

L1L2-RA-1

GPS Active DAGR Antenna

DESCRIPTION

The L1L2-RA-1 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-1 is available with a side or magnet mount and 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
- Side or Magnet Mount
- Multiple Color Options

OPTIONS

The L1L2-RA-1 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-1 Specifications

Table 1-1. Electrical Specifications

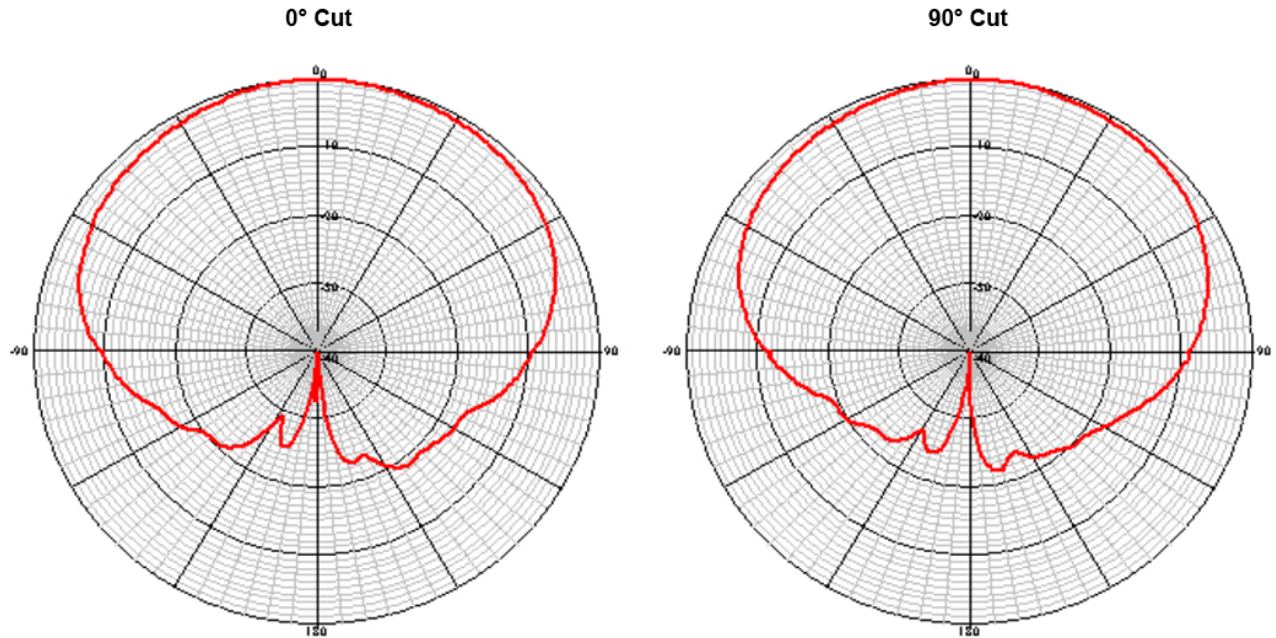
Operating Temperature -54°C to 71°C

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

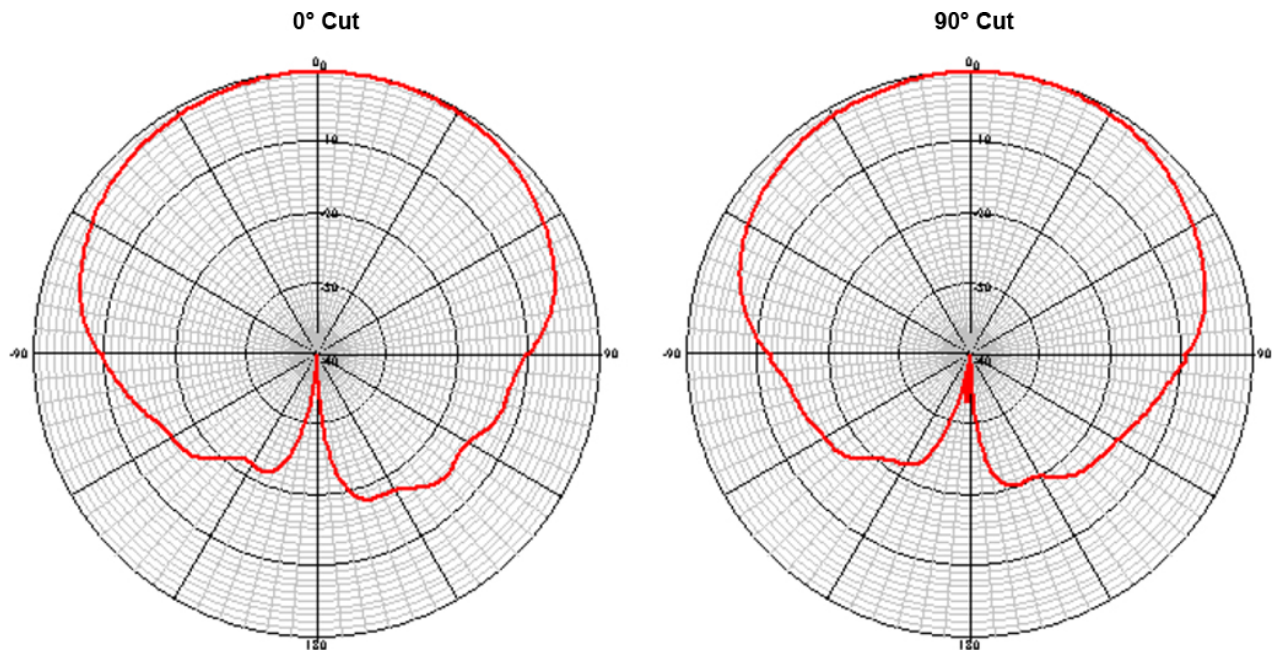
2.1 L1 Center Frequency

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-1 has been designed to meet the MIL-STD-810 following requirements.

