

## GNSS Active Antenna, Side Mount

### DESCRIPTION

The GNSS-3SA is a professional grade, active GNSS 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 GNSS 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. The GNSS-3SA is available with a side mount connector and multiple colors (per FED-STD-595B).

### FEATURES

- Military and Civilian Applications
- GNSS Bands:
  - GPS L1, L2, L5
  - GLONASS L1, L2 and L3
  - GALILEO E1, E5b, E6
- Waterproof
- Excellent gain
- Small Form Factor

### OPTIONS

The GNSS-3SA 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 GNSS-3SA Specifications

**Table 1-1. Electrical Specifications**

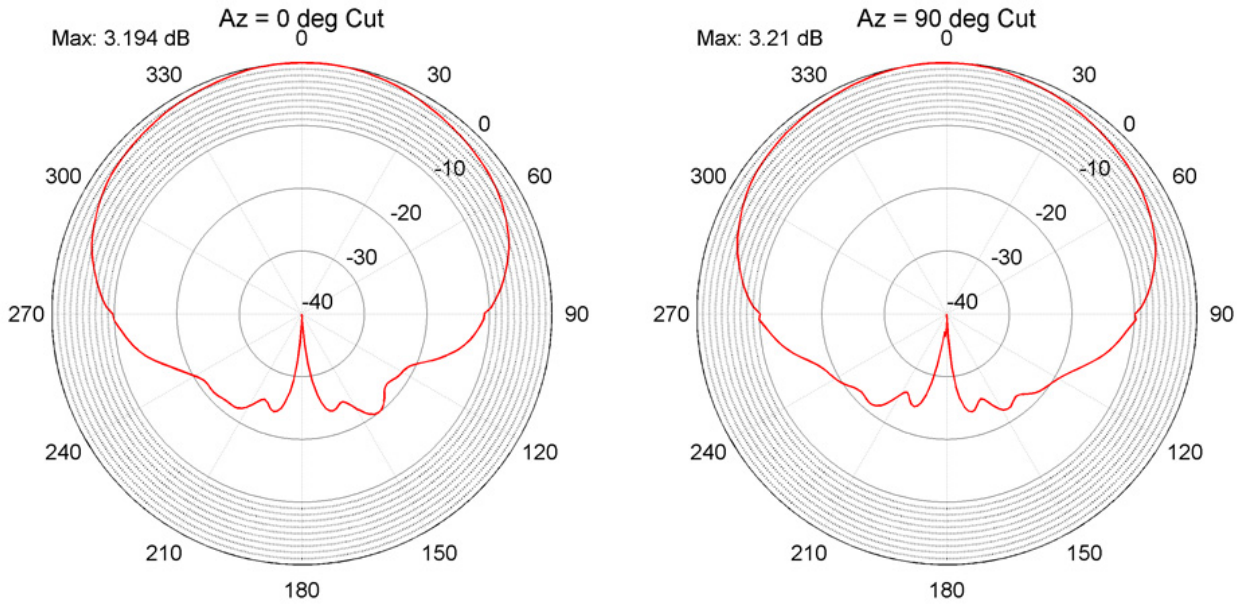
Operating Temperature -54°C to 71°C

Parameter		Conditions	Min	Typ	Max	Units
Frequency Range (Passband)	GNSS Upper Band	Ant: Output = 50Ω	1559	1575.42	1610	MHz
	GNSS Lower Band		1189	1227.60	1254	
Out Impedance				50		Ω
Element Gain	GPS L1	Output = 50Ω, 4 ft G.P.	> +3			dBic
	GPS L2		>+0			
	GPS L5		>-5			
	GLONASS L1		>+3			
	GLONASS L2		> -3			
	GLONASS L3		> -5			
	Galileo E1		> +3			
	Galileo E5		> -3			
	Galileo E5b		> +5			
LNA Gain	GPS L1	Output = 50Ω	> +30			dB
	GPS L2		> +30			
	GLONASS L1		> +30			
	GLONASS L2		> +30			
	GLONASS L3		> +30			
	Galileo E1		> +30			
	Galileo E5		>+30			
	Galileo E5b		> +30			
	Galileo E6		> +30			
Output SWR		Output = 50Ω			2:1	—
Required DC Input Voltage			3		12	VDC
LNA Current		Output = 50Ω			50	mA
LNA OP1dB Compression				10		dBm
LNA OIP3				15		dBm
Noise Figure					3.0	dB
Polarization		Right Hand Circular				
Axial Ratio at Peak		< 2.8 dB Max				
Beam Width		110 +/-5° at -3dB from Peak (Free Space)				
Altitude		50,000 ft				
Lightning Protection		DC to Ground on the Antenna Element				

