



A11

GPS LIVE INSIDE

Amplifier

DESCRIPTION

The A11 Amplifier is a single stage gain block which covers the GPS, Galileo, and GLONASS frequencies. It has been designed with the thin link margins of satellite navigation systems in mind.

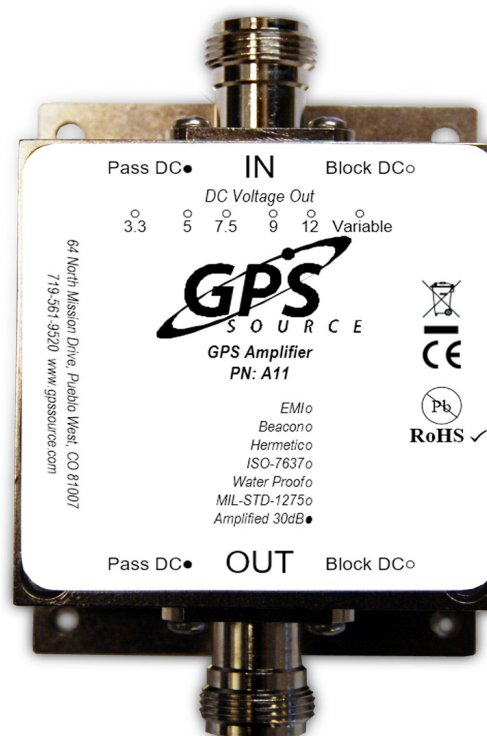
The A11 features 30dB of Gain, and a noise figure of less than 1.8dB. It can be powered externally with an AC input voltage option, a DC input option, or, since the product consumes less than 16mA, it may be powered by the GPS receiver's antenna voltage output. Regardless of the input power configuration, the A11 can provide a DC voltage output to power an active GPS antenna.

FEATURES

- Excellent Noise Figure: $F < 1.8\text{dB}$
- Excellent Gain: $G = 30\text{dB}$
- Passes GPS L1/L2/L5, Galileo, GLONASS L1/L2, and Compass
- Variable Gain Option Available: 0dB to 30dB

OPTIONS

The A11 Amplifier can be custom configured. Please contact GPS Source for further information on product options and specifications.



A11 Amplifier Data Sheet

059-FAM-AAA-AAX-BBZ-004
03/10/2016
www.gpssource.com

AS9100C:2009 and ISO 9001:2008 Compliant Company

1 A11 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	30	32	33	dB	
		1575MHz	30	32	33		
Variable Gain	Option	IN – OUT, IN/OUT 50Ω				dB	
		1227MHz	Min	-4	-3		-1
			Max	28	30		32
		1575MHz	Min	-2	0		1
			Max	28	30	32	
Input SWR		OUT Port 50Ω			2:1	—	
Output SWR		IN Port 50Ω			2:1	—	
Noise Figure ⁽⁴⁾		IN – OUT, IN/OUT 50Ω			1.8	dB	
Gain Flatness		[L1 – L2] IN – OUT, IN/OUT 50Ω			2	dB	
Group Delay Flatness		T _{d,max} – T _{d,min} , IN – OUT			1	ns	
Reverse Isolation		OUT – IN	30			dB	
AC IN	110	Wall Mount Transformer ⁽³⁾		110		VAC	
	220/240	Wall Mount Transformer (Various Intl. plug types available) ⁽³⁾		230			
DC IN	Pass DC	Non-Powered Configuration, DC Input on OUT port	3		16	VDC	
	Powered	Powered, Mil. Conn. Or Quick Connect Option	3 ⁽¹⁾		28 ⁽²⁾		
Device Current		Current Consumption of Device (excludes Ant. Cur.)			16	mA	
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC Input on OUT port			250	mA	
	Powered	Powered, Mil. Conn. or Tinned Lead			(3)		
Max RF Input		Max RF Input Without Damage			10	dBm	

- Notes:
- DC IN for powered option *must* be 2V greater than desired DC Voltage Out.
 - Maximum DC IN is 35V when 1275B powered option is included.
 - Maximum combined DC current draw out all ports of the device is a function of the DC input voltage and desired DC output voltage according to the following:

$$I_{out} \leq 1.4 / (V_{DC\ IN} - V_{DC\ OUT}) - 0.007A.$$
 For powered option with a wall mount transformer: (Voltage Input = 110/220/240VAC), V_{DC IN} is 9V.
 - Does not apply to variable gain option at any setting other than maximum gain.

