

Mini Amplifier

DESCRIPTION

The A11M Mini Amplifier is a single stage gain block which covers the GPS, Galileo, and GLONASS frequencies designed with the thin link margins of satellite navigation systems in mind.

The A11M features 30.0dB of gain, and a noise figure of less than 1.8dB. Since the A11M consumes less than 16mA, it is easily powered by any GPS receiver's antenna voltage output.

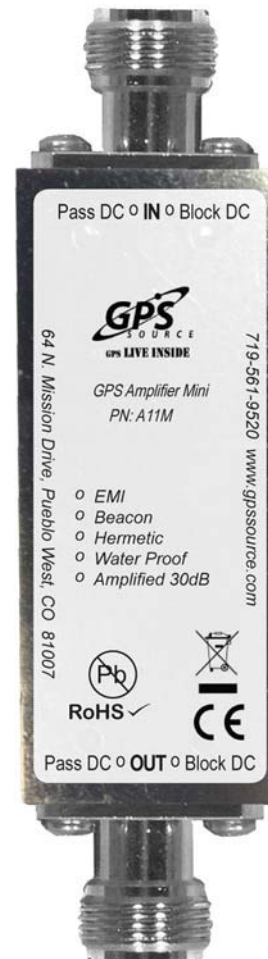
The A11M is an inline device designed to strengthen the signal and reach of the entire L-band.

FEATURES

- Excellent Noise Figure: $F < 1.8\text{dB}$
- Excellent Gain: $G = 30\text{dB}$
- Passes GPS L1/L2/L5 and GNSS frequencies
- RoHS and WEEE Compliant
- Variable Gain Option: 0dB to 30dB

OPTIONS

The A11M Mini Amplifier can be custom configured. Please contact GPS Source for further information on product options and specifications.



1 A11M Electrical Specifications

Table 1-1. Electrical Specifications

Operating Temperature -40°C to 85°C

Parameter		Conditions		Min	Typ	Max	Units	
Frequency Range		IN – OUT, IN/OUT 50Ω		1.1		1.7	GHz	
In/Out Impedance		IN, OUT			50		Ω	
Gain (Standard)		IN – OUT, IN/OUT 50Ω		28	30	32	dB	
Gain (Custom) - AXX (1-29 dB)				XX - 1	XX	XX - 1		
Variable Gain (0 - 30dB)		IN – OUT, IN/OUT 50Ω	1575MHz	Max	28	30	32	dB
				Min	-2	0	1	
Input SWR		OUT Port 50Ω				2:1	—	
Output SWR		IN Port 50Ω				2:1	—	
Noise Figure		Antenna Any Port, Unused Ports 50Ω				1.8	dB	
Gain Flatness		[L1 – L2] Antenna Any Port, Unused Ports 50Ω				4	dB	
Group Delay Flatness		$T_{d,max} - T_{d,min}$, IN – OUT				1	ns	
Reverse Isolation		OUT – IN		30			dB	
DC IN	Pass DC	Non-Powered Configuration, DC Input on OUT port		3		16	VDC	
Device Current		Current Consumption of Device (Excludes antenna current draw)				16	mA	
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC Input on OUT port				250	mA	
Max RF Input		Max RF Input Without Damage				10	dBm	

