

A11XLV Digital Variable Gain GPS Amplifier

Technical Product Data

Features

- **-15 to +40dB Gain**
- **Easy to Use Digital Display and User Interface**
- **Optional RS232 interface for ATE**
- **Optional Filtered L1 or L1\L2**
- **Optional Oscillation Detection & Prevention**
- **Optional Antenna Monitor & Alarm Indication**



Description

Ideal for Automated Test Environments (ATE), the A11XLV is a high gain, high dynamic range Digital GPS Amplifier. Designed specifically for GPS applications, the A11XLV has provisions for supplying the DC voltage for the active antenna, including an optional feature for monitoring the health of the receive antenna system. The product includes additional optional features for oscillation detection and prevention, and filtering for the GPS L1 & L2 bands. The A11XLV also includes an optional integrated GPS receiver, which enables a calibrated and controlled output at the user defined level, regardless of the uncertain loss or gain in the receive antenna cable network (Future opt.). The A11XLV features digital display with a user friendly menu enabling easy operation and configuration of the device. With an optional Bluetooth wireless interface also available, the A11XLV may be configured remotely when access to the system is not convenient.

Call, email (sales@gpssource.com), or visit our website (www.gpssource.com) for further information on product options, specifications, or to receive an easy to use order sheet.

Electrical Specifications, Operating Temperature -20 to 65⁰C

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range:	IN – OUT, IN/OUT-50Ω	1200		1700	MHz
Gain ⁽¹⁾ 1575MHz -Max. Gain Setting -Min. Gain Setting 1227MHz -Max. Gain Setting -Min. Gain Setting	IN – OUT (Tx Ant.)	39 -18 38.5 -16	40 -15 40 -15	41 -14 41.5 -12	dB
L1 Filtered Opt 1575MHz -Max. Gain Setting -Min. Gain Setting +/- 50MHz ⁽²⁾ +/- 100MHz ⁽²⁾ +/- 300MHz ⁽²⁾ 1227MHz	IN – OUT, IN/OUT-50Ω;	38 -16.5 5 20 40 40	39 -15	41 -13.5	dB
L1\2 Filtered Opt 1575MHz -Max. Gain Setting -Min. Gain Setting +/- 50MHz ⁽²⁾ +/- 100MHz ⁽²⁾ + 300MHz ⁽²⁾ 1227MHz -Max. Gain Setting -Min. Gain Setting +/- 50MHz ⁽²⁾ +/- 75MHz ⁽²⁾ - 300MHz ⁽²⁾	IN – OUT, IN/OUT-50Ω;	38 -16.5 5 12 40 38 -16.5 5 12 45	39 -15	41 -13.0	dB
Input 1dB Comp.	IN – OUT, IN/OUT-50Ω	-55			dBm
Input IP ₃	IN – OUT, IN/OUT-50Ω	-43			dBm
Input/Output Imped.	IN, OUT Port		50		Ω
In/Out SWR ⁽¹⁾	Input, Output Port 50Ω			2.0:1	-
Gain Flatness ^(1,3)	L1 – L2 , IN – OUT, IN/OUT-50Ω			2.5	dB
Noise Figure	IN- OUT, IN/OUT -50Ω; Max. Signal Setting			2.5	dB
DC IN	DC Input from wall mount transformer, or quick disconnects	8	9	16	VDC
	Optional DC input on IN Port:	6		16	VDC

Parameter	Conditions	Min	Typ	Max	Units
Current	Amplifier Current Draw, DC Input			180	mA
Antenna Monitor ⁽⁴⁾	I_{OC}	15		75	mA
	I_{SC}	100		125	
Current (Iout)	Antenna Current Draw, DC output to Ant VDC In = 9V			70	mA

Notes:

1. Performance guaranteed for N(F) connectors.
2. Relative to the passband.
3. Non-Filtered.
4. Open Circuit & Short Circuit Current (I_{OC} , I_{SC}) may be set by the customer within the specified range. Antenna Monitor Option (-M) is only available with 5VDC output voltage.

