

**L1A**

GPS Active Antenna

DESCRIPTION

The L1A is a high performance L1 GPS active antenna suited for applications requiring low noise and excellent gain. The product functions to specifications over the entire operational voltage and temperature range at a minimal current draw. The product includes high frequency selectivity to avoid interference with other nearby transmitters.

FEATURES

- Outstanding Noise Figure < 1dB
- Excellent Typical Gain of 33dB
- Wide Voltage Range of 3VDC to 16VDC
- Tiny Current Draw < 20mA
- Bottom or Pole Mount
- Multiple Connector Options

OPTIONS

The L1A 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.



L1A Data Sheet

059-FAN-AAQ-XCX-RXZ-006
01/15/2020
www.gpssource.com

AS9100 and ISO 9001 Compliant Company

1 L1A Specifications

Table 1-1. Electrical Specifications

Operating Temperature -40°C to 85°C

Parameter		Conditions	Min	Typ	Max	Units
Frequency Range (Passband)		Ant: Output, VDC = 3V to 16V, Output = 50Ω	1560	1575	1590	MHz
Out Impedance				50		Ω
Gain	Element	Ant Element		3	3.5	dBiC
	LNA	LNA, VDC = 3V to 16V, Output = 50Ω	32	33	35	dB
Output SWR		VDC = 3V to 16V, Output = 50Ω			2.5:1	—
Noise Figure		VDC = 3V to 16V, Output = 50Ω		0.8	1	dB
Required DC Input Voltage		DC Input on RF Output Center Conductor	3		16	VDC
LNA Current		Output = 50Ω, 5V		17	20	mA
Rejection	+/-50MHz > 24dB	Ant: Output, VDC = 3V to 16V, Output = 50Ω	-22	-24	-25	dB
	+/-100MHz > 35dB		-34	-35	-37	
Polarization		Right Hand Circular				

