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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.

Electrical Specifications, Operating Temperature -40 to 85^oC

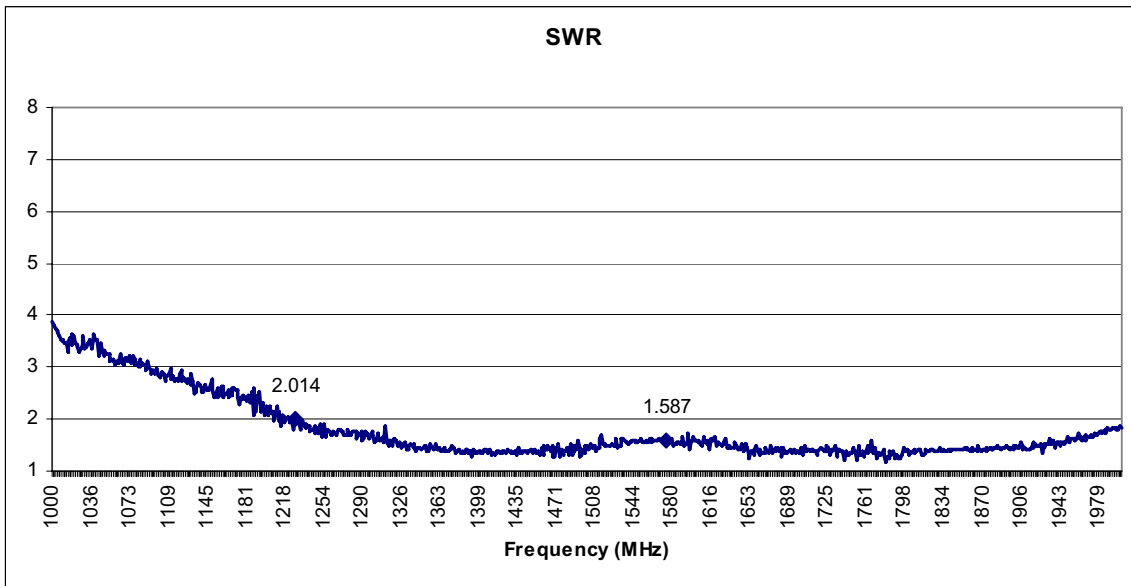
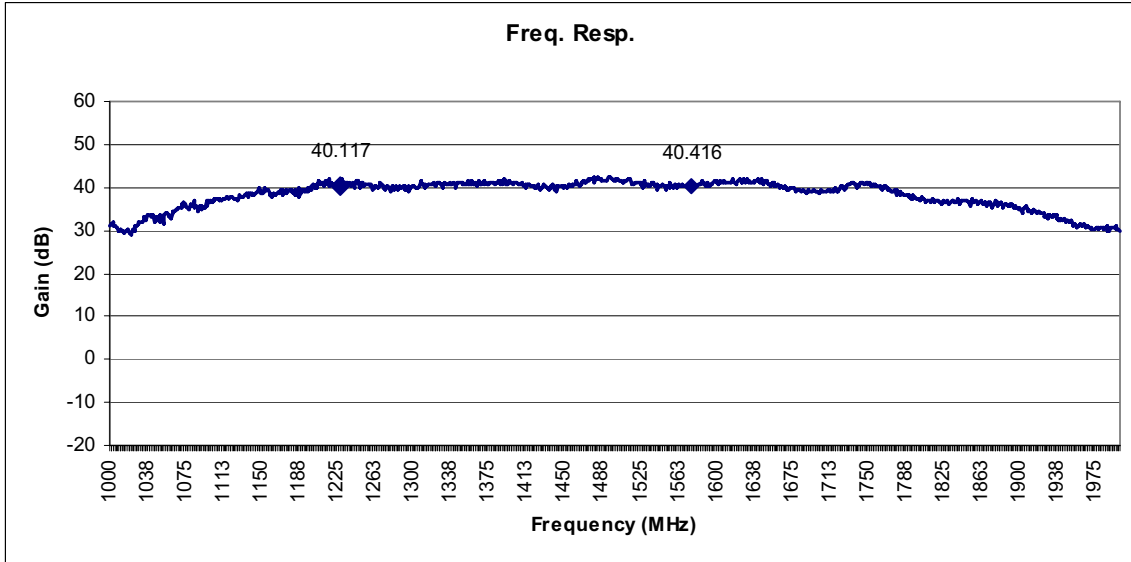
Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	IN – OUT, IN/OUT-50Ω	1.2		1.7	GHz
In/Out Imped.	IN, OUT		50		Ω
Gain ⁽¹⁾ 1227MHz 1575MHz	IN – OUT, IN/OUT-50Ω	38 38	40 40	42 42	dB
Variable Gain Opt ⁽¹⁾ 1227MHz: Max Gain: Min Gain: 1575MHz Max Gain: Min Gain:	IN – OUT, IN/OUT-50Ω	34.5 -7 34.5 -7	36 -6 36 -3.4	38 -3 38 -2	dB
Filtered Opt ⁽¹⁾⁽²⁾ 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			dBm
Input IP ₃	IN – OUT, IN/OUT-50Ω	-33			dBm
Input SWR ⁽¹⁾	OUT Port - 50Ω			2.5:1	-
Output SWR ⁽¹⁾	IN Port - 50Ω			2.5:1	-
Noise Figure ⁽³⁾	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:

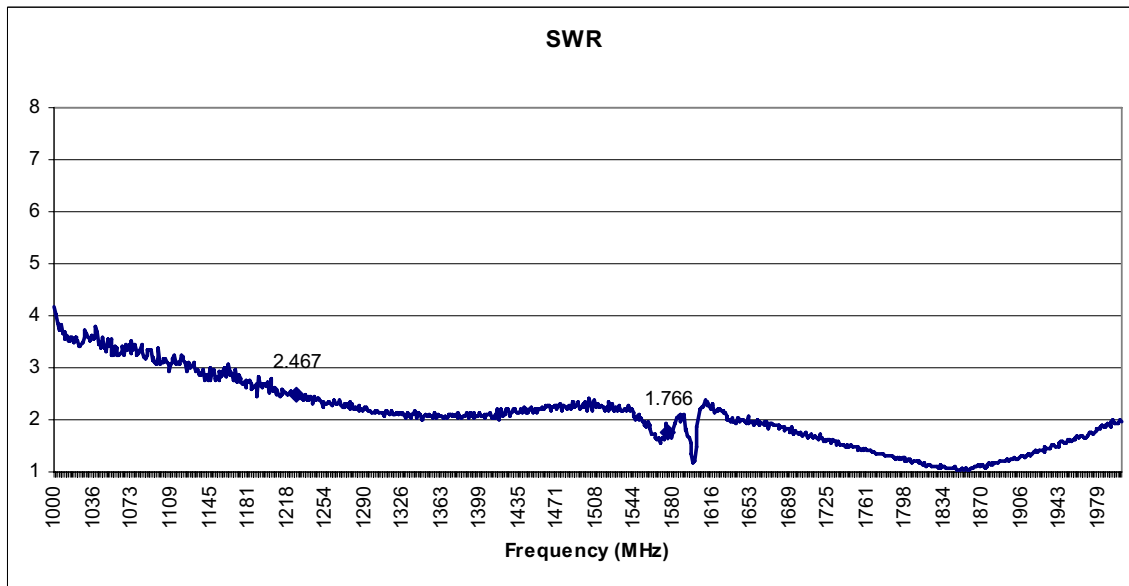
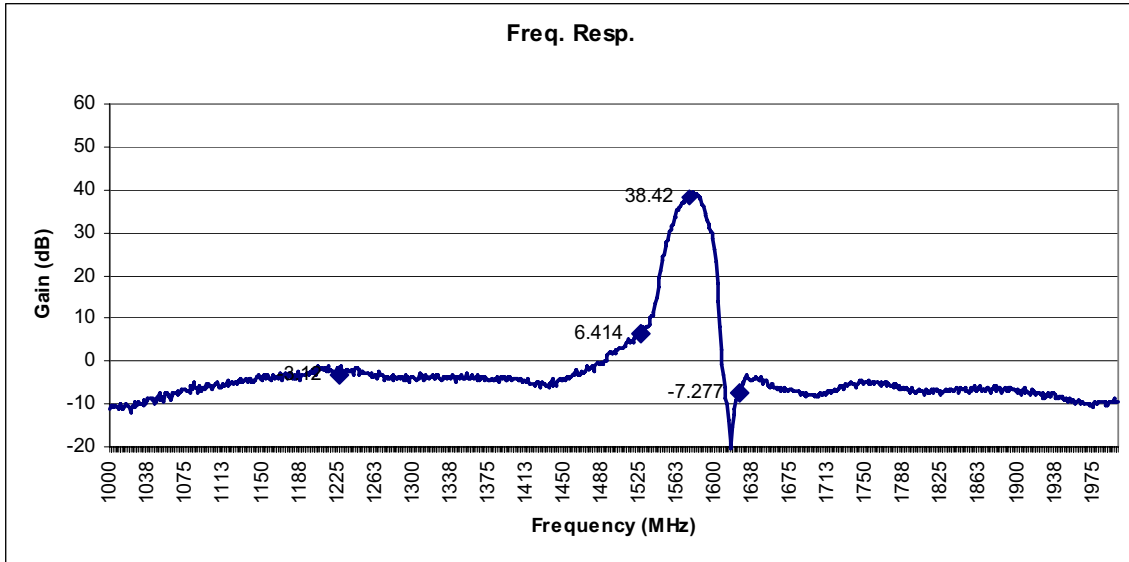
1. Performance guaranteed for N(F) connectors
2. Rejection figures are relative to passband
3. Does not apply to variable gain option at any setting other than max gain

Performance Data:

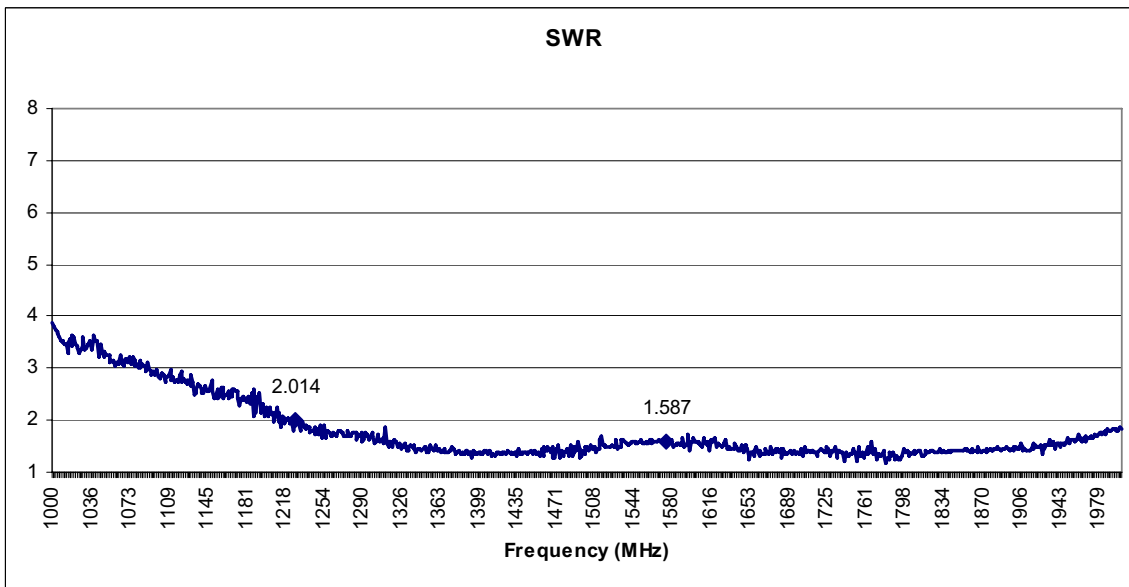
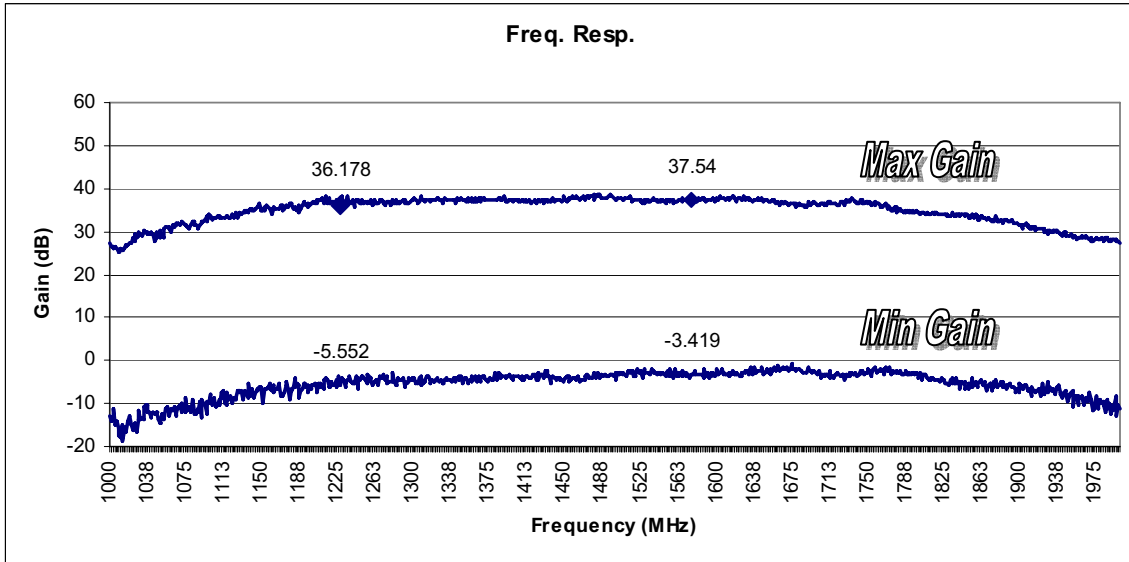
A11M4 Amplifier



A11M4 Amplifier (Filtered Option)



A11M4 Amplifier (Variable Gain Option)





Available Options:

RF Connector Options:		
Connector Options	Connector Type	Limitations
	N (Male & Female)	
	SMA (Male & Female)	
	TNC (Male & Female)	
	SMB (Female)	
	SMC (Female)	
	MCX (Female)	
	BNC (Male & Female)	Performance Not Guaranteed
Housing Options:		
Housings	Housing Type	Limitations
	Mini,	None
	Tiny	Connectors Not Available: N, TNC, BNC
Port Options:		
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