Performance Data:

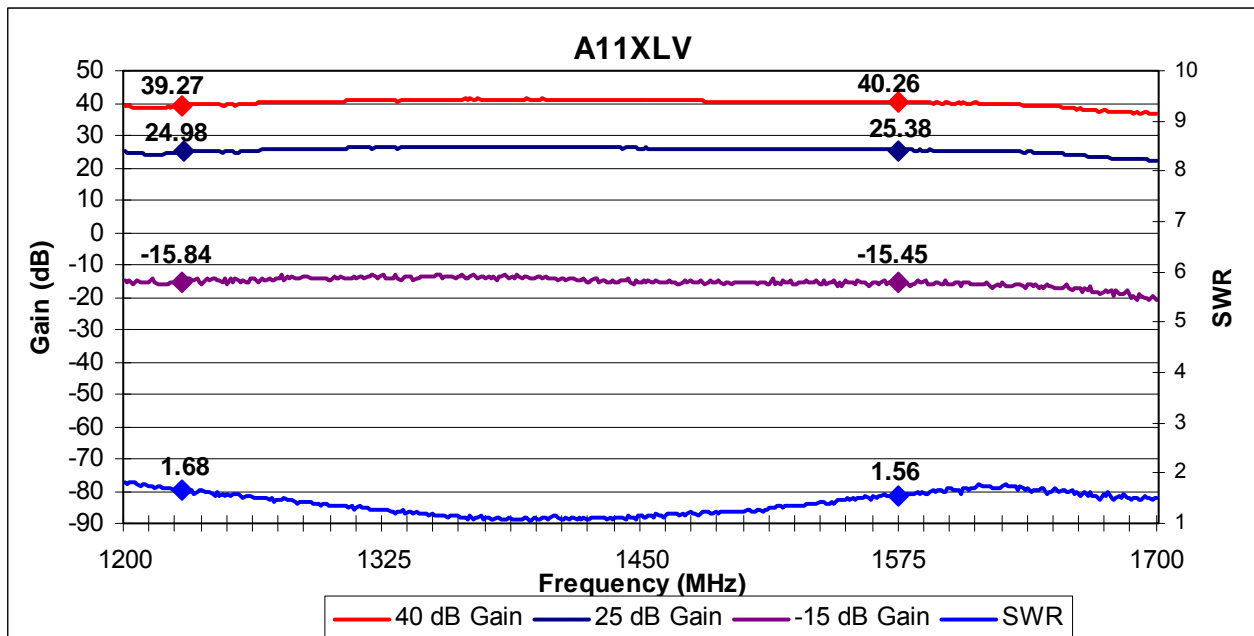


Figure 1. A11XLV Non-filtered Frequency Response

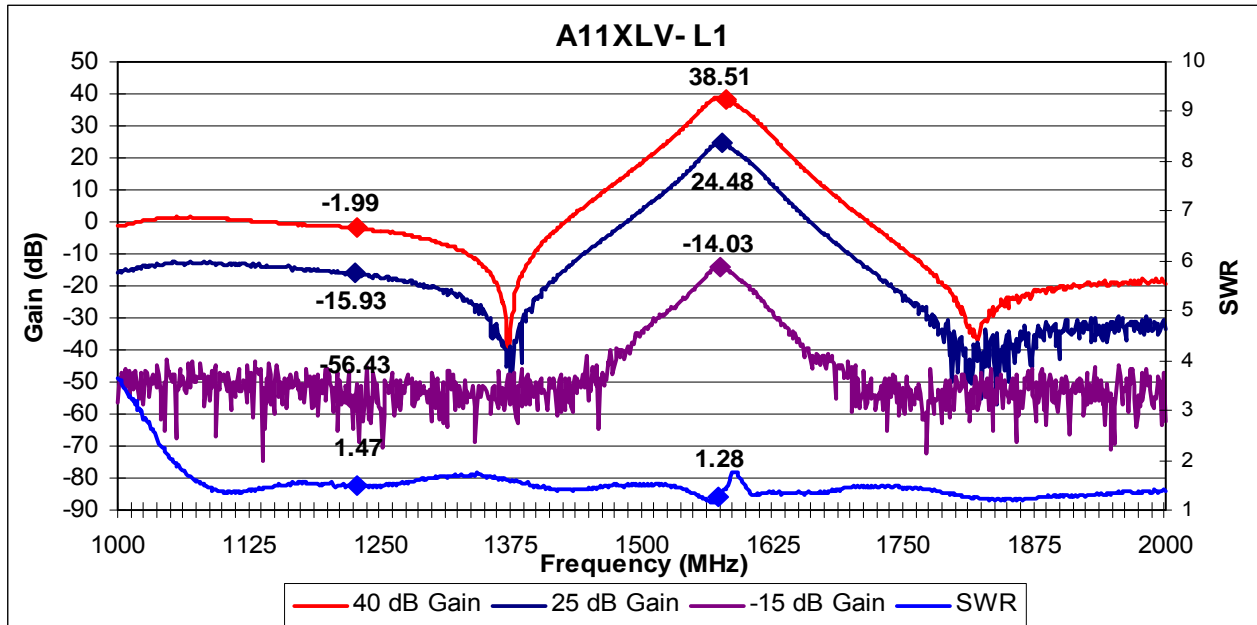


Figure 2. A11XLV L1 Filtered Frequency Response

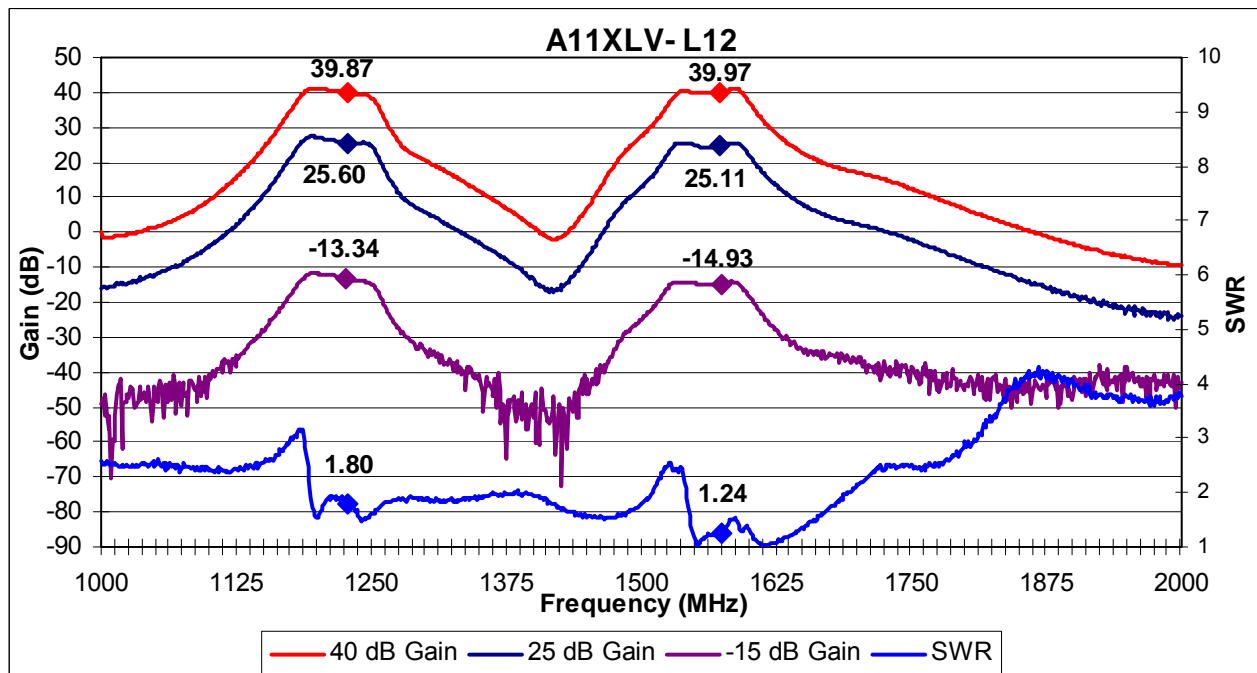


Figure 3. L1/L2 Filtered Frequency Response

Available Options:

Power Supply Options:		
Source Voltage Options	Voltage Input	Type
	DC 8-16 VDC	Transformer, Quick Connects
	DC 6-16 VDC	DC Input on IN Port
Output Voltage Options	DC Voltage Out⁽¹⁾	
	5 (Antenna Monitor Option (-M) only available with 5VDC output)	
	7.5	
	9	
	12	
	Variable 5-12 (Future)	
	Custom	
RF Connector Options:		
IN Port Connector Options	Connector Type	Limitations
	N (Male & Female)	
	SMA (Male & Female)	
	TNC (Male & Female)	
	BNC (Male & Female)	Performance Not Guaranteed

Notes:

- Maximum DC current draw out input port of the device is a function of the DC input voltage and desired DC output voltage , according to the following:

$$I_{out} \leq 1.4 / (V_{DC IN} - V_{DC OUT}) - 0.180 \quad \text{Amps (or 250mA max)}$$

