



### Low Noise Amplifier

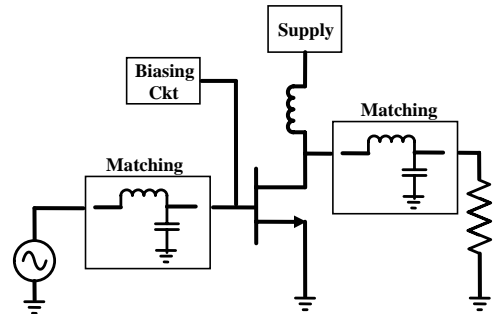
RJL02

#### Description

The **RJL02** is 1575 MHz narrow band Low Noise Amplifier IP Block. The LNA is designed on the 0.18um SiGe BiCMOS Process. The device is designed for GPS system Application.

The LNA die area is 0.8 mm x 0.7 mm. It has two off chip components at input side. It requires a single +3.0 Volt supply to operate and consumes 4.93 mA current.

#### Functional Diagram



#### Applications

- GPS Receivers

#### Key Features

- High Performance
- Low Current
- Noise Figure: 0.7dB @ 1575 MHz

#### Electrical Specification

Conditions:  $V_{cc} = 3\text{ V}$  &  $T_A = 25\text{ }^\circ\text{C}$

Parameter	Min	Typical	Max	Units
Frequency Range	1500	1575	1700	MHz
Gain		13.7		dB
P1dB (out) @ 1575 MHz		16		dBm
Noise Figure @ 1575 MHz		0.7		dB
Input Return Loss		20		dB
Output Return Loss		10		dB
Supply Current		4.93		mA
Supply Voltage		3		V

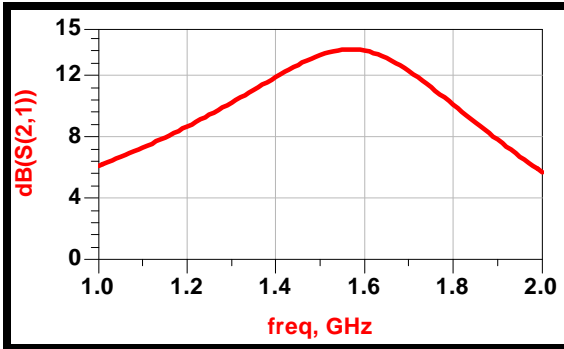


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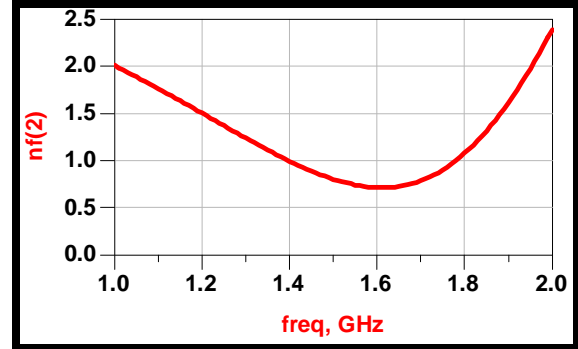
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Simulated Results

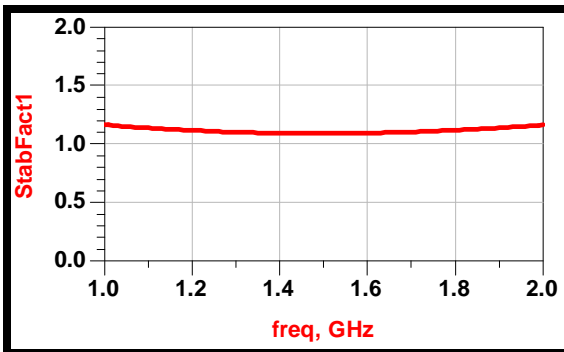
Gain Vs Freq



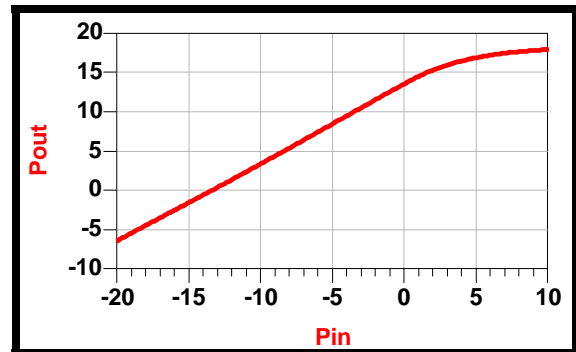
Noise Figure Vs Freq



Stability Factor Vs Freq



Pin Vs Pout



Layout

