L1L2-2GP GPS Passive Antenna

Technical Product Data

Features

- **L1/L2 Dual Band**
- **Excellent Gain, 3dBiC typ.**
- **Design for Military & Civilian Aviation**
- **Integrated Resistor for Antenna/Coaxial Cable BIT**
- **Multiple Connector Options**

Description

The L1L2-2GP is a dual band passive L1/L2 GPS antenna that is ideally suited for any military or civilian aviation application. The L1L2-2GP is available with various common RF connector options in order to meet your specific needs.

Please call, fax, email (sales@gpssource.com), or visit our website (www.gpssource.com) for further information on product options, specifications, or to receive an easy to use order sheet.

Electrical Specifications, Operating Temperature -54^0 to 71^{0}C

Parameter		Conditions	Min	Typ	Max	Units
Frequency Range: (Passband)	L1	Ant – Output = 50Ω	1565	1575.5	1586	MHz
	L2	Ant – Output = 50Ω	1217.5	1227.6	1237.8	MHz
Out Imped.				50		Ω
Gain	L1	Output = 50Ω	3.0		5	dBiC
	L2	Output = 50Ω	3.0		5	
Output SWR		Output = 50Ω			2.0:1	-
Polarization		Right Hand Circular				
Axial Ratio @ Peak		3dB max				
Beam width		110^o +/-5^o at -3dB from peak (Free Space)				
Altitude		50,000ft				

Environmental:

MIL-STD-810D/MIL-E-5400T

- Temp & Altitude: 810D, Mtd 520.0, Proc. III
- Temperature Shock: 810D, Method 503.2, Proc. I
- Humidity: 810D, Mtd 507.2, Procedure III
- Mechanical Vibration/Shock: 810D, Mtd 514.3/516.3
- Salt Fog: 810D, Mtd 509.2, Proc. I
- Fungus: 810D, Mtd 508.3
- Sand & Dust: 810D, Mtd 510.2, Proc. I
- Explosive Atmosphere: 810D, Mtd 511.2, Proc. I

Automated Built In Test

The L1L2-2GP antenna includes an RF Bias-T with a 20KΩ resistor to ground, enabling an automated Built In Test (BIT) functionality in the GPS receiver application. By applying a DC voltage to the center conductor of the coaxial cable via a pull-up resistor, the application can simply monitor the DC voltage on the center conductor to determine the open/short status of the coaxial cable and antenna connection. See figure 1 below.

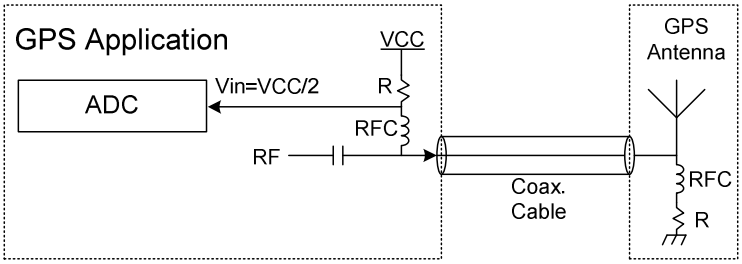
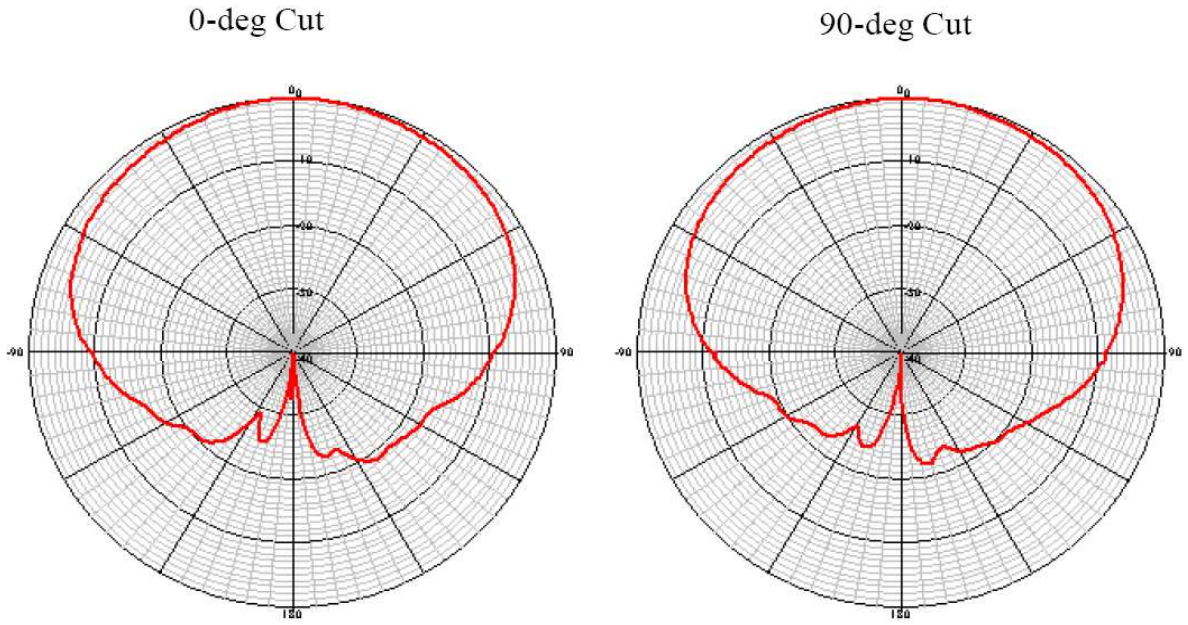