Part Number:

A11XLV - G - R2 - F1 - M - O - P110 / 5 - SF

Product:

Standard A11XLV

GPS Rx Pwr Ctrl Opt:

BLANK – Standard Amp.
G – Calibrated Lvl Ctrl. (Future)

RS232 Serial Option:

BLANK – No RS232
R2 – Standard RS232 DCE
R2B – Bluetooth Wireless Link

Filter Option:

BLANK – No Filter
F1 – L1 Filtered
F12 – L1\L2 Filtered

Antenna Monitor Opt:

BLANK – No Ant Monitor
M – Antenna Monitor Opt.
 (Only ava. w/ 5VDC Output Voltage)

Oscillation Detection Opt:

BLANK – No Osc. Det.
O – Osc. Det. Opt.

Source Voltage:

P110 – Transformer,
P220 – Transformer,
P240 – UK Transformer,
PDC – DC w/Quick Connects
PM – Military Connector (User supplies DC)
NP – No Power


Output Voltage:


5, 7.5, 9, 12, XX, V – Denotes Output Voltage
 (XX – custom output voltage, V – variable{future})

Connector Options:

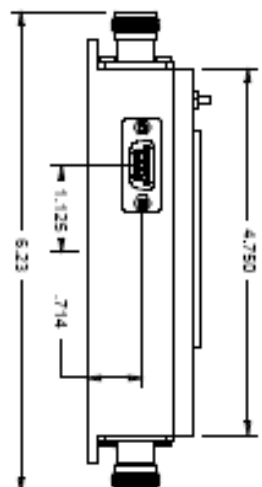
NM – N, Male, **NF** – N, Female, **SM** – SMA, Male, **SF** – SMA, Female
TM – TNC, Male, **TF** – TNC, Female, **BM** – BNC, Male, **BF** – BNC, Female
SB – SMB Jack, Female, **SC** – SMC Jack, Female, **MX** – MCX Jack, Female

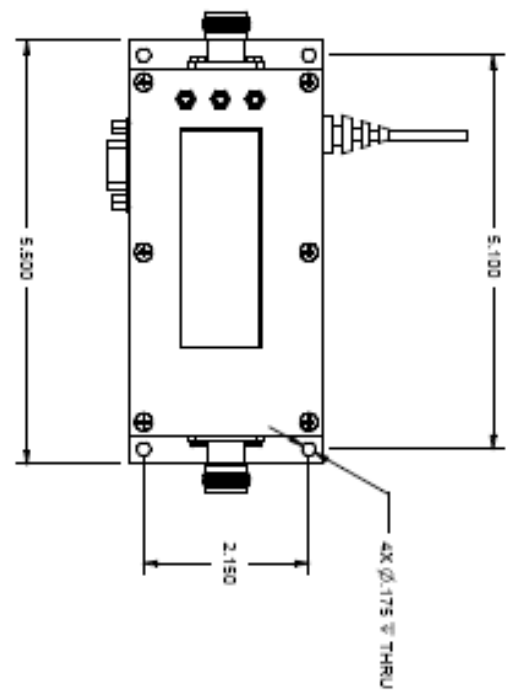
Mechanical:

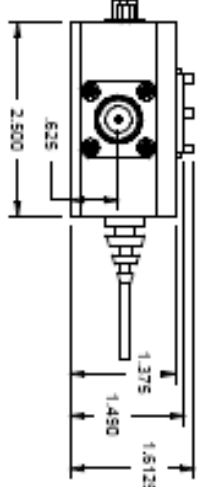


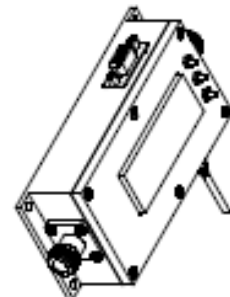


DRAWN JMK	DATE 15MAR2005	TITLE FAV AVP VARIABLE A11X1.V BRDBND HIGAIN/DIGITAL/ATT NO/OSC/EFT NO/GPS P110/3		SCALE 1/2	SHEET 1 OF 1
CHECKED FWC	APPROVED	SIZE A	DWG FILE NAME 031-FAV1:AAE-AATC-BBZ	GPS SOURCE PART NUMBER FAV1:AAE-AATC-BBZ	REV 001









REVISIONS			
ZONE	REV	DESCRIPTION	DATE