2 Performance Data

2.1 Far Field Patterns — 1575MHz

Figure 2-1. Far Field Plots Rotating Linear

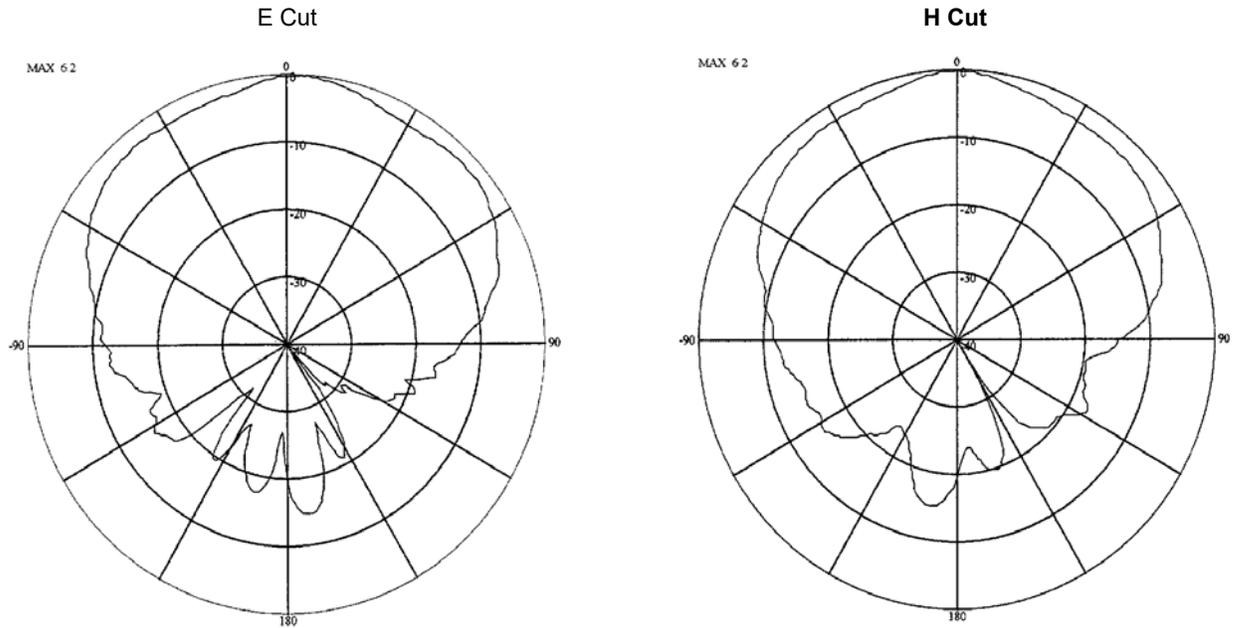
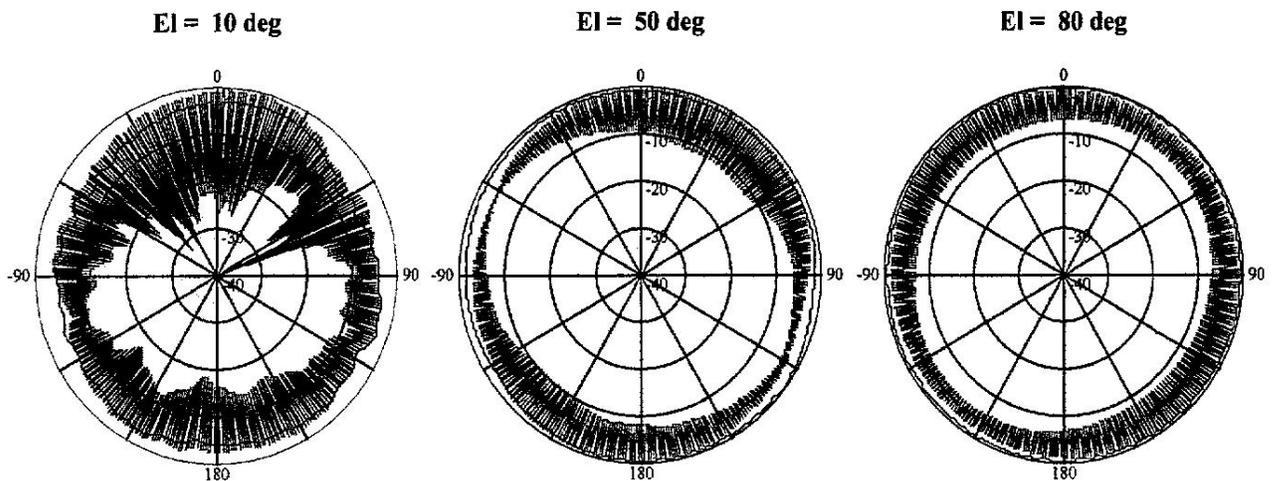
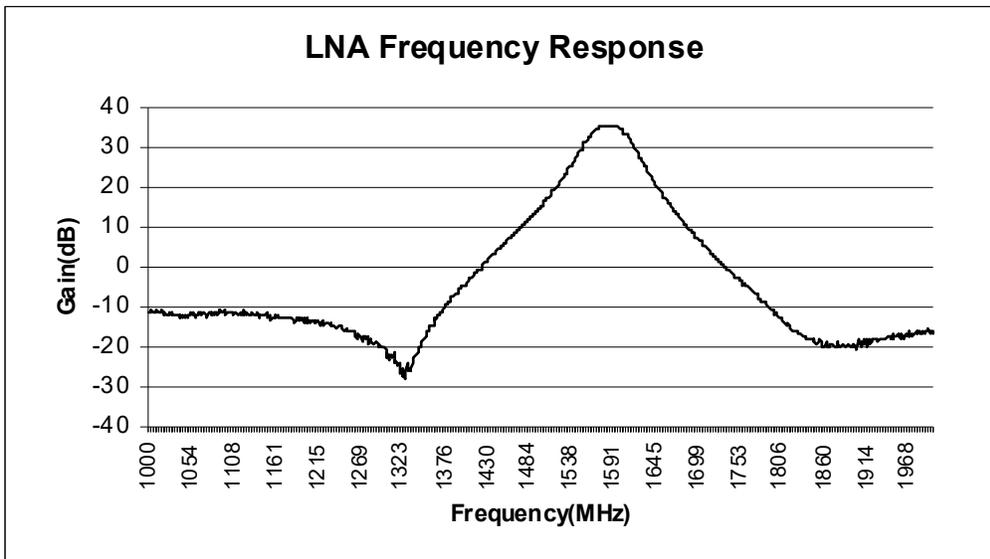


