

L1L2-S2GA

L1/L2 Active Antenna

DESCRIPTION

The L1L2-S2GA is a dual band active L1/L2 GPS antenna designed for long term reliability. It is small and lightweight, with exceptional protection against the elements.

Designed to support the Warfighter, the portable, yet precise GPS L1/L2 antenna is built for tough applications. The radome is made of a high-grade polymer, with a design to protect from UV, rain, lightning, chemical and jet fuels.



FEATURES

- Military and Civilian Aviation Applications
- L1/L2 Dual Band
- Waterproof
- Excellent LNA gain
- Small Form Factor
- High Out-of-Band Rejection
- Custom Gain Available
- Side or Magnet Mount
- Multiple Color Options

OPTIONS

The L1L2-S2GA 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-S2GA Specifications

Table 1-1. Electrical Specifications

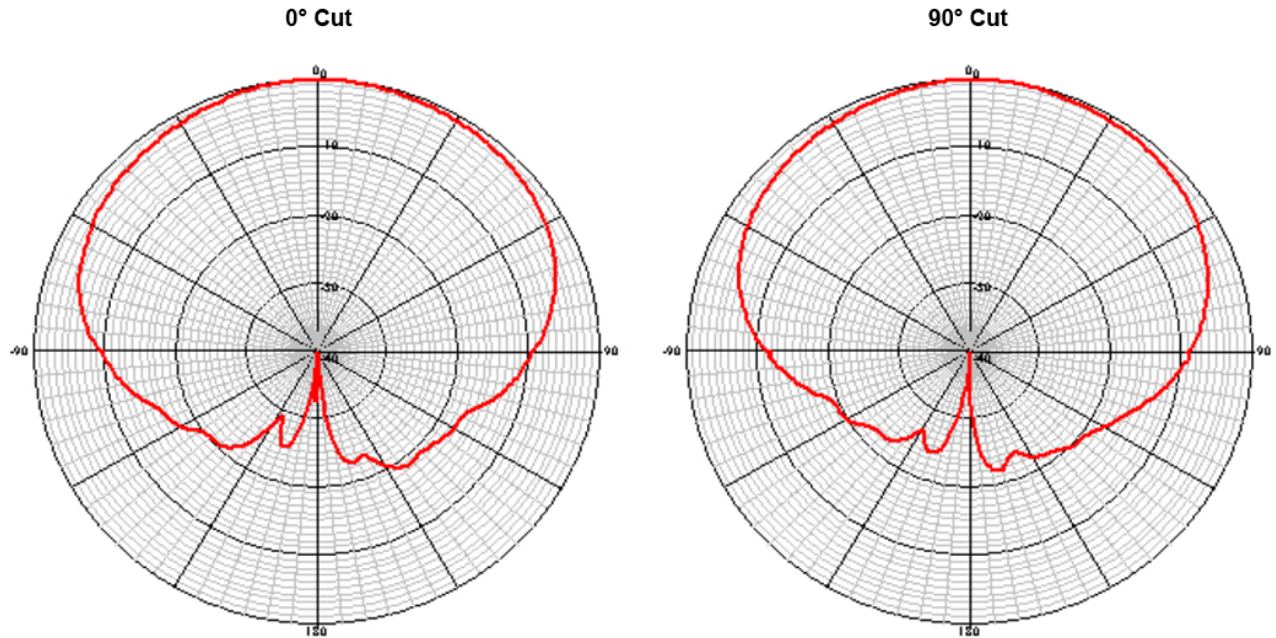
Operating Temperature -54°C to 71°C

Parameter	Conditions	Min	Typ	Max	Units
Frequency Range (Passband)	L1	1560	1575.42	1590	MHz
	L2	1212	1227.60	1242	
Out Impedance			50		Ω
Element Gain	L1	3	3.40	4	dBiC
	L2	3	6.70	7	
LNA Gain	L1	31.50	33	34.50	dB
	L2	31.50	33	34.50	
Output SWR	Output = 50Ω			2:1	—
Required DC Input Voltage		5		16	VDC
LNA Current	Output = 50Ω, 5V		44	50	mA
LNA OP1dB Compression			13		dBm
LNA OIP3			25		dBm
Noise Figure	Output = 50Ω, 5V			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

