

# A114 40dB Amplifier

## Technical Product Data

### Features

- **Excellent Gain**  
G > 40dB
- **Filtered Option Available**
- **Passes GPS, Galileo & GLONASS L1/L2**
- **0dB to 40dB Variable Gain Option Available**



### Description

Designed with the thin link margins of satellite navigation systems in mind, the A114 Amplifier is a single stage gain block in a small form factor that covers the GPS, Galileo, and GLONASS frequencies. The device features 40dB of gain and a noise figure of less than 2dB. Since the product consumes less than 20mA, the device can be placed in line with the receive antenna and can be powered by the GPS receiver's antenna voltage output. The device may also be selected with the filtered option which will protect the GPS receiver from other spurious signals received by the antenna.

The A114 amplifier comes with many available options to meet your specific needs. Please call, fax, email ([sales@gpssource.com](mailto:sales@gpssource.com)), or visit our website ([www.gpssource.com](http://www.gpssource.com)) for further information on product options & specifications.

### Electrical Specifications, Operating Temperature -40 to 85<sup>o</sup>C

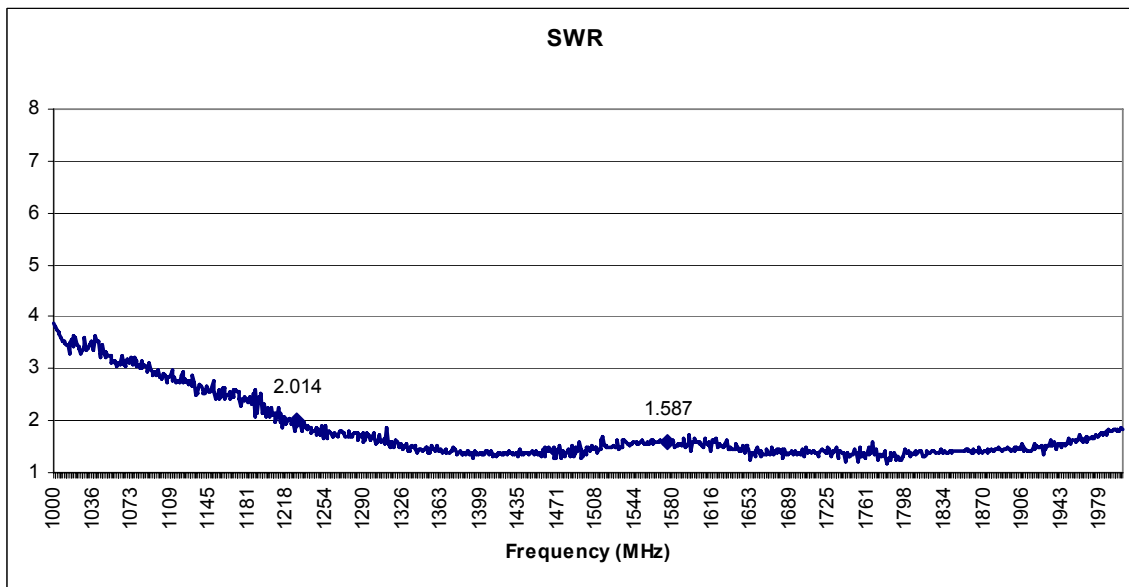
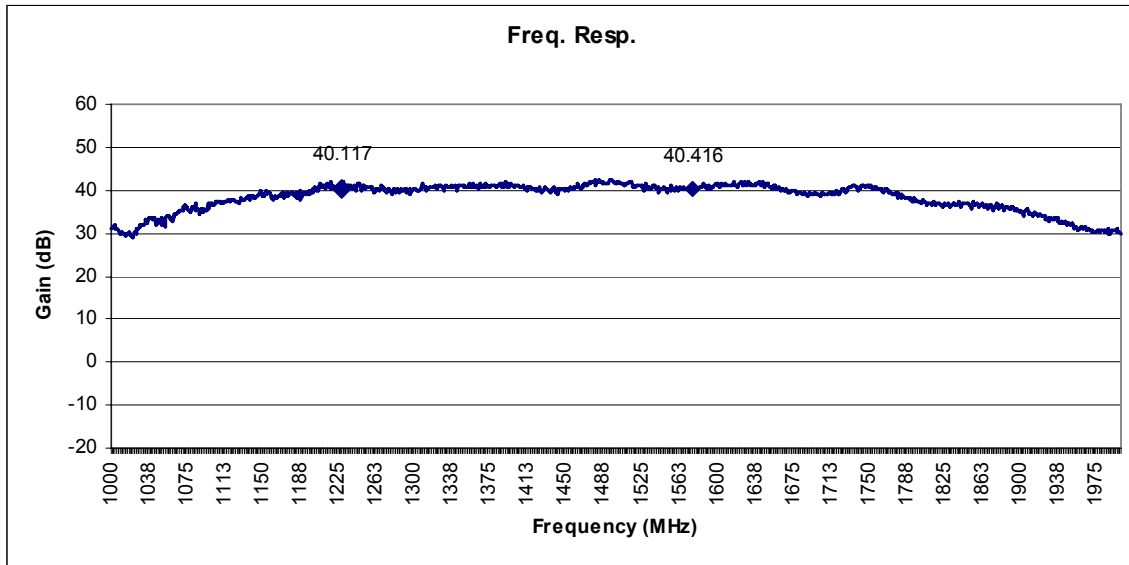
Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	IN – OUT, IN/OUT-50Ω	1.2		1.7	GHz
In/Out Imped.	IN, OUT		50		Ω
Gain <sup>(1)</sup> 1227MHz 1575MHz	IN – OUT, IN/OUT-50Ω	38 38	40 40	42 42	dB
Variable Gain Opt <sup>(1)</sup> 1227MHz: Max Gain: Min Gain: 1575MHz Max Gain: Min Gain:	IN – OUT, IN/OUT-50Ω	34.5 -7 34.5 -7	36 -6 36 -3.4	38 -3 38 -2	
Filtered Opt <sup>(1)(2)</sup> 1227MHz: 1575MHz: Reject.(-50MHz) Reject.(+50MHz)	IN – OUT, IN/OUT-50Ω	37 -30 -42	38.5	0 39	dB
Input 1dB Comp.	IN – OUT, IN/OUT-50Ω	-41			
Input IP <sub>3</sub>	IN – OUT, IN/OUT-50Ω	-33			dBm
Input SWR <sup>(1)</sup>	OUT Port - 50Ω			2.5:1	-
Output SWR <sup>(1)</sup>	IN Port - 50Ω			2.5:1	-
Noise Figure <sup>(3)</sup>	IN – OUT, IN/OUT-50Ω			2.0	dB
Gain Flatness	L1 – L2 , IN – OUT, IN/OUT-50Ω			3	dB
Group Delay Flatness	$\tau_{d,max} - \tau_{d,min}$ , 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:**

