

DESCRIPTION

The A114M Mini Amplifier is a single stage gain block which covers the GPS, Galileo, and GLONASS frequencies. It is designed with the thin link margins of satellite navigation systems in mind.

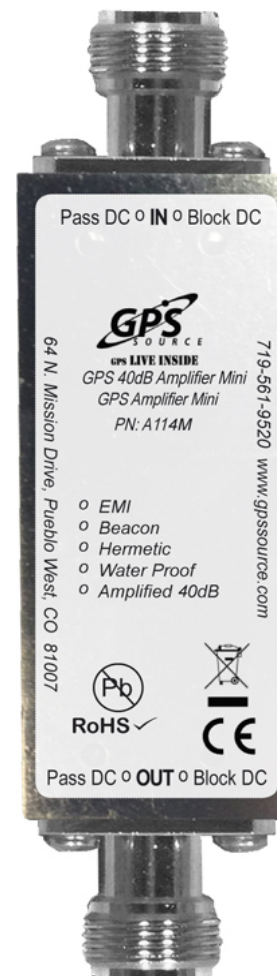
The A114M features 40dB of gain, and a noise figure of less than 2dB. Since it consumes less than 20mA, it can be powered by the GPS receiver's antenna voltage output.

FEATURES

- Excellent Gain: 40dB
- Passes GPS, Galileo, GLONASS L1/L2
- Variable Gain Option Available: 0dB to 40dB

OPTIONS

The A114M Mini Amplifier can be custom configured. Please contact GPS Source for further information on product options and specifications.



1 A114M 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		2	GHz		
In/Out Impedance	IN, OUT		50		Ω		
Gain	IN – OUT, IN/OUT 50Ω	1227MHz	38	40	42	dB	
		1575MHz	30	40	42		
Variable Gain Option⁽¹⁾	IN – OUT, IN/OUT 50Ω	1227MHz	Min	-7	-5	-3	dB
			Max	37	38	39	
		1575MHz	Min	-7	-5	-3	
			Max	37	38	39	
Input 1dB Comp.	IN – OUT, IN/OUT 50Ω	-41			dB		
Input IP₃	IN – OUT, IN/OUT 50Ω	-33			dB		
Input SWR⁽¹⁾	OUT Port 50Ω			2.5:1	—		
Output SWR⁽¹⁾	IN Port 50Ω			2.5:1	—		
Noise Figure⁽²⁾	IN – OUT, IN/OUT 50Ω			2	dB		
Gain Flatness	[L1 – L2] IN – OUT, IN/OUT 50Ω			4	dB		
Group Delay Flatness	T _{d,max} – T _{d,min} , IN – OUT			1	ns		
Reverse Isolation	OUT – IN	40			dB		
DC IN	DC Input on IN/OUT port	3		16	VDC		
Device Current	Current Consumption of Device (excludes Ant. Cur.)			20	mA		
Ant/Thru Current	Non-Powered Configuration, DC Input on OUT port			250	mA		
Max RF Input	Max RF Input Without Damage			10	dBm		

- Notes: 1. Performance guaranteed for N(F) connectors.
 2. Does not apply to variable gain option at any setting other than maximum gain.