Table 3-1. MIL-STD-810 Requirements

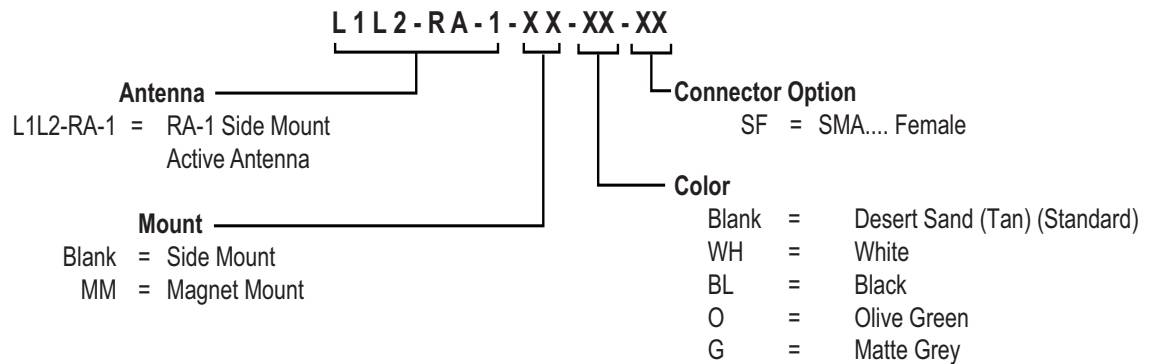
Environment	MIL-STD-810 Requirements	
Mechanical Vibration	810G	Mtd 514.6
Functional Shock	810G	Mtd 516.6
Crash Hazard	810G	Mtd 516.6
Temperature and Altitude	810D	Mtd 520.0, Proc. III
Temperature Shock	810D	Mtd 503.2, Proc. I
Humidity	810D	Mtd 507.2, Proc. III
Salt Fog	810D	Mtd 509.2, Proc. I
Fungus	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-1 Available Options

Type	Options	
Connector	SMA	Female
Mount	Side (Standard)	
	Magnet	
Color (FED-STD-595B)	White	Gloss
	Black	Matte
	Olive Green	Matte
	Desert Sand (Standard)	Matte
	Gray	Matte