2 Performance Data

2.1 A11

Figure 2-1. Gain vs Frequency

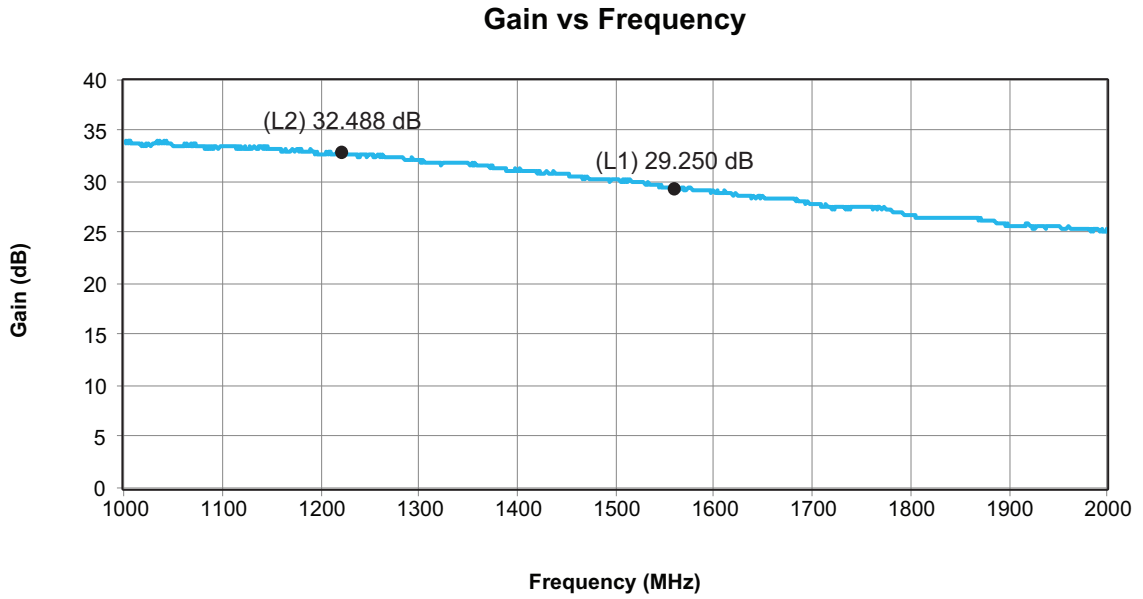
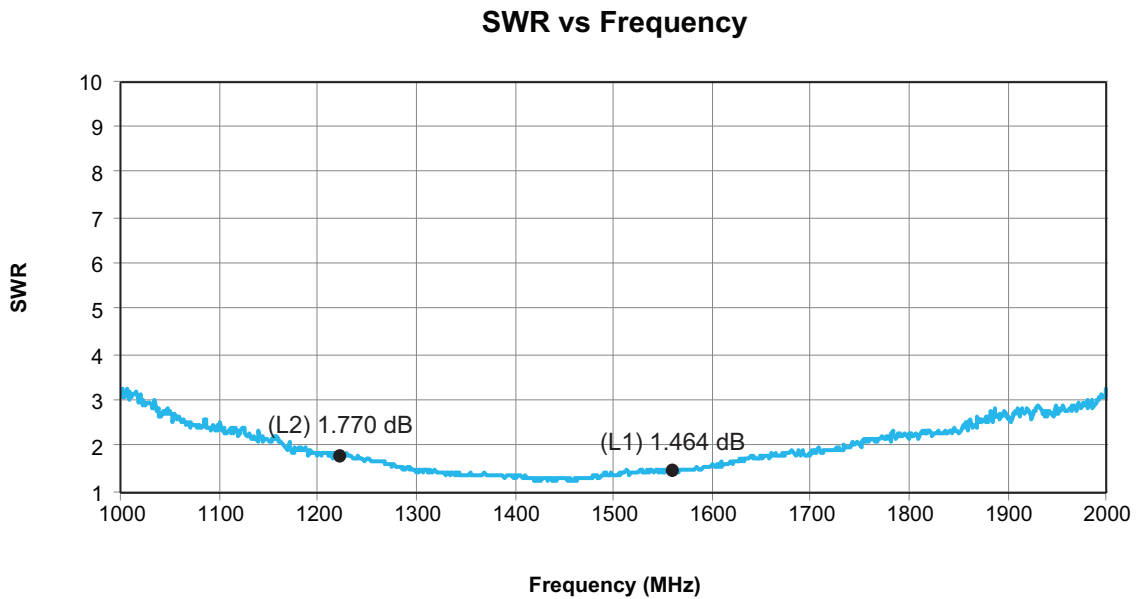