2 Performance Data

2.1 Default

Figure 2-1. Frequency Response

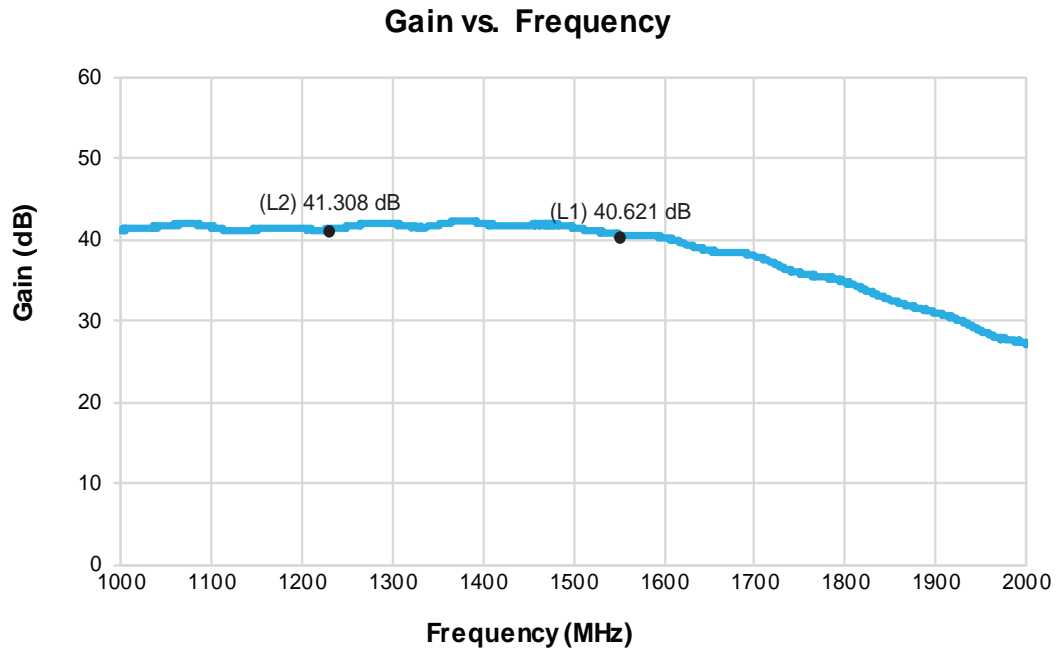
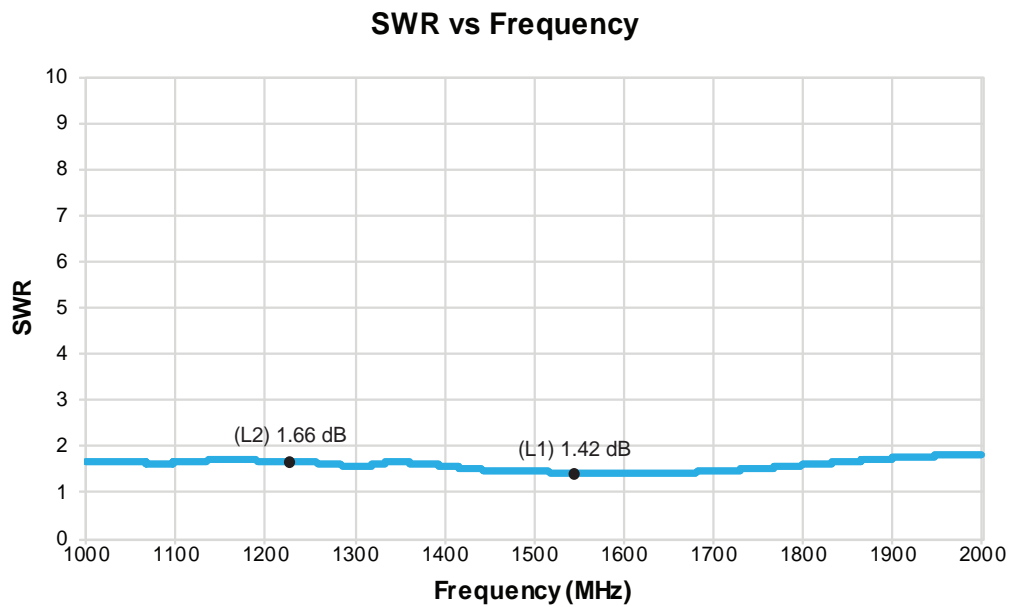