## 2 Performance Data

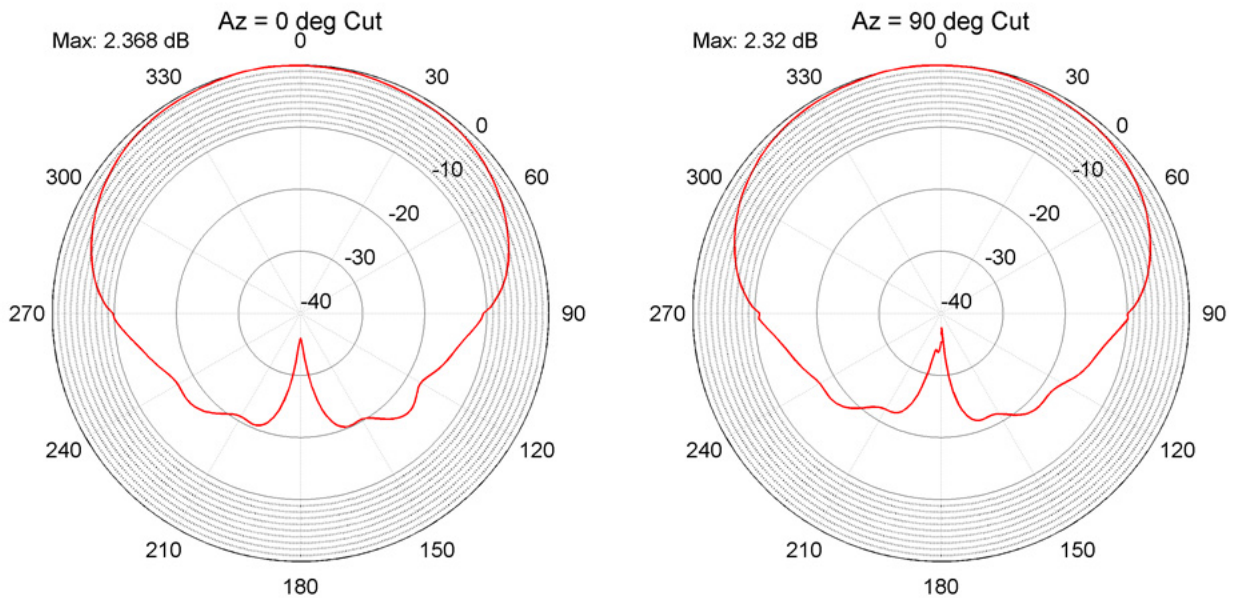
### 2.1 L1 Center Frequency

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 and EMI/EMC Requirements

The GNSS-3SA has been designed to meet the following requirements.

**Table 3-1. MIL-STD-810 & 461F Requirements**

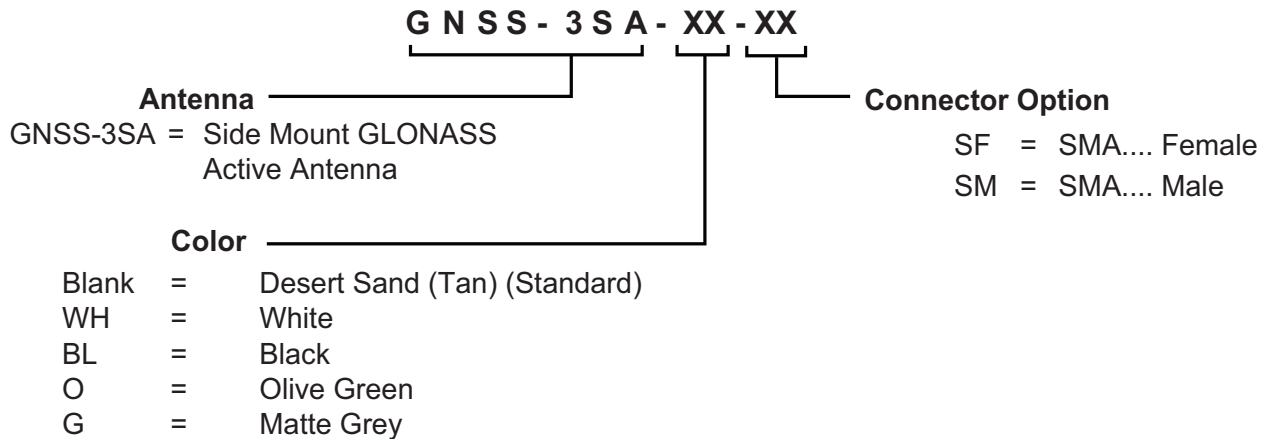
Environment	MIL-STD-Requirements	
Mechanical Vibration	810G	Mtd 514.6, Proc. I
Functional Shock	810G	Mtd 516.6, Proc. I
Crash Hazard Shock	810G	Mtd 516.6, Proc. V
High Temperature	810G	Mtd 501.5, Proc. I & II
Low Temperature	810G	Mtd 502.5, Proc. I & II
Temperature Shock	810G	Mtd 503.5, Proc. I-C
Altitude	810G	Mtd. 500.5, Proc. II & III
Humidity	810G	Mtd 507.5, Proc. II
Salt Fog	810G	Mtd 509.5
Fungus	810G	Mtd 508.6
Sand and Dust:	810G	Mtd 510.5, Proc. I & II
Conducted Emissions	461F	CE106
Radiated Emissions	461F	RE102
Radiated Susceptibility	461F	RS103