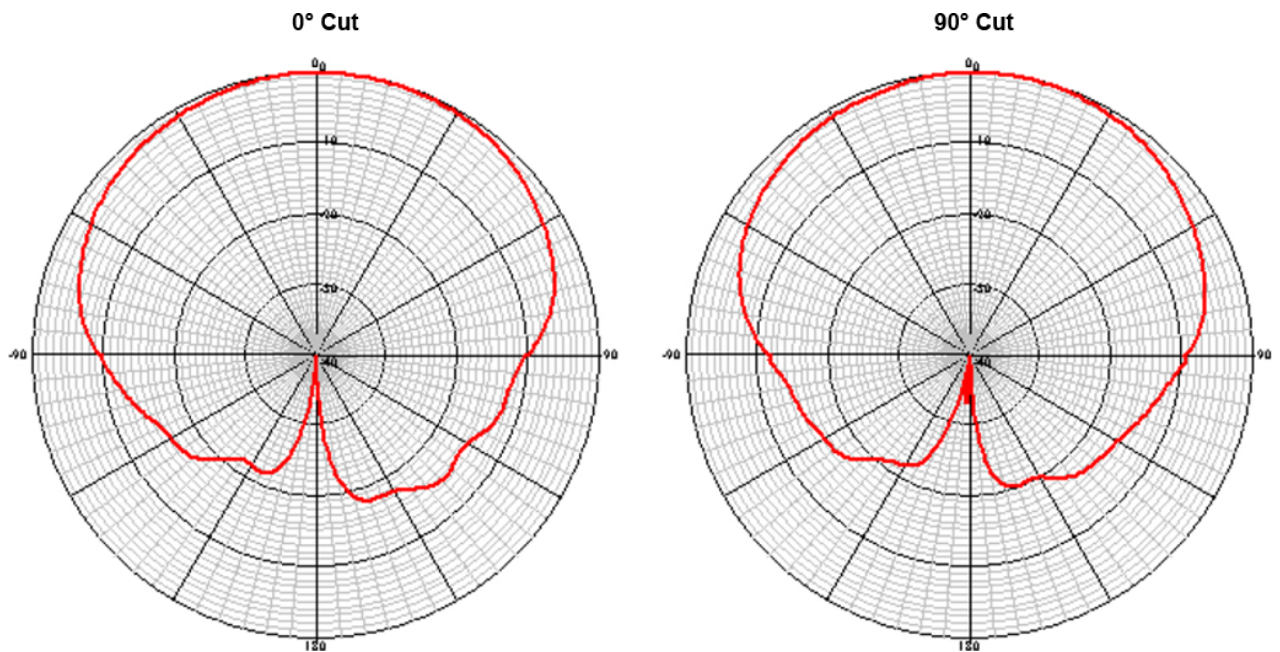
2.1 L1 Center Frequency

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-S2GA has been designed to meet the MIL-STD-810 following requirements.

Table 3-1. MIL-STD-810 Requirements

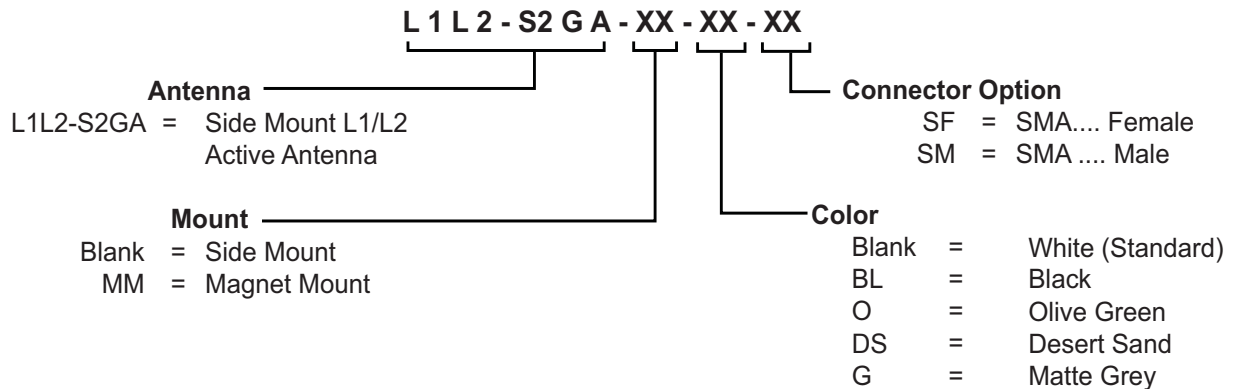
Environment	MIL-STD-810 Requirements	
Mechanical Vibration	810G	Mtd 514.6
Functional Shock	810G	Mtd 516.6
Crash Hazard	810G	Mtd 516.6
Temperature and Altitude	810D	Mtd 520.0, Proc. III
Temperature Shock	810D	Mtd 503.2, Proc. I
Humidity	810D	Mtd 507.2, Proc. III
Salt Fog	810D	Mtd 509.2, Proc. I
Fungus	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-S2GA Available Options