Figure 2-2. SWR



2.2 Variable Gain Option

Figure 2-3. Variable Gain Frequency Response

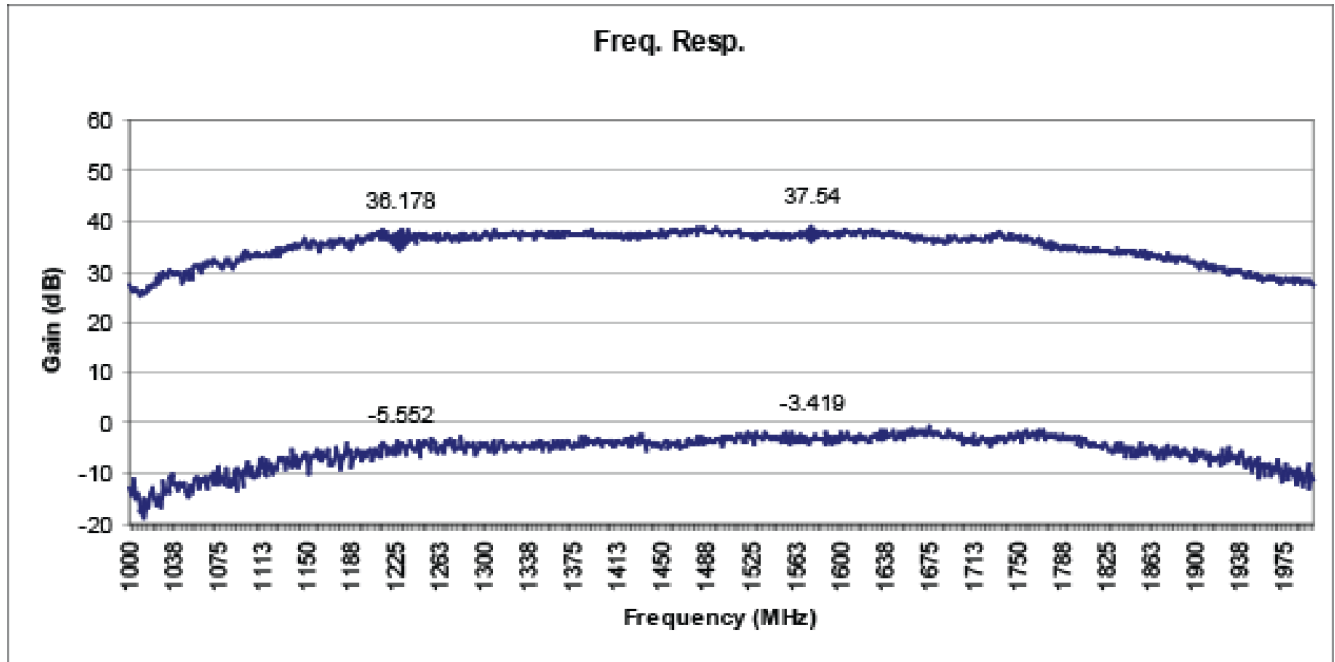
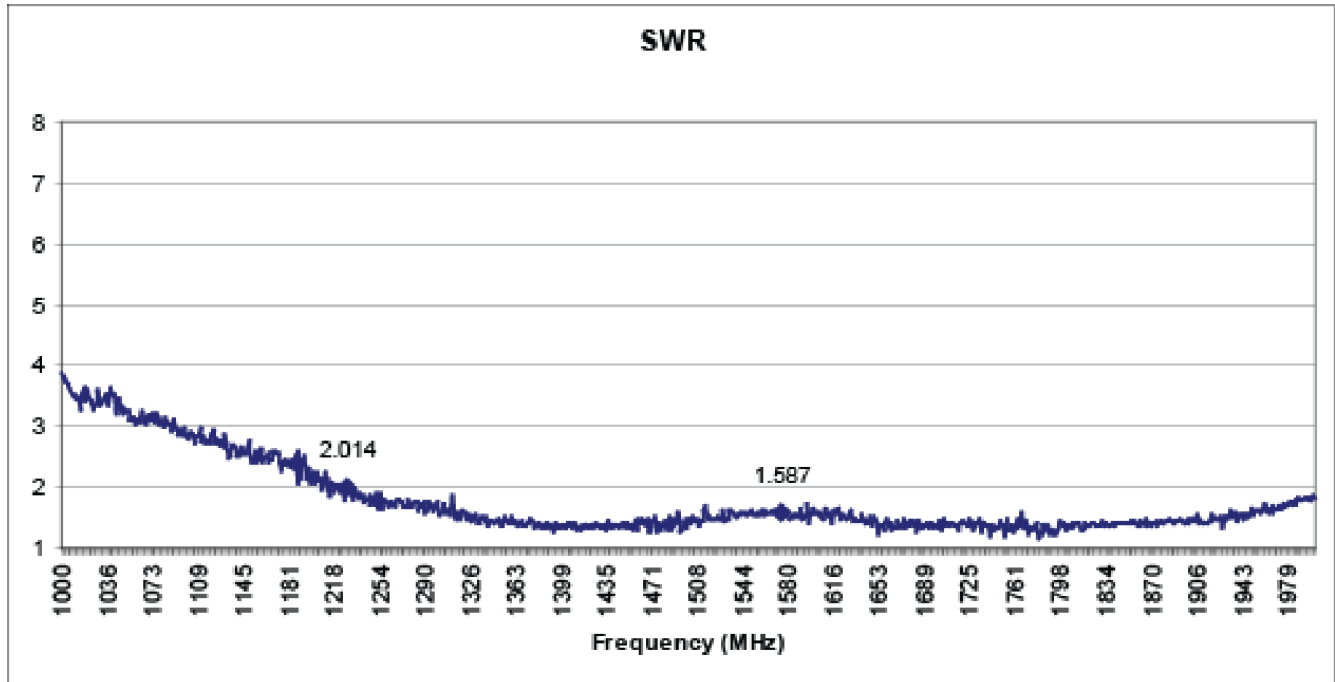


