

A11 Amplifier

Features

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



Description

Designed with the thin link margins of satellite navigation systems in mind, the A11 Amplifier is a single stage gain block that covers the GPS, Galileo, and GLONASS frequencies. The device features 30dB of gain and a noise figure of less than 1.8dB. The product may 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.

The A11 amplifier comes with many available options to meet your specific needs. Please call, fax, email (sales@gpssource.com), or visit our website (www.gpssource.com) for further information on product options & specifications.

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Electrical Specifications, Operating Temperature -40 to 85 °C

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	IN – OUT, IN/OUT-50Ω	1		2	GHz
In/Out Imped.	IN, OUT		50		Ω
Gain 1575MHz 1227MHz	IN – OUT, IN/OUT-50Ω	30 30	32 32	33 33	dB
Variable Gain Opt. 1227MHz: Max Gain Min Gain: 1575MHz Max Gain Min Gain:	IN – OUT, IN/OUT-50Ω	28 -4 28 -2	30 -3 30 0	32 -1 32 1	
Input SWR	OUT Port - 50Ω			2.0:1	-
Output SWR	IN Port - 50Ω			2.0:1	-
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	VAC
DC IN	Pass DC	Non-Powered Configuration, DC Input on OUT port		3	VDC
	Powered	Powered, Mil. Conn. Or Quick Connect Option		3 ⁽¹⁾	28 ⁽²⁾ VDC
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		Note 3	mA
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:

$$I_{out} \leq 1.4 / (V_{DC\ IN} - V_{DC\ OUT}) - 0.007 \quad \text{Amps}$$

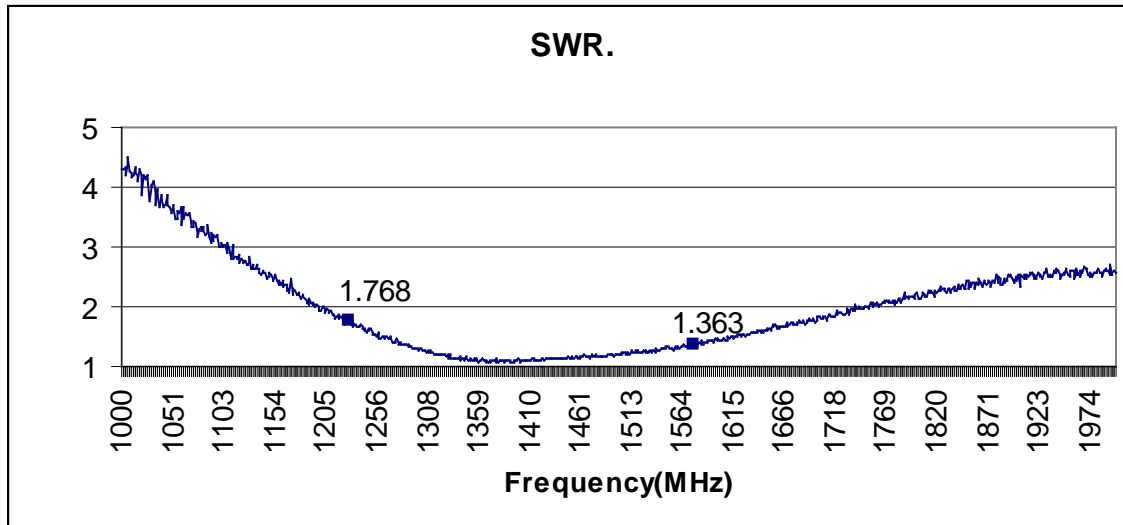
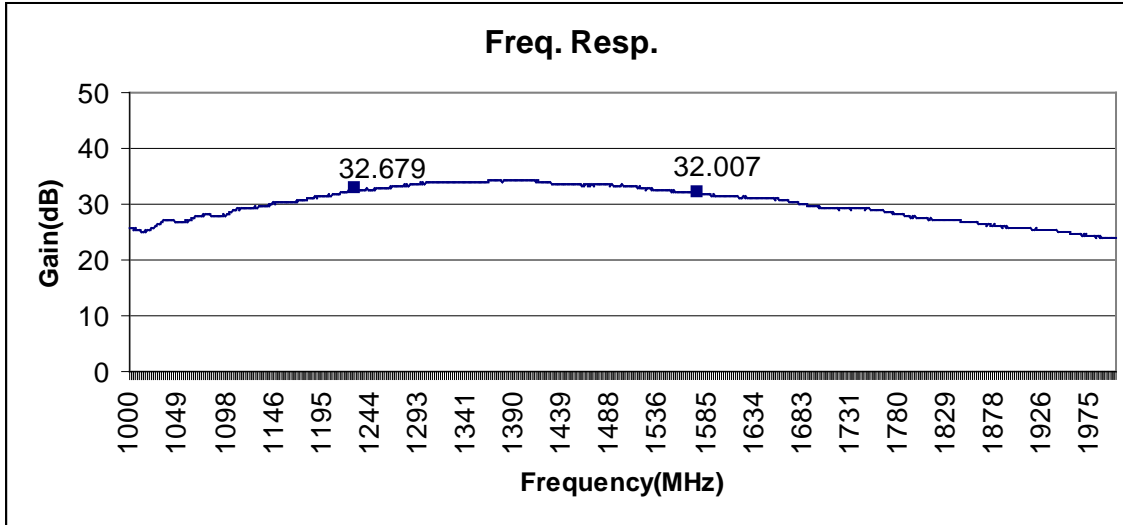
For powered option with a wall mount transformer (Voltage Input = 110/220/240 VAC), V_{DC IN} is 9V.