Figure 2-2. Far Field Plots Azimuth Cuts



2.2 LNA Frequency Response

Figure 2-3. LNA Frequency Response



Note: Frequency selectivity of antenna element adds additional out of band rejection.

3 Product Options

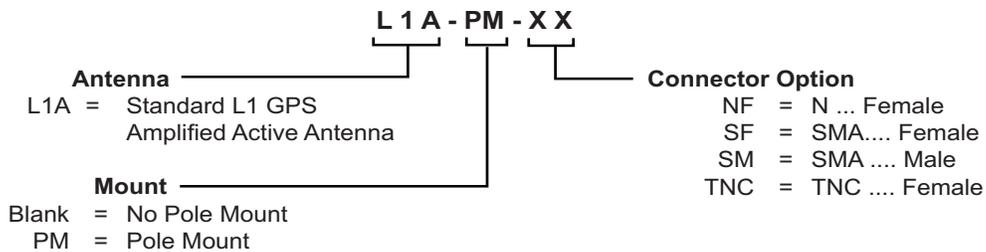
Table 3-1. L1A Available Options

Available Options		
Power Source Voltage	Voltage Input	
	DC 3VDC to 16VDC	
RF Connector	Type	
	N	Female
	SMA	Female Male
	TNC	Female
		Limitations
		N/A
		N/A
		N/A
RF Mounting	L Bracket Pole Mount Hardware	
		See Figure 3-1 .