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

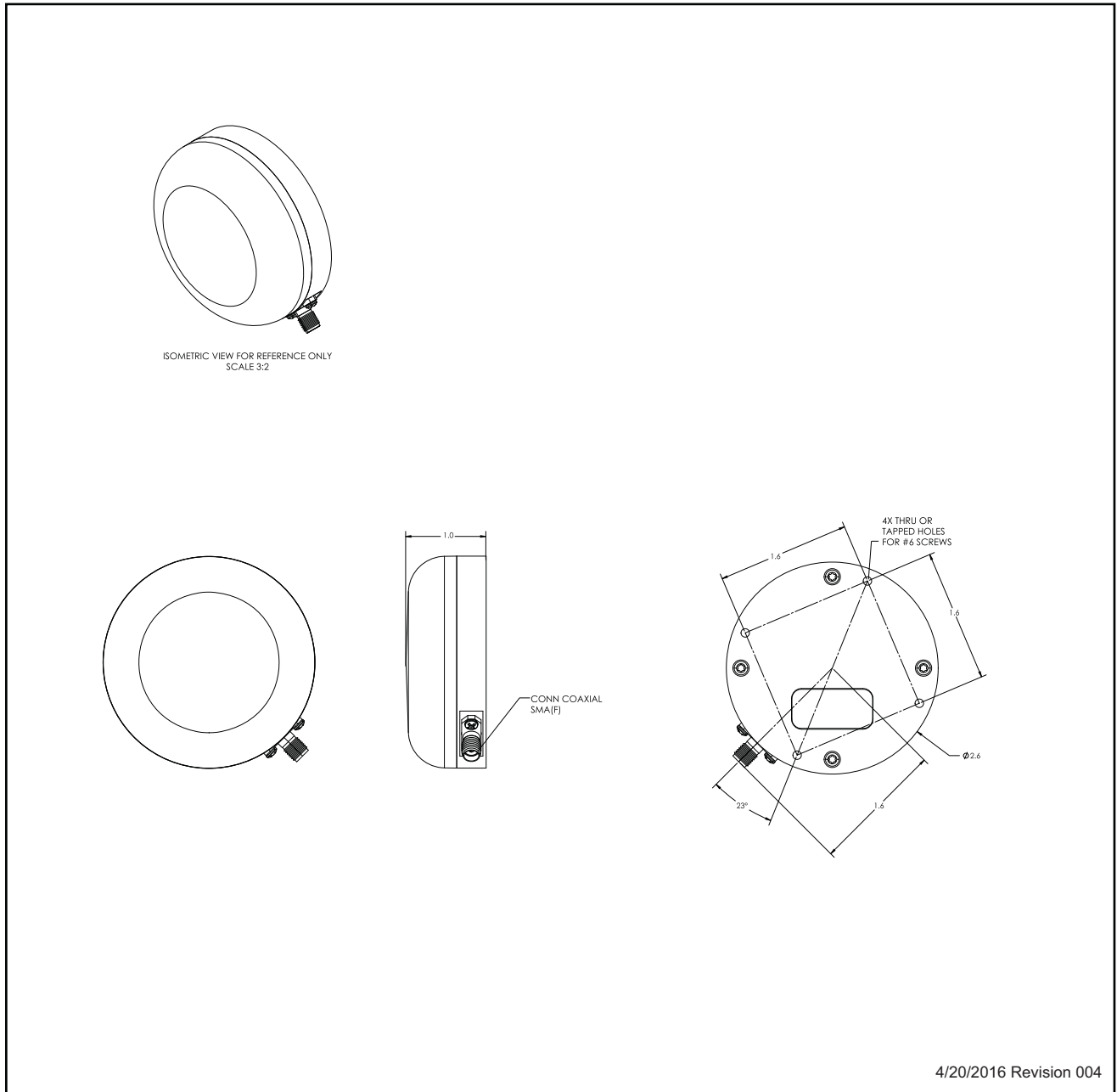
5 Product Code Decoder



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-S2GA L1/L2 Active Antenna



4/20/2016 Revision 004

GPS Source Part No. L1L2-S2GA	Finish , N/A	Size C	Mass 0.31 lbs	Tolerances	
Description FAN L1/L2 ACTIVE 2.6" ANT MIL GRADE GPSS SMA(F) SIDE MOUNT	Material SEE BOM	3 rd Angle Projection 		Linear	Angular
				.X = ±0.100 .XX = ±0.010 .XXX = ±0.005 .XXXX = ±0.0005	±1° RADII See Linear

L1L2-S2GA 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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