- Does not apply to variable gain option at any setting other than max gain

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Performance Data

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Available Options:

Power Supply Options:		
Source Voltage Options	Voltage Input	Type
	110 VAC	Wall Mount Transformer
	220 VAC	Wall Mount Transformer
	240 VAC (U.K.)	Wall Mount Transformer
Output Voltage Options ⁽¹⁾	PDC 5-28 VDC Or PM	Military Style Connector or Tinned Leads
	DC Voltage Out ⁽²⁾	
	3.3	
	5	
	7.5	
	9	
	12	
	Variable (3-12V)	
Custom		
RF Connector Options:		
Connector Options	Connector Type	Limitations
	N (Male & Female)	
	SMA (Male & Female)	
TNC (Male & Female)		
Housings	Housing Type	Limitations
	Standard	None
Port Options: ⁽¹⁾		
Standard Configuration	Pass DC Input and Output	
Special Configuration	Block DC Input or Block DC Output (cannot block both)	

Notes:

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

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Part Number:

A11 – A – X-X-X-X – P110 / 5 – SF

Product Standard

Custom Gain Option:

AXX – XX = Desired Gain Level

V – Variable Gain, 0 to 30dB

Blank – Default Gain, 30dB

Environmental Option(s):

B - Beacon

E - EMI Shielding (includes waterproofing)

HS - Hermetically Sealed

V – Variable Gain

W - Waterproof

Source Voltage:

P110 – Transformer

P220 – Transformer

P240 – Transformer

PDC – DC

PM – Military Connector (User supplies DC)

PM38999 - Military Connector (User supplies DC)

PMS-1275 – Military Connector (User supplies DC & 1275B Compliant)

PMS-704 – Military Connector (User supplies DC

& 704F Compliant

PMS38999-1275 - Military 38999 Connector

& 1275B Compliant

PMS38999-704 – Military 38999 Connector

& 704F Compliant

Blank – No External Power

* – On/Off Power Switch Available Upon Request

Output Voltage:

3.3, 5, 7.5, 9, 12, XX, V – Denotes Output Voltage

(XX – custom output voltage, V – variable)

Connector Options:

NF – N, Female

NM – N, Male

SF – SMA, Female

SM – SMA, Male

TF – TNC, Female

TM – TNC, Male

For help in creating the part number to meet your exact needs, contact us at Sales@gpssource.com or visit our website at www.gpssource.com.