Figure 1. Automated Built In Test Application Circuit

Performance Data:

Far-Field Plots - No Ground Plane, L1 Center Frequency



Far-Field Plots - No Ground Plane, L2 Center Frequency

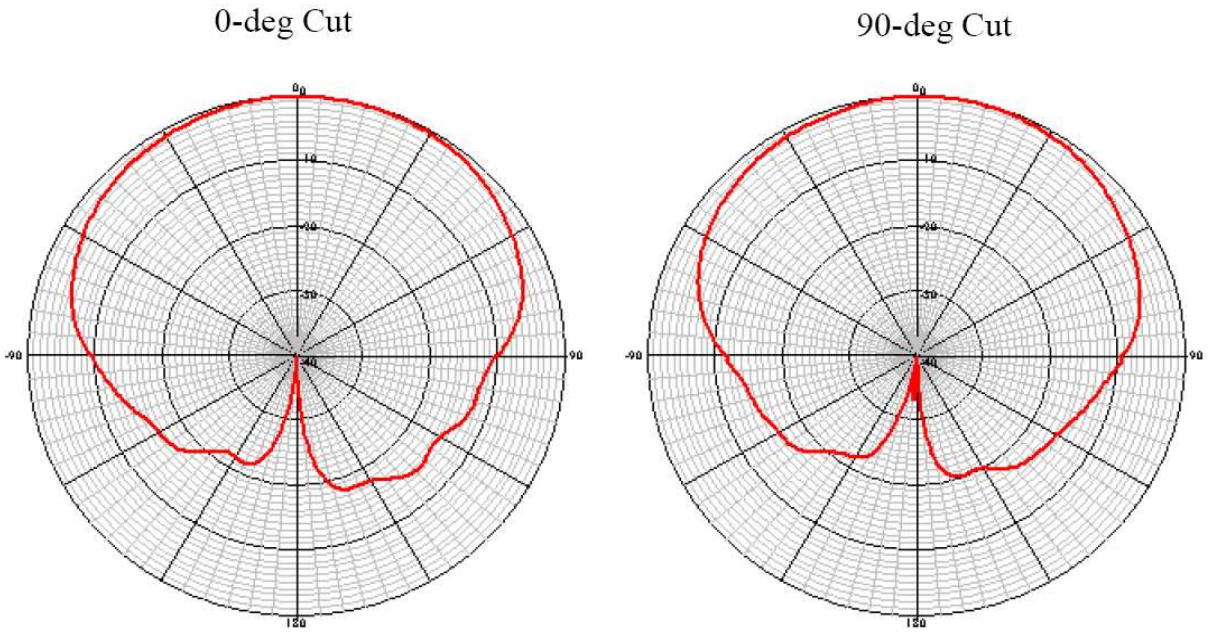


Figure 2. Antenna Far Field Pattern Data

Mechanical:

