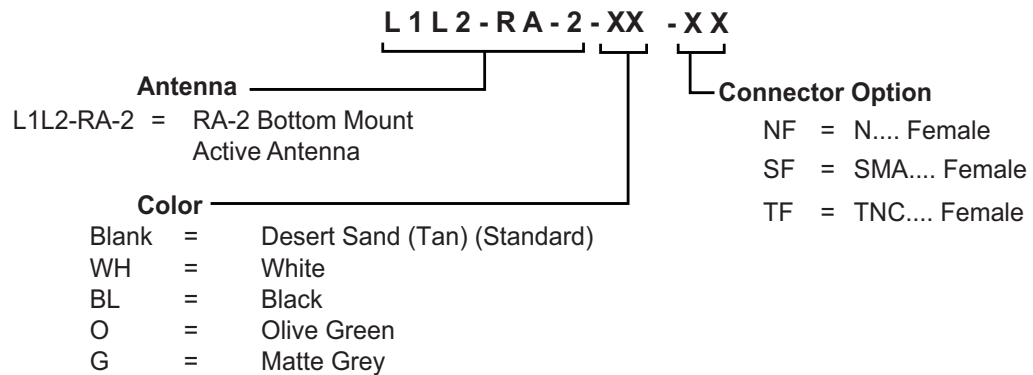
| Environment | MIL-STD-810 Requirements | |
|--------------------------|--------------------------|----------------------|
| Mechanical Vibration | 810G | Mtd 514.6 |
| Functional Shock | 810G | Mtd 516.6 |
| Crash Hazard | 810G | Mtd 516.6 |
| Temperature and Altitude | 810D | Mtd 520.0, Proc. III |
| Temperature Shock | 810D | Mtd 503.2, Proc. I |
| Humidity | 810D | Mtd 507.2, Proc. III |
| Salt Fog | 810D | Mtd 509.2, Proc. I |
| Fungus | 810D | Mtd 508.3 |
| Sand and Dust: | 810D | Mtd 510.2, Proc. I |
| Explosive Atmosphere | 810D | Mtd 511.2, Proc. I |

4 Product Options

Table 4-1. L1L2-RA-2 Available Options

| Type | Options | |
|-------------------------|---------------------------|--------|
| Connector | Type N | Female |
| | SMA | Female |
| | TNC | Female |
| Mount | Bottom Mount | |
| Color (FED-STD-595B) | White | Gloss |
| | Black | Matte |
| | Olive Green | Matte |
| | Desert Sand (Standard) | Matte |
| | Grey | Matte |

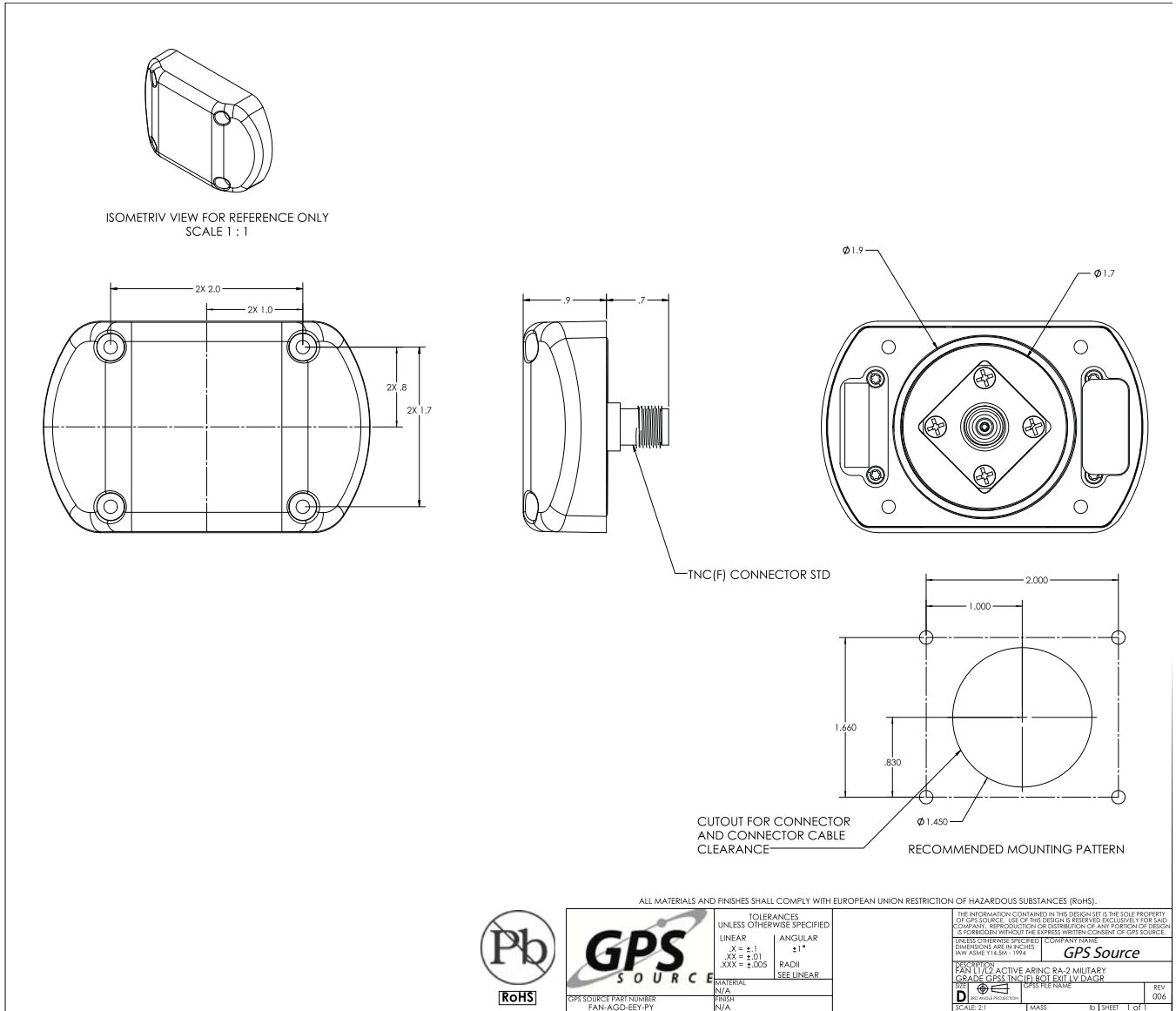
5 Product Code Decoder



Note: To have product/part codes customized to meet exact needs, contact GPS Source at GPSS-Sales@gd-ms.com or visit the website at www.gpssource.com.

6 Mechanical Drawing

L1L2-RA-2 GPS Active DAGR Antenna



L1L2-RA-2 Data Sheet

059-FAN-AGD-EEY-PY-009

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