2 Performance Data

A11M

Figure 2-1. Gain vs Frequency

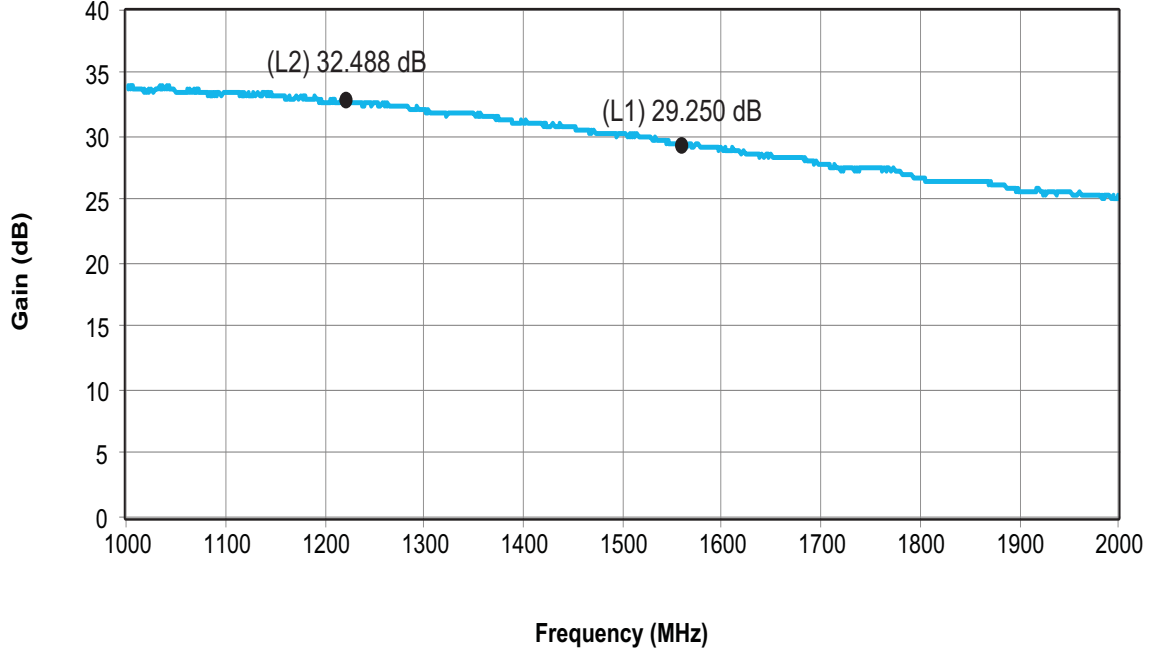
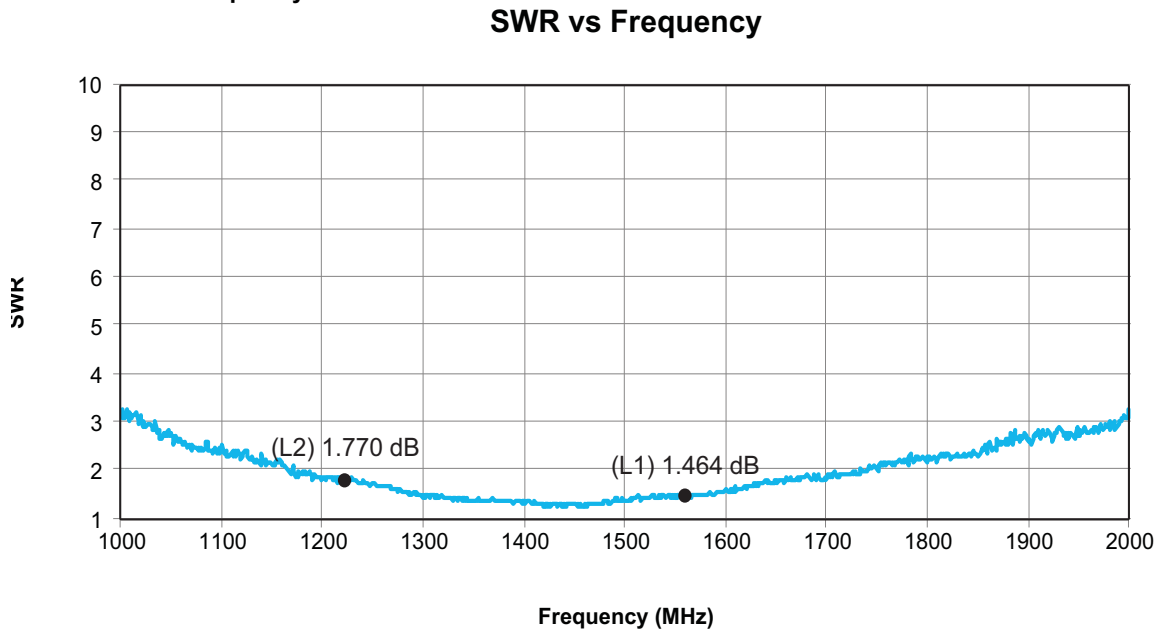