Figure 3-1. L Bracket Pole Mount Hardware



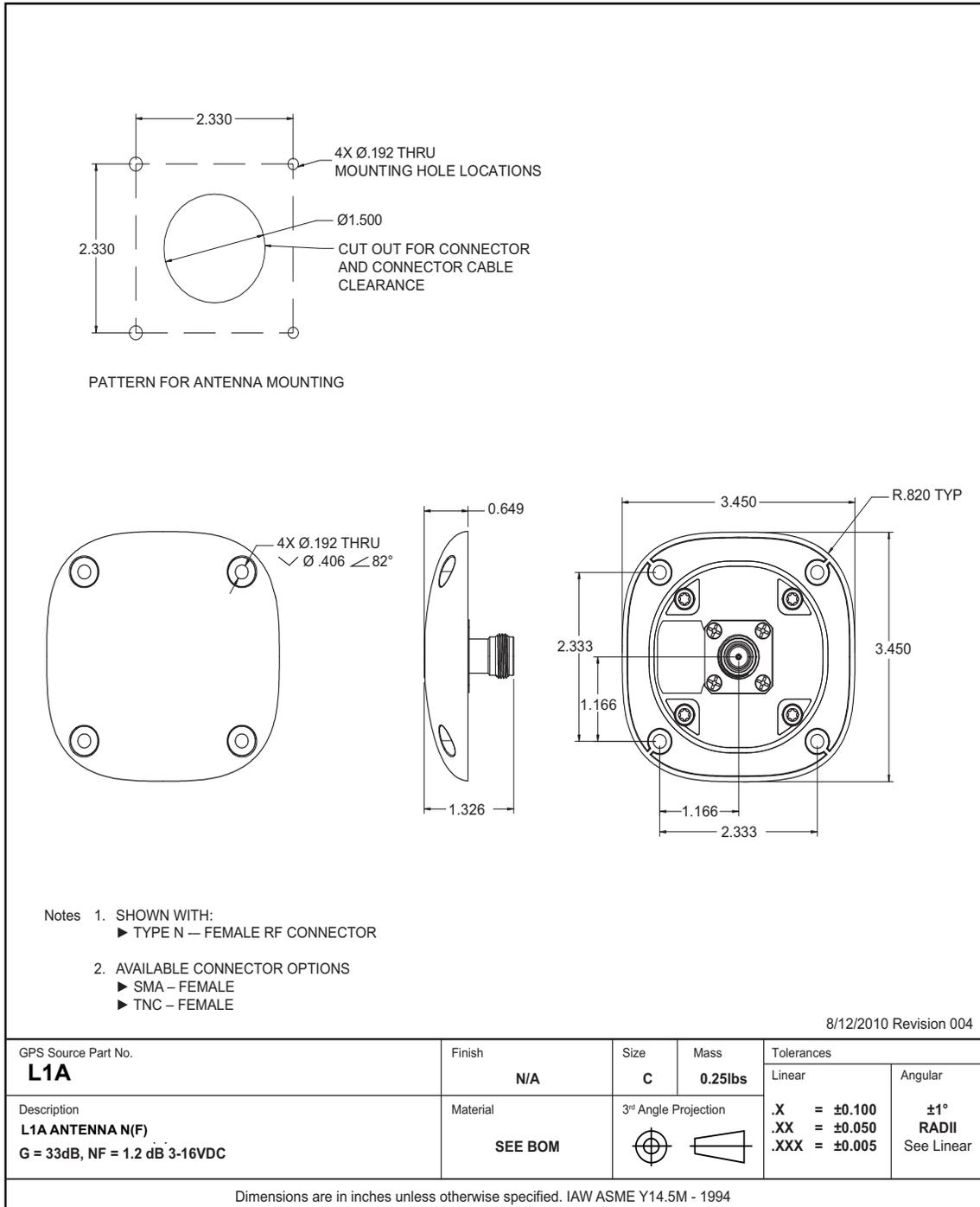
4 Product Code Decoder



- Notes:
1. Contact GPS Source for additional connector options.
 2. This product is available only in black.
 3. 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.

5 Mechanical Drawing

5.1 L1A GPS Active Antenna



L1A Data Sheet

059-FAN-AAQ-XCX-RXZ-006

Page 7 of 7, 01/15/2020



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



© 2014 GPS Source, Inc. All rights reserved.

GPS Source, Inc., GPS Live Inside, GPS Source logo, and other GPS Source, Inc. products, brands, and trademarks mentioned in this document are property of GPS Source, Inc. and/or its affiliates in the United States and/or other countries. Other products, brands, and trademarks are property of their respective owners/companies. Any rights not expressly granted herein are reserved.

DISCLAIMER: The materials in this document could include inaccuracies or typographical errors and are subject to change at any time. The materials are provided "as is" without warranty of any kind. To the maximum extent permitted by applicable law, GPS Source, Inc. and its suppliers hereby disclaim all warranties, either expressed or implied, and conditions with respect to the materials, their quality, performance, suitability, merchantability, fitness for a particular purpose, title, and non-infringement. LIMITATION OF LIABILITY: IN NO EVENT WILL GPS SOURCE, INC. AND ITS SUPPLIERS BE LIABLE FOR INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, WHETHER IN AN ACTION OF CONTRACT OR TORT, ARISING OUT OF THE USE OR INABILITY TO USE THE MATERIALS AVAILABLE IN THIS DOCUMENT, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN PARTICULAR AND WITHOUT LIMITATION, GPS SOURCE, INC. SHALL HAVE NO LIABILITY FOR ANY LOSS OF USE, DATA, INCLUDING THE COSTS OF RECOVERING SUCH DATA, OR PROFITS.