## 4 Product Options

Table 4-1. GNSS-3SA Available Options

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

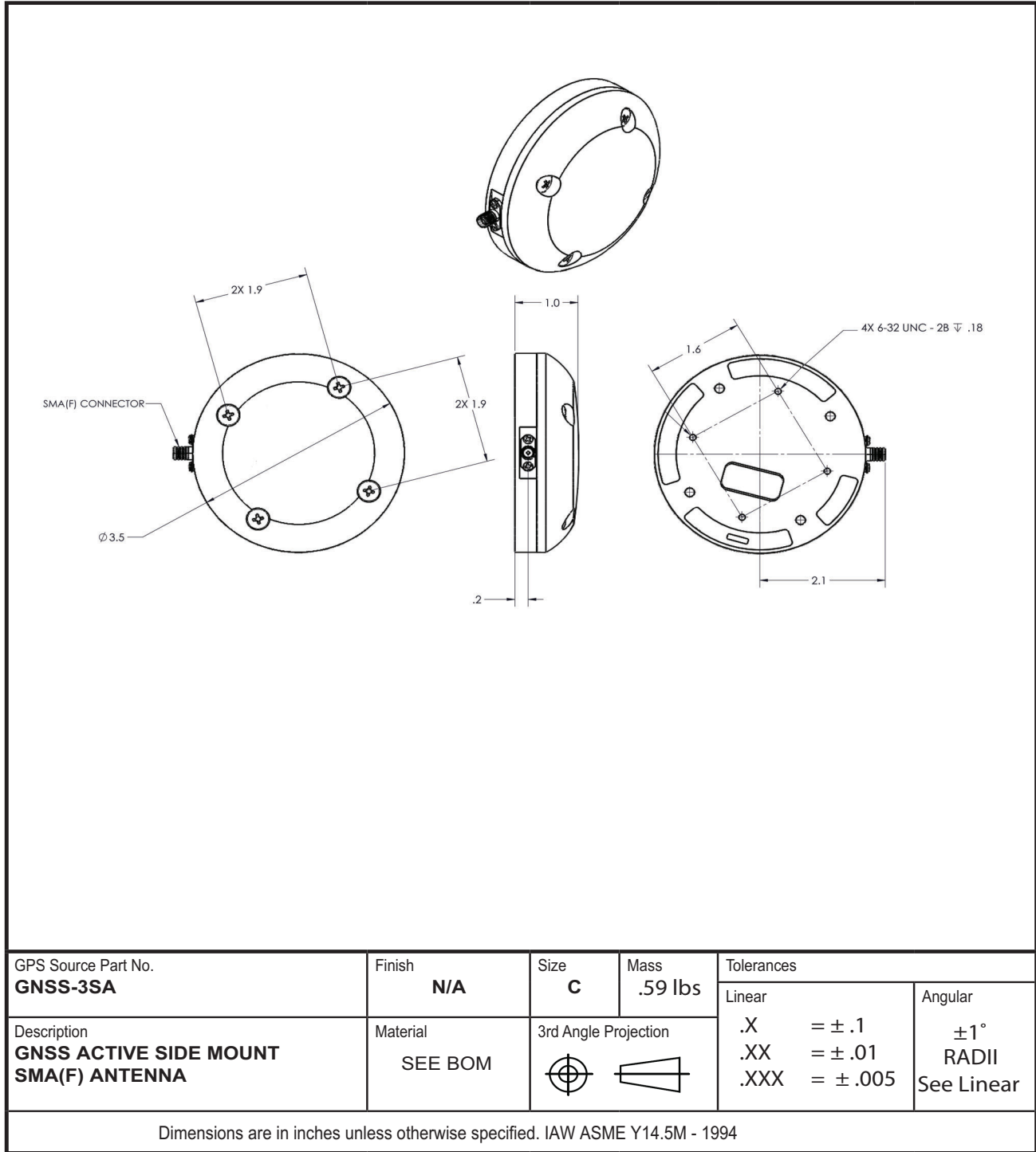
## 5 Product Code Decoder



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

## 6 Mechanical Drawing

### 6.1 GNSS-3SA GNSS Active Antenna, Side Mount





## GNSS-3SA Data Sheet

059-FAN-AHD-CCY-RYZ-005

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