Figure 2-2. SWR vs Frequency



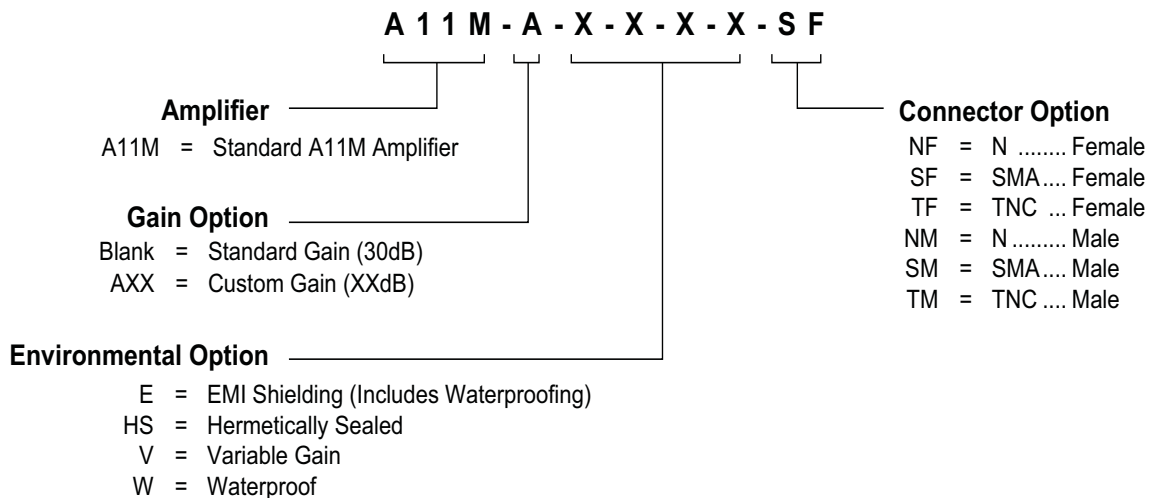
3 Product Options

Table 3-1. A11M Available Options

RF Connector		
Connector	Connector Type	Limitations
	N (Female/Male)	N/A
	SMA (Female/Male)	N/A
	TNC (Female/Male)	N/A
Housing		
Housing	Housing Type	Limitations
	Mini	Powered Option Not Available
Port ⁽¹⁾		
Configuration	Standard	Pass DC Input and Output
	Special	Block DC Input or Block DC Output (Cannot Block Both)
Amplification		
Gain	Standard	30dB
	Custom	1-29dB

Note: 1. Powered Option: any or all RF ports (input or output) can be DC Blocked or can pass the powered DC voltage.

