



2 STAGE LOW NOISE AMPLIFIERS (1.7 to 2.7 GHz)

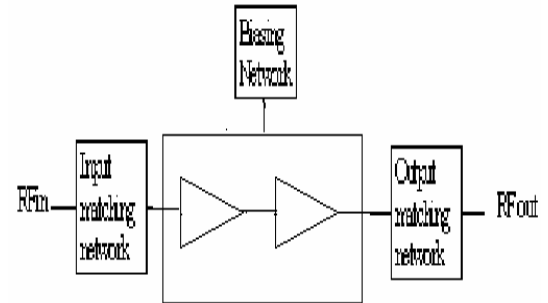
RCL02
Preliminary datasheet

IP Description

The RCL02 is 1.7 to 2.7 GHz high efficiency 2 Stage Low noise amplifier designed on 0.18 μ m SiGe BiCMOS process. The device is designed for use in the 802.11b/g and WLAN MIMO system.

The noise figure is 1.3dB. The device works with single +1.8V supply voltage and draws 18.8mA of current.

Functional block diagram



Applications

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

Key Features

- 1.7 GHz to 2.7 GHz Frequency range covered
- Noise figure as low as 1.7dB
- 50 ohm Matched RF Ports

Electrical Specifications

Parameter	Minimum	Typical	Maximum	Units
Frequency Range	1.7		2.7	GHz
Gain	25.7		27.6	dB
Input Return Loss		-10		dB
Output Return Loss		-10		dB
Noise Figure		1.3		dB
Supply voltage		1.8		V
Current		18.8		mA



Simulated Result

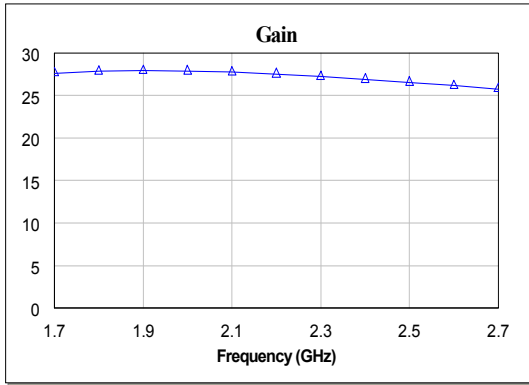


Fig1: Plot of Gain Vs. Frequency

