

# Filtered Low Noise Amplifier

## SPECTRUM MICROWAVE

P/N: 310-025109-011

### For GPS Applications

1227 MHz/1575 MHz

This series of Low Noise Amplifiers provides a filtered, low-noise gain solution ideal for applications where higher reliability is critical. These filtered low noise amplifiers are designed to reduce out-of-band interference while achieving high dynamic range.

A pair of diplexed 3-pole ceramic filters select only the desired GPS signals while the low-noise gain stage maintains the receiving system's sensitivity.

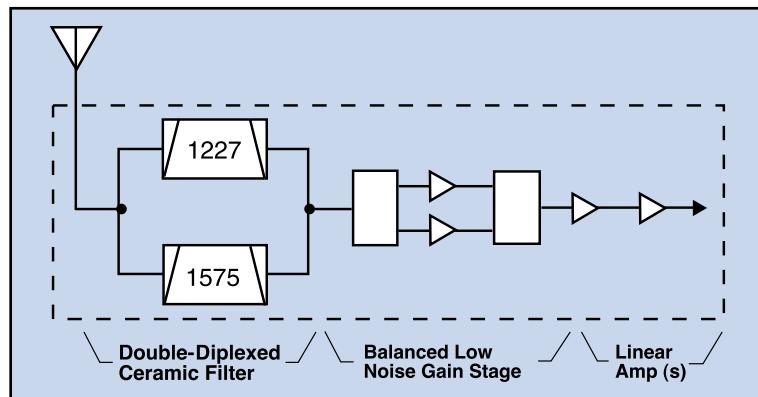
The LNA rejects undesired signals by at least 40 dB at 1050, 1410, and 1710 MHz. See the graphs on Page 2 for return loss, rejections, and gain of a typical unit.

The preamplifier is powered by DC voltage applied to the center conductor of the output connector. Optionally, the unit can be powered through an external DC bias connector.

### Features and Benefits

- Noise figure 1.6 dB typical
- Double-diplexed preamp filters
- Lightweight aluminum housing
- Dual band (L1 and L2) performance
- Coaxial and external bias options
- Environmental sealing available
- Application specific packages available
- Suitable for new L2-C signals
- L5 configurations available upon request

### Block Diagram



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### Typical Performance Specifications

|                             |                              |
|-----------------------------|------------------------------|
| Frequency . . . . .         | 1575.42 MHz (L1)             |
|                             | 1227.60 MHz (L2)             |
| Bandwidth . . . . .         | 30 MHz min.                  |
| Noise figure . . . . .      | 2.0 dB max.                  |
| VSWR . . . . .              | 1.5:1 max.                   |
| Gain . . . . .              | 45 dB +/-3.0 dB              |
| Gain Flatness . . . . .     | +/-0.5 dB                    |
| Rejection . . . . .         | 40 dB @ 1050, 1410, 1710 MHz |
| Bias . . . . .              | Coaxial Bias                 |
| DC Power . . . . .          | 5-16 VDC                     |
| Temperature Range . . . . . | -40°C to +71°C               |

### Dimensions and Connections

- Antenna port J1
- Receiver port J2
- SMA type female connectors
- 2.20"Ø x 0.080"H excluding connectors

Chassis is machined aluminum with a nickel plate finish.

ISO 9001  
CERTIFIED

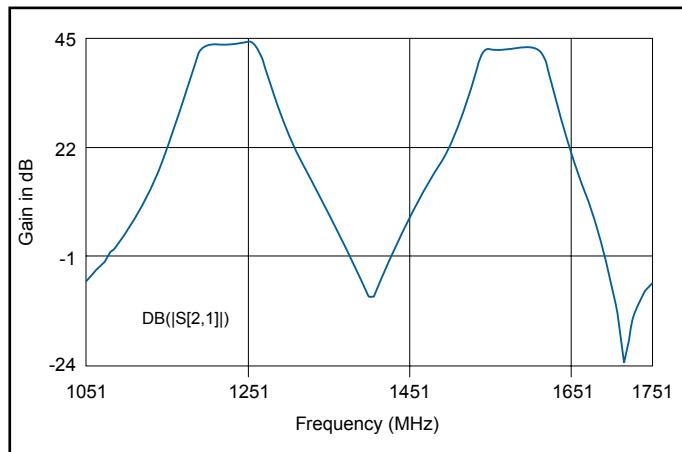
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SPECTRUM MICROWAVE • 2707 Black Lake Place • Philadelphia, Pennsylvania 19154 • Phone: 215-464-4000 • Fax: 215-464-4001 [www.SpectrumMicrowave.com](http://www.SpectrumMicrowave.com)

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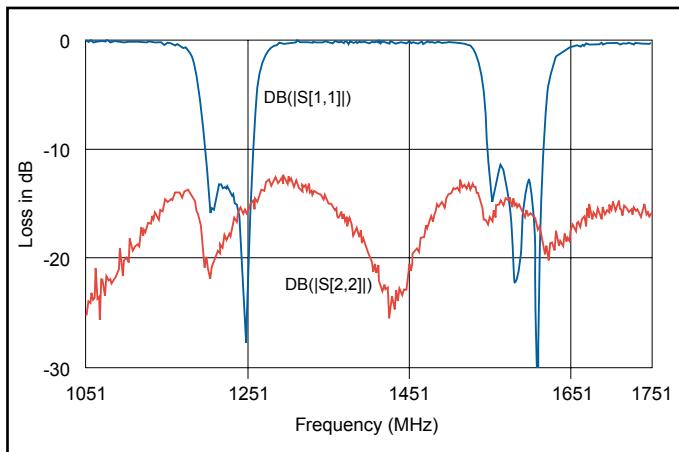
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## Amplifier Gain



## Return Loss



## Dimensions (inches)