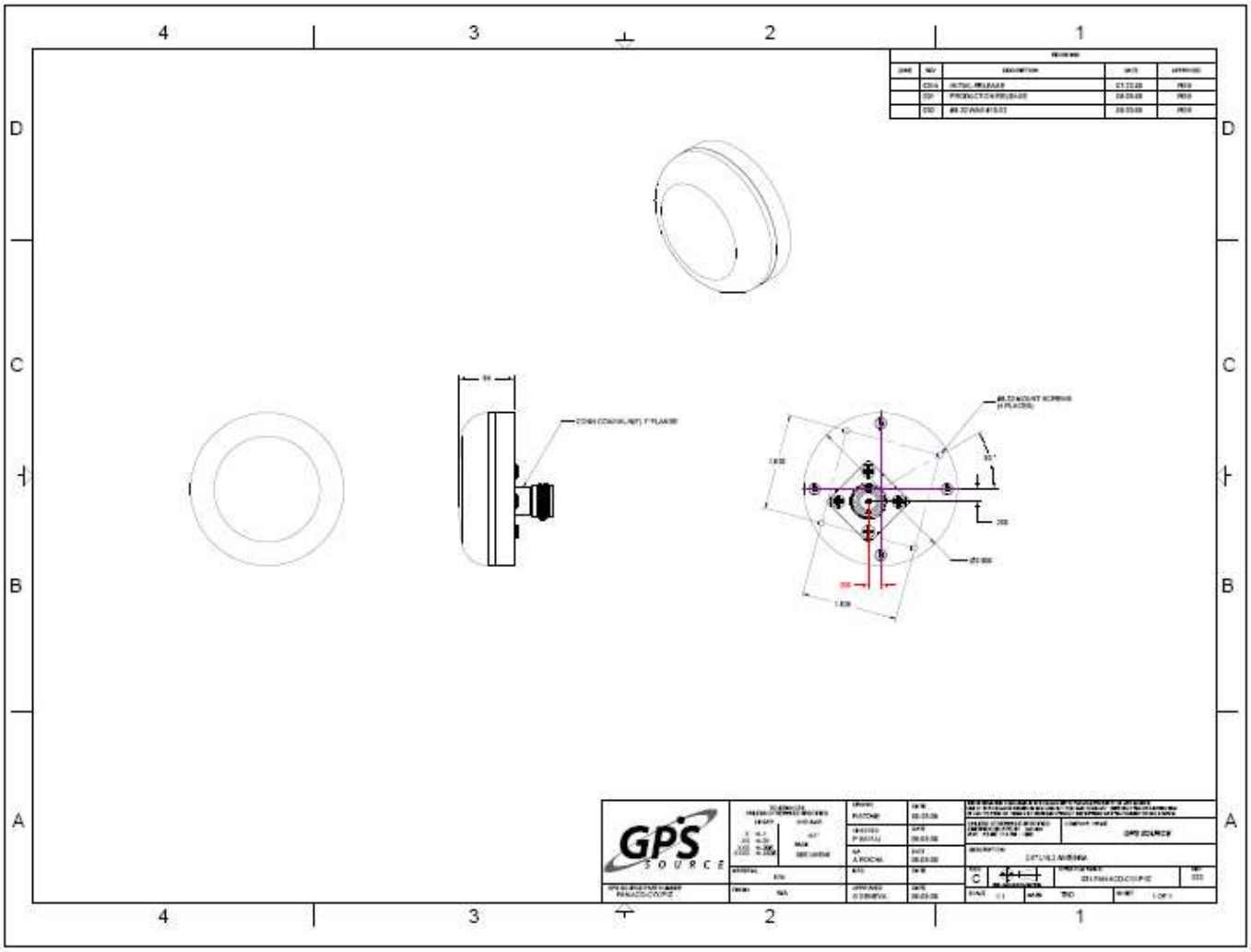


Figure 3. Antenna Mechanical Data