Figure 2-2. SWR vs Frequency



3 Product Options

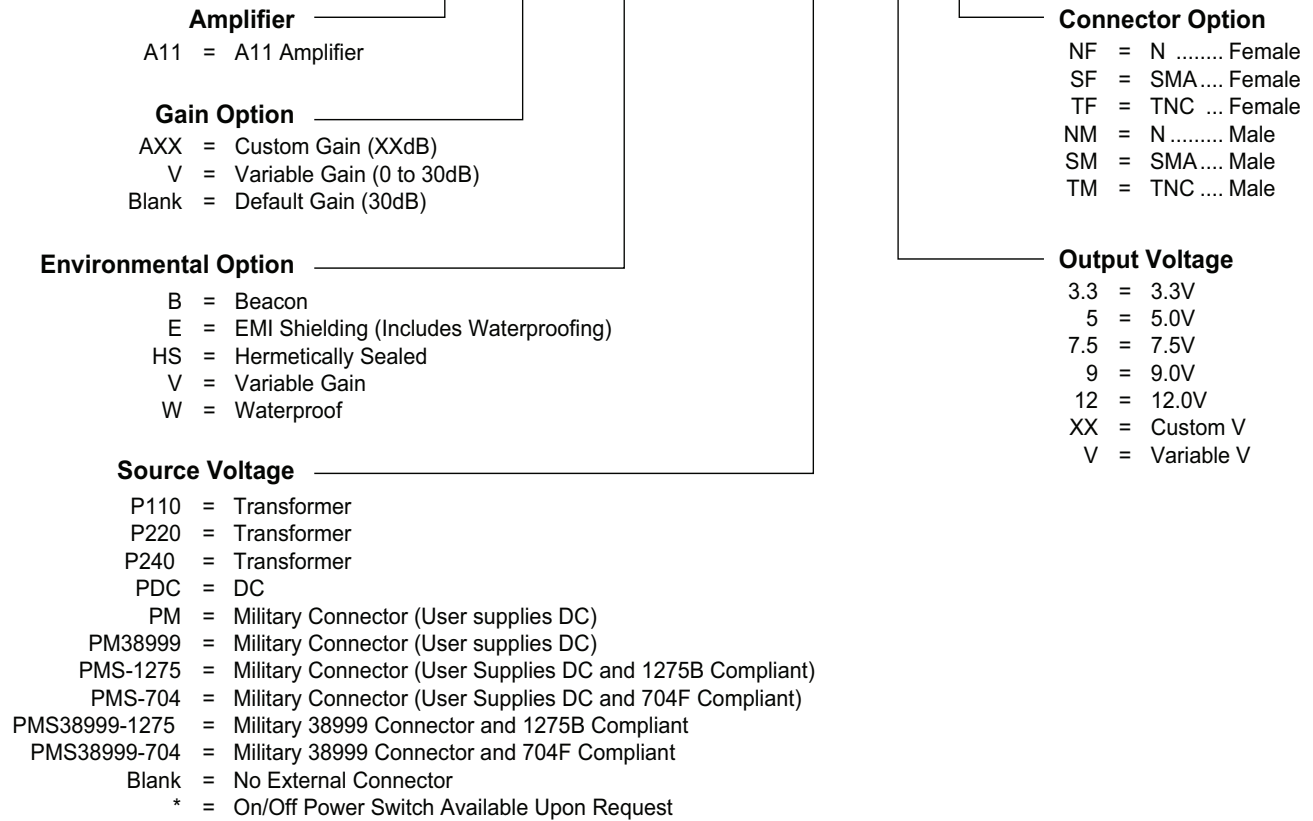
Table 3-1. A11 Available Options

Power Supply		
Source Voltage	Voltage Input	Type
	110VAC	Wall Mount Transformer
	220VAC	Wall Mount Transformer
	240VAC (U.K.)	Wall Mount Transformer
	PDC 5VDC to 28VDC or PM	Military Style Connector or Tinned Leads
Output Voltage ⁽¹⁾	DC Voltage Out	
	3.3	
	5.0	
	7.5	
	9.0	
	12.0	
	Variable (3V to 12V)	
	Custom	
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
	Standard	None
Port ⁽¹⁾		
Configuration	Standard	Pass DC Input and Output
	Special	Block DC Input or Block DC Output (Cannot Block Both)