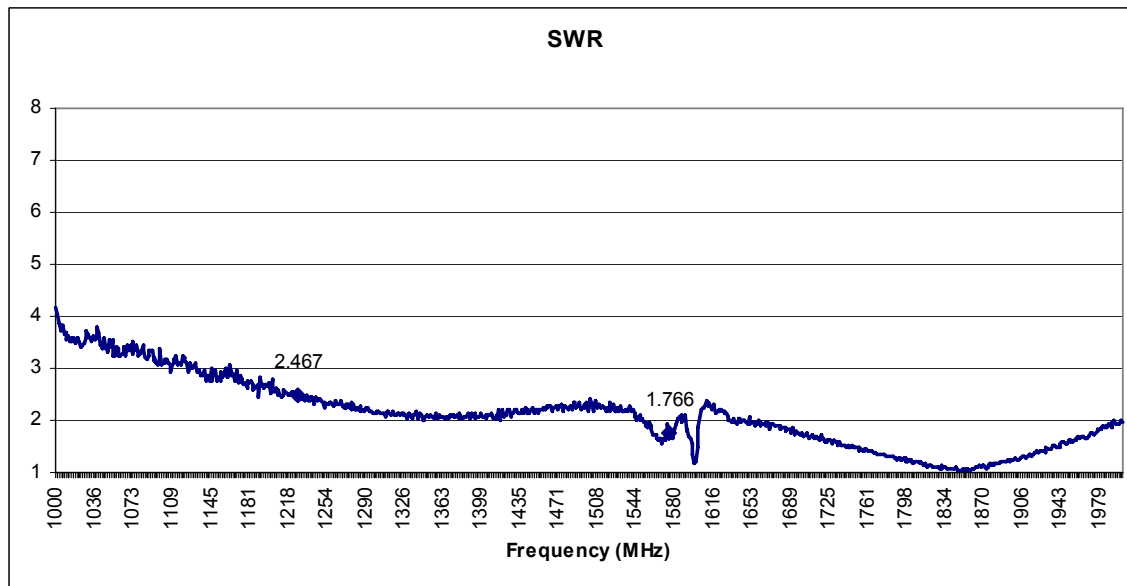
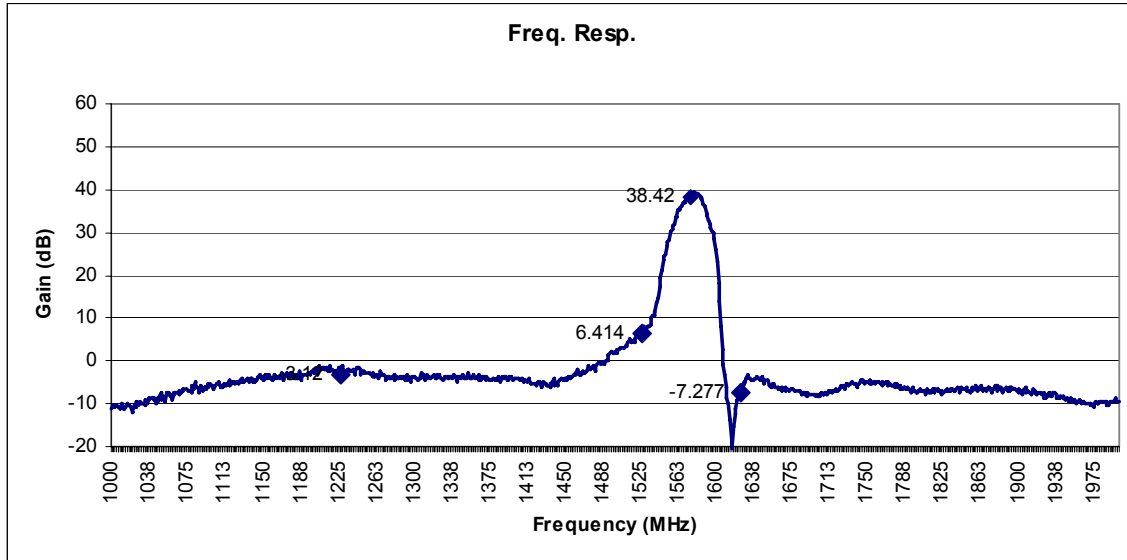
1. Performance guaranteed for N(F) connectors
2. Rejection figures are relative to passband
3. Does not apply to variable gain option at any setting other than max gain