Figure 2-4. Variable Gain SWR

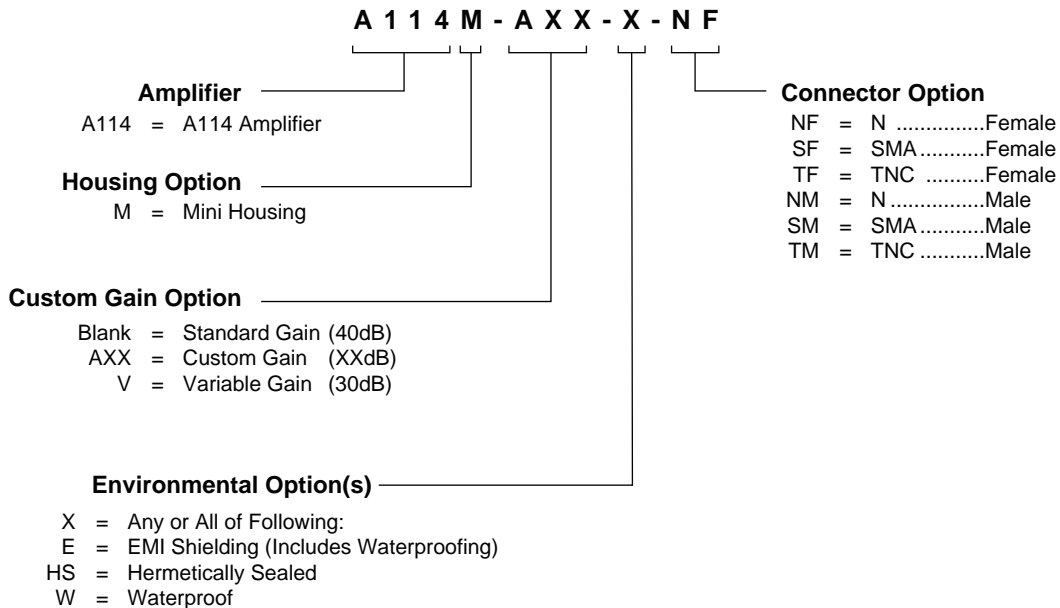


3 Product Options

Table 3-1. A114M Available Options

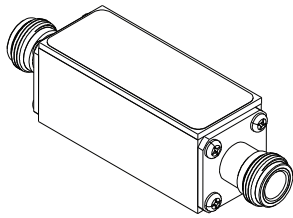
RF Connector		
Connector	Connector Type	Limitations
	N (Female/Male)	N/A
	SMA (Female/Male)	N/A
	TNC (Female/Male)	N/A
Housing		
Housing	Housing Type	Limitations
	Mini	None
	Tiny	SMA Only
Ports		
Standard Configuration	Pass DC	OUT Port Passes DC to Pass DC IN Port
Special Configuration	DC Blocked	OUT Port Passes DC to DC Blocked IN Port

4 Product Code Decoder

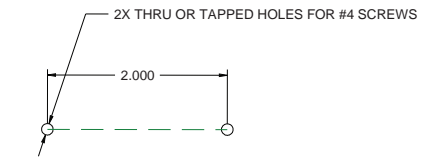
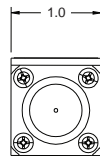
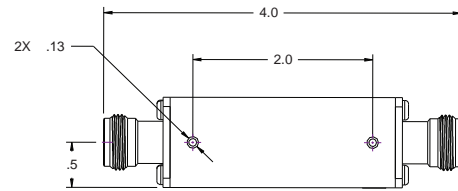
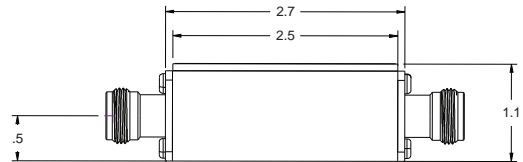


5 Mechanical Drawing

A114M Mini Amplifier — FAM-ABM-AAX-AGZ



ISOMETRIC VIEW
FOR REFERENCE ONLY



RECOMMENDED MOUNTING PATTERN

11/18/2016 Revision 001

GPS Source Part No. FAM-ABM-AAX-AGZ	Finish N/A	Size C	Mass	Tolerances	
Description A114M Standard Mini Amplifier	Material N/A	3 rd Angle Projection 		Linear .X = ±0.100 .XX = ±0.010	Angular ±1° RADII See Linear

All materials and finishes shall comply with European Union RoHS and are lead free. Dimensions are in inches unless otherwise specified.



GPS LIVE INSIDE

A114M Mini Amplifier Data Sheet

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AS9100C:2009 and ISO 9001:2008 Compliant Company



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