

Filtered Low Noise Amplifier

SPECTRUM MICROWAVE

P/N: 310-024107-021

For GPS Applications

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 3-pole ceramic filter selects only the desired GPS positioning signal while the low-noise gain stage maintains the receiving system's sensitivity.

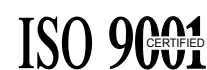
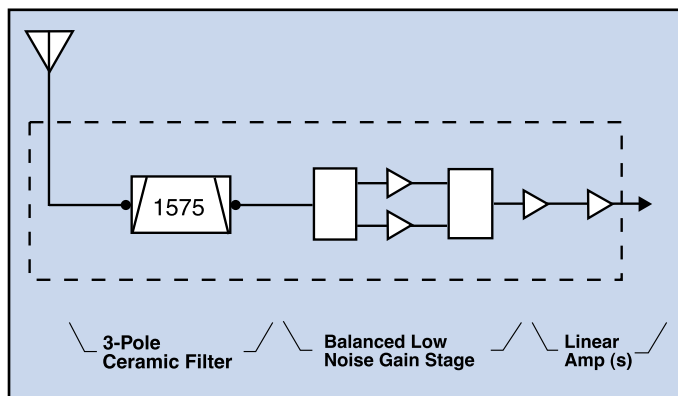
The LNA rejects undesired signals by at least 40 dB at 1050, 1410, and 1710 MHz. See the graphs on Page 2 for return loss, rejections, and gain of a typical unit.

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
- Filtered preamp filters
- Lightweight aluminum housing
- Single band (L1) performance
- Coaxial and external bias options
- Environmental sealing available
- Application specific packages available
- L5 configurations available upon request

Block Diagram



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Typical Performance Specifications

- Frequency 1575.42 MHz (L1)
 - Bandwidth 30 MHz min.
 - Noise figure 2.5 dB max.
 - VSWR 1.5:1 max.
 - Gain 34 dB +/-2.0 dB
 - Gain Flatness +/-0.5 dB
 - Rejection 40 dB @ 1050, 1410, 1710 MHz
 - Bias Ext Bias, MR01
 - DC Power 5-16 VDC
 - Temperature Range -40°C to +71°C
- All specifications above measured at 25°

Dimensions and Connections

- Antenna port J1
 - Receiver port J2
 - External bias J3
 - SMA type female connectors
 - 2.20"Ø x 0.080"H excluding connectors
 - Optional Bias cable is available to simplify testing and evaluation (P/N: A020-0560)
- Chassis is machined aluminum with a nickel plate finish.

Noise Figures

| GPS Band | Freq (MHz) | NF (dB) |
|----------|------------|---------|
| L1 | 1565 | 1.60 |
| | 1575 | 1.60 |
| | 1585 | 1.60 |

S-Parameters for this model are available on our website. LNA parameters include noise data.

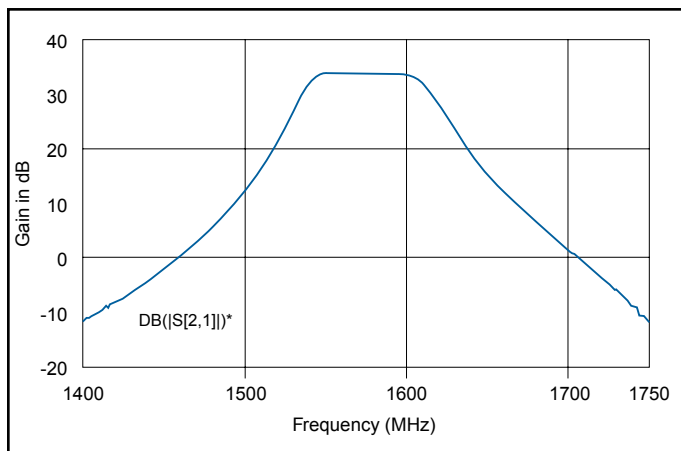


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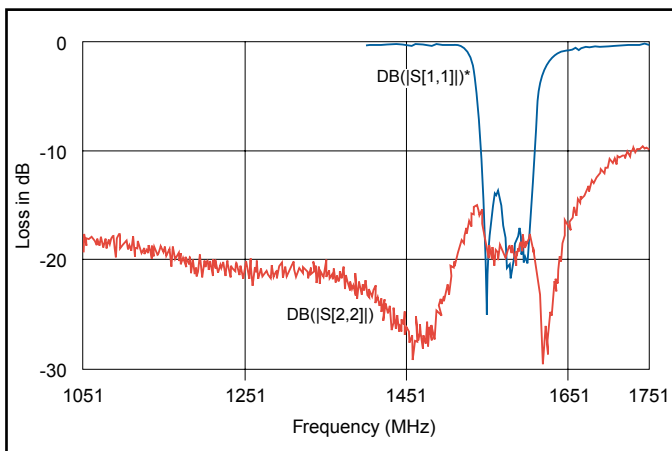
Filtered Low Noise Amplifier

1575 MHz

Amplifier Gain



Return Loss



Dimensions (inches)