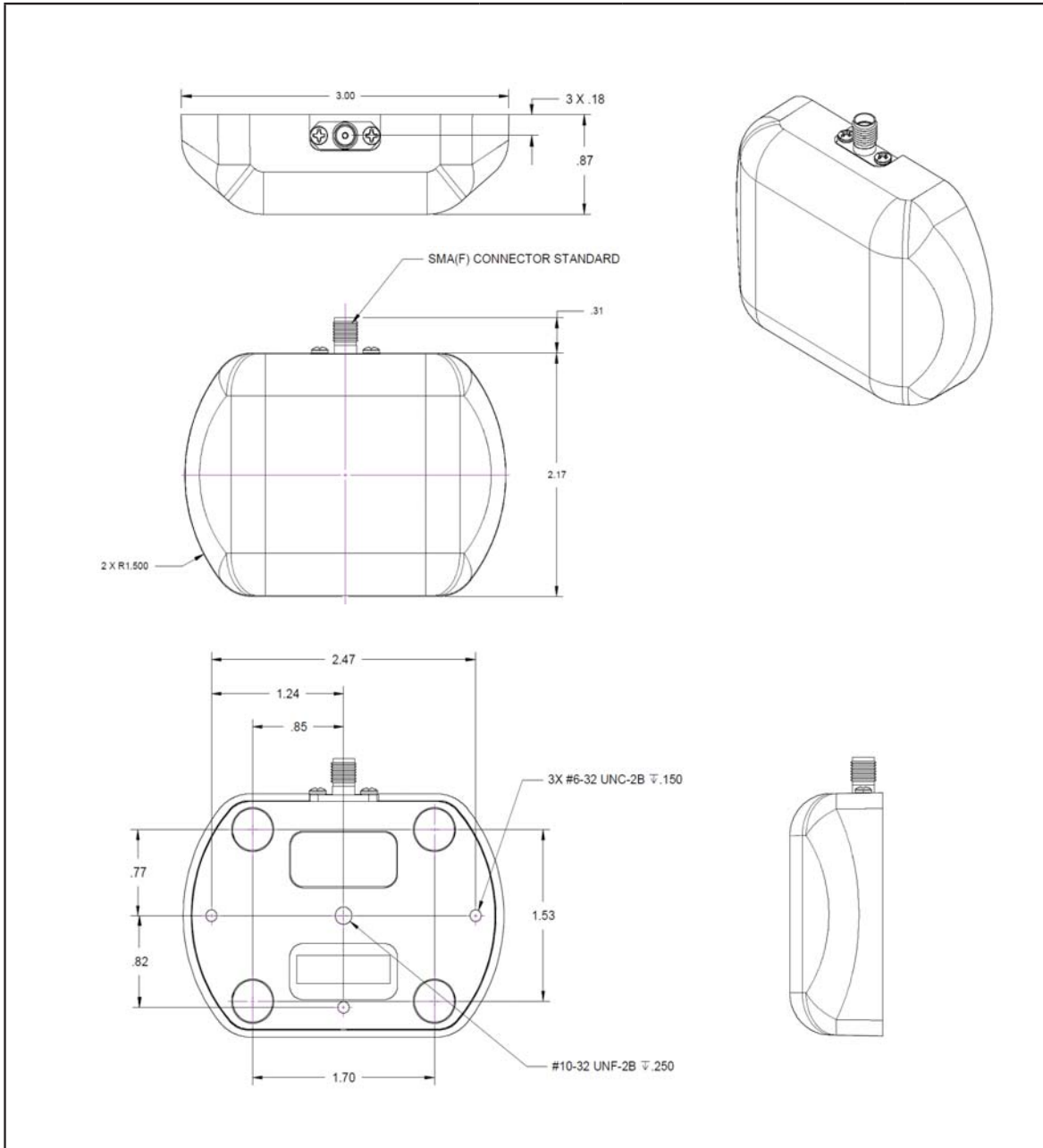
5 Product Code Decoder




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

6.1 L1L2-RA-1 GPS Active DAGR Antenna



GPS Source Part No. L1L2-RA-1	Finish N/A	Size C	Mass TBD	Tolerances	
Description FAN L1/L2 ACTARINC RA-1 MIL GRD GPSS SMA(F) SIDEMNTLVDAGR	Material SEE BOM	 3RD ANGLE PROJECTION	Linear .X = ± .1 .XX = ± .01 .XXX = ± .005	Angular ± 1°	
				RADIO SEE LINEAR	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES IAW ASME Y14.5M - 1994					

L1L2-RA-1 Data Sheet

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2121 Executive Cir., Ste 100
Colorado Springs, CO 80906
Phone: (+1)(719) 421.7300
Toll Free: (+1)(866) 289.4777
GPSS-Sales@gd-ms.com
www.gpssource.com

AS9100 and ISO 9001 Compliant Company



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