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

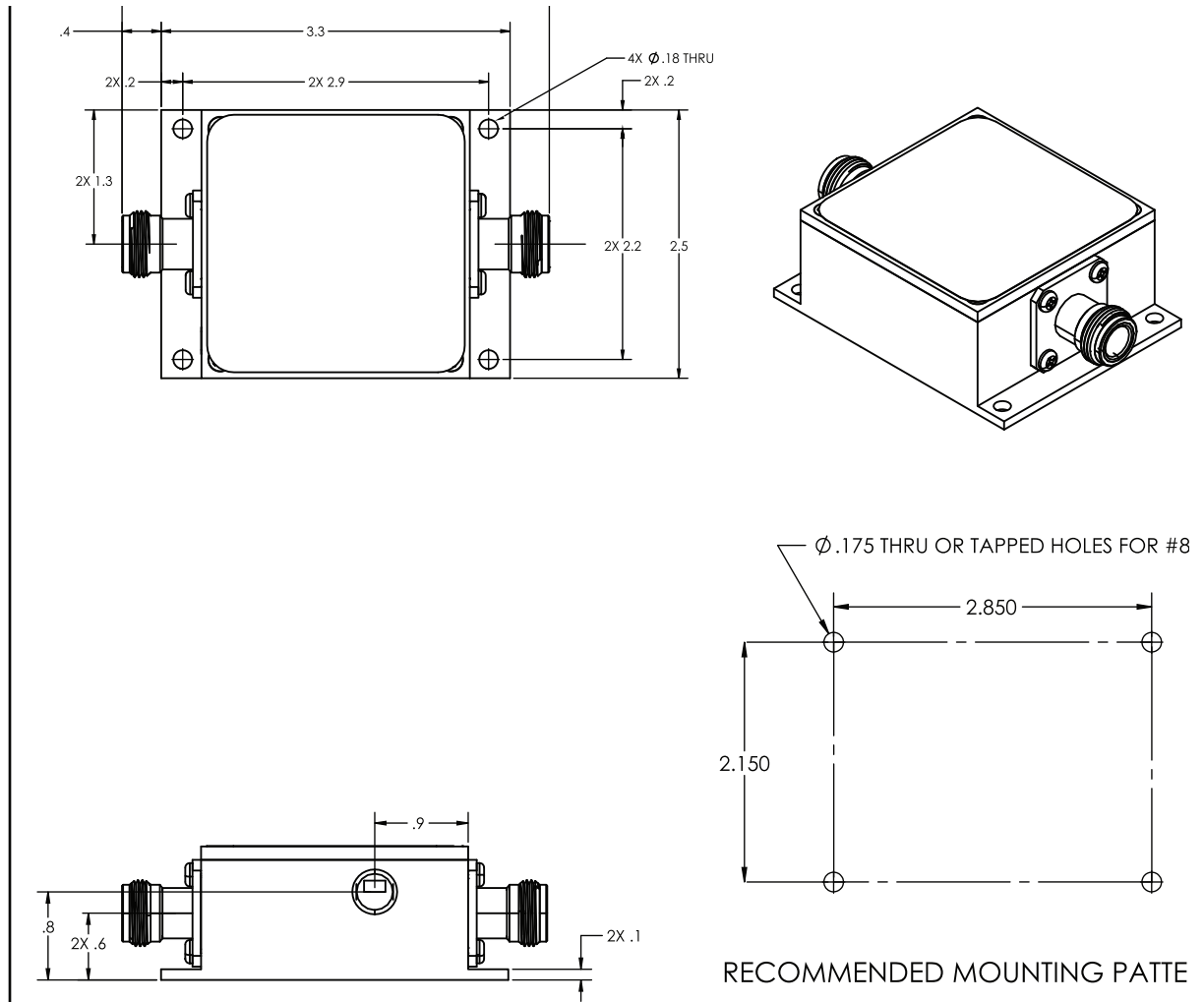
4 Product Code Decoder

A 1 1 - A - X - X - X - X - P 1 1 0 / 5 - S F



5 Mechanical Drawing

A11 Amplifier — FAM-AAA-AAX-BBZ



GPS Source Part No. FAM-AAM-AAX-BBZ	Finish N/A	Size C	Mass	Tolerances Linear
Description A11 Amplifier	Material N/A	3 rd Angle Projection 		

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

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64 N. Mission Drive
Pueblo West, CO 81007
Phone: (+1)(719) 561.9520
Fax: (+1)(719) 565.0890
techsales@gpssource.com
www.gpssource.com

AS9100C:2009 and ISO 9001:2008 Compliant Company



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