

## FRPA-3EW Active Antenna

### DESCRIPTION

The FRPA-3EW is a professional grade, high performance, wider band GNSS active antenna designed for the demanding high signal levels of the electronic warfare environment. It is small and lightweight, with exceptional protection against the elements.

Designed to support the warfighter, the portable, yet precise FRPA-3EW antenna is built for tough applications and includes an LNA with high linearity performance. The radome is made of a high-grade polymer, with a design to protect from UV, rain, lightning, chemical and jet fuels. The FRPA-3EW is available with a bottom mount connector and multiple colors (per FED-STD-595B).



### FEATURES

- Military and Civilian Applications
- Frequency Bands:
  - GPS Wide Band L1(1559 - 1626.5 MHz), L2
- Waterproof
- Excellent Gain
- Small Form Factor
- Bottom Mount

### OPTIONS

The FRPA-3EW 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 FRPA-3EW Specifications

Table 1-1. Electrical Specifications

Operating Temperature -54°C to 71°C

Parameter		Conditions	Min	Typ	Max	Units
Frequency Range (Passband)	FRPA Upper Band	Ant: Output = 50Ω	1559		1626.5	MHz
	FRPA Lower Band		1189		1254	
Out Impedance				50		Ω
Element Gain	GPS Wide Band L1	Output = 50Ω, 4 ft G.P.	> +3			dBiC
	GPS L2		>+0			
LNA Gain	GPS Wide Band L1	Output = 50Ω	> +30			dB
	GPS L2		> +30			
Output SWR		Output = 50Ω			2:1	—
Required DC Input Voltage			5		12	VDC
LNA Current		Output = 50Ω		120		mA
LNA OP1dB Compression				12		dBm
LNA OIP3				29		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 Environmental and EMI/EMC Requirements

The FRPA-3EW has been designed to meet the following requirements.

**Table 2-1. MIL-STD-810 & 461F Requirements**

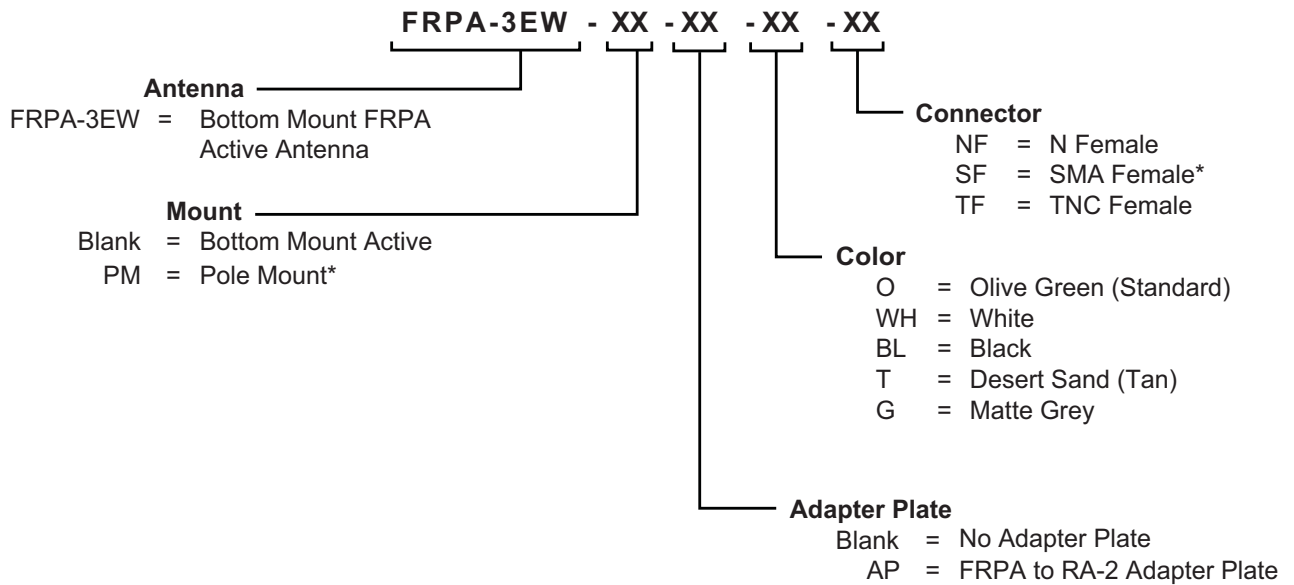
Environment	MIL-STD-Requirements	
Mechanical Vibration	810G	Mtd 514.6, Proc. I
Functional Shock	810G	Mtd 516.6, Proc. I
Crash Hazard Shock	810G	Mtd 516.6, Proc. V
High Temperature	810G	Mtd 501.5, Proc. I & II
Low Temperature	810G	Mtd 502.5, Proc. I & II
Temperature Shock	810G	Mtd 503.5, Proc. I-C
Altitude	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

### 3 Product Options

Table 3-1. FRPA-3EW Available Options

Type	Options	
Connector	N	Female
	SMA	Female
	TNC	Female (Standard)
Mount	Bottom	
Color (FED-STD-595B)	White	Gloss
	Black	Matte
	Green (Standard)	Matte
	Desert Sand	Matte
	Gray	Matte
Antenna Mounting Plate	AP-3A-RA2	

### 4 Product Code Decoder



Note: SMA connector is not recommended for use with LMR400 cable.  
 \*Adapter plate and pole mount can not be ordered together in a single configuration.

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).

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## FRPA-3EW Data Sheet

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AS9100 and ISO 9001 Compliant Company



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