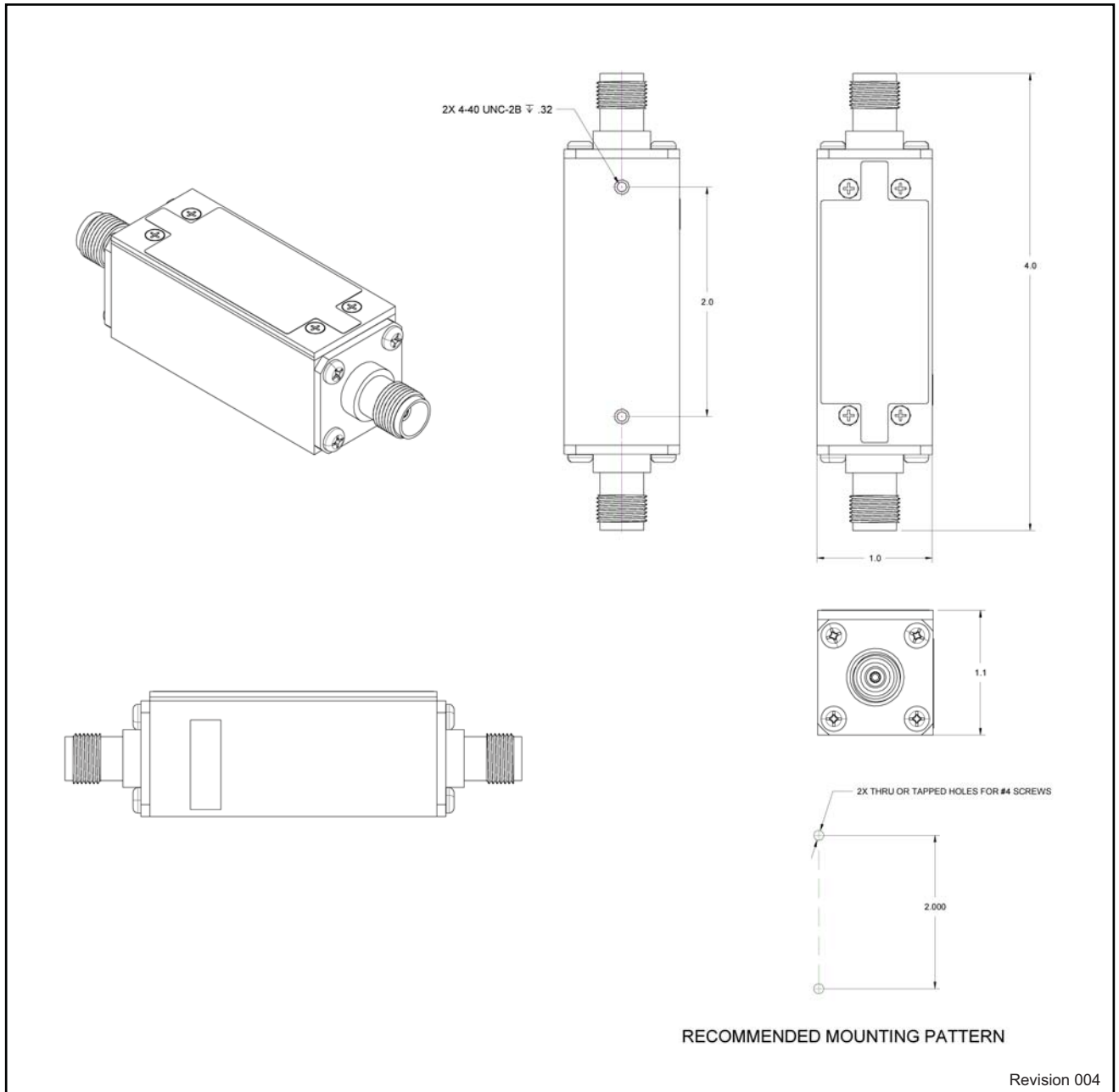
4 Product Code Decoder

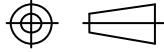


Note: 1. To have product/part codes customized to meet exact needs, contact GPS Source at GPSS-Sales@gd-ms.com or visit the website at www.gpssource.com.

5 Mechanical Drawing

A11M Mini Amplifier — FAM-AAM-AAX-AGZ



GPS Source Part No. FAM-AAM-AAX-AGZ	Finish N/A	Size C	Mass	Tolerances	
Description A11M Mini Amplifier	Material N/A	3 rd Angle Projection 		Linear	Angular
All materials and finishes shall comply with European Union RoHS and are lead free. Dimensions are in inches unless otherwise specified.					

A11M Mini Amplifier Data Sheet

059-FAM-AAM-AAX-AGZ-005

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