



Low Noise Amplifier

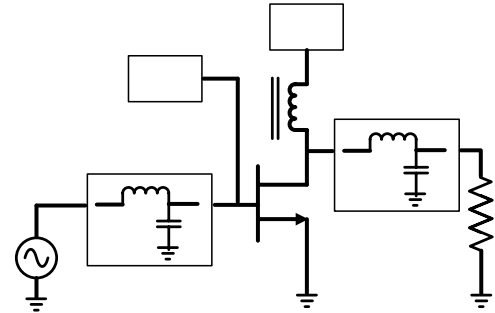
RTLNA01

Description

The **RTLNA01** is 2 to 4 GHz; Low Noise Amplifier IP Block .The device is designed for 802.11 b/g and Cellular system. The LNA has input and output matching off-chip which will provide the flexibility to tune the LNA for low noise figure.

The LNA is biased single 3.0 V supply and consumes only 7.5mA current. The simulated noise figure is as low as 1.5 dB at 2 GHz

Functional Diagram



Applications

- IEEE 802.11 b/g WLAN
- Cellular System
- WiFi Systems
- ISM Band Systems

Key Features

- Low Current
- Low noise Figure of 1.45dB
- Low Cost

Electrical Specification

Conditions: $V_{cc} = 1.8\text{ V}$ & $T_A = 25\text{ }^\circ\text{C}$

Parameter	Minimum	Typical	Maximum	Units
Frequency Range	2		4	GHz
Gain	10.2		11.8	dB
Input Return Loss		7		dB
Output Return Loss		10		dB
Noise Figure	1.45		1.75	dB
Supply voltage		1.8		V
Supply Current		7.5		mA

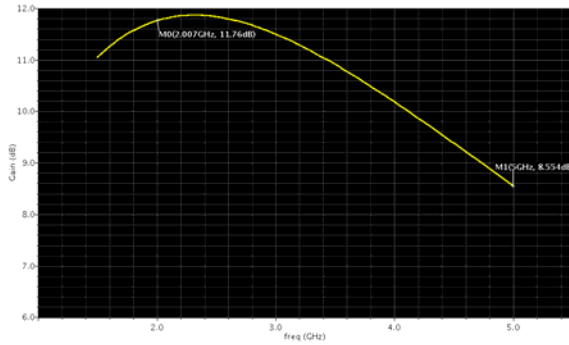


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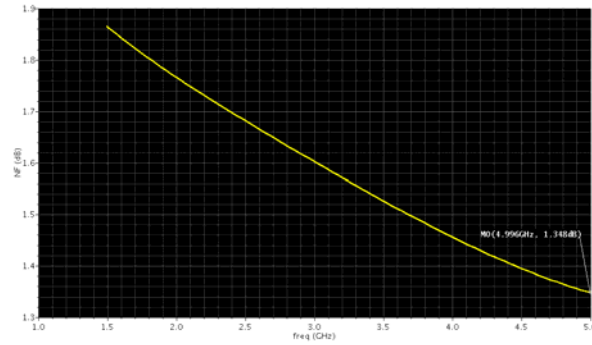
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Simulated results

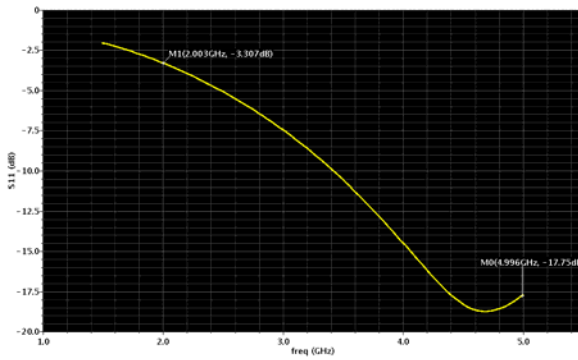
Gain Vs Freq



Noise Figure Vs Freq



Input Return Loss Vs Freq



Output Return Loss Vs Freq