**Performance Data:**

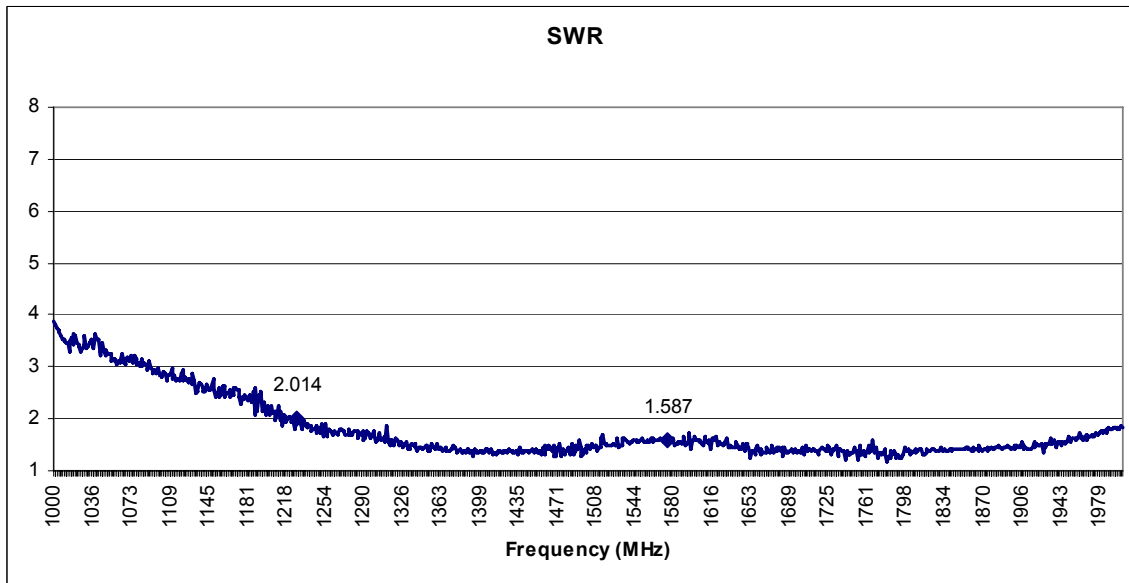
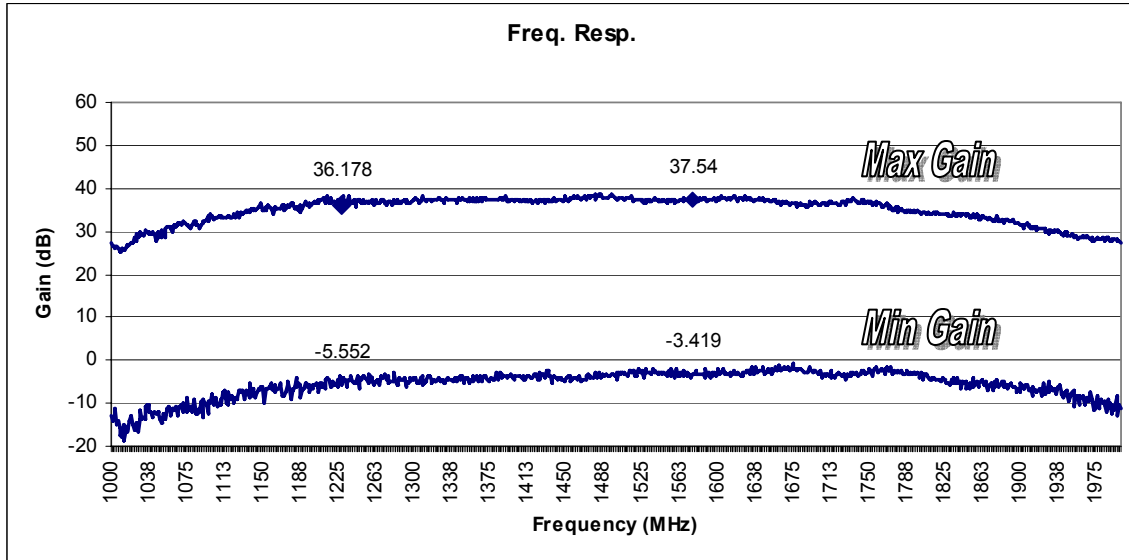
**A11M4 Amplifier**



### A11M4 Amplifier (Filtered Option)



### A11M4 Amplifier (Variable Gain Option)





**Available Options:**

<b>RF Connector Options:</b>		
<b>Connector Options</b>	<b>Connector Type</b>	<b>Limitations</b>
	N (Male & Female)	
	SMA (Male & Female)	
	TNC (Male & Female)	
	SMB (Female)	
	SMC (Female)	
	MCX (Female)	
	BNC (Male & Female)	Performance Not Guaranteed
<b>Housing Options:</b>		
<b>Housings</b>	<b>Housing Type</b>	<b>Limitations</b>
	Mini,	None
	Tiny	Connectors Not Available: N, TNC, BNC
<b>Port Options:</b>		
Pass DC	OUT Port Passes DC to IN	
DC Blocked	Blocks DC to IN Port	

**Notes:**

**Part Number:**

**A114 T - AXX - F1 - BDC -SF**

Product: \_\_\_\_\_

Standard

Housing Option: \_\_\_\_\_

**M** – Mini Housing

**T** – Tiny Housing

Custom Gain Option: \_\_\_\_\_

Blank: Standard 40dB

**AXX** – XX = Desired Gain Level

**V** – Variable Gain, 0 to 40dB

L1 Filtered Option: \_\_\_\_\_

Blank: Standard Non-Filtered

**F1** – Tiny Housing

DC Voltage: \_\_\_\_\_

Blank: Standard Pass DC

**BDC** – Block DC

Connector Options: \_\_\_\_\_

**NM** – N, Male

**NF** – N, Female

**SM** – SMA, Male

**SF** – SMA, Female

**TM** – TNC, Male

**TF** – TNC, Female

**BM** – BNC, Male

**BF** – BNC, Female

**SB** – SMB Jack, Female

**SC** – SMC Jack, Female

**MX** – MCX Jack, Female

For help in creating the part number to meet your exact needs, contact us at [Sales@gpssource.com](mailto:Sales@gpssource.com) or visit our website at [www.gpssource.com](http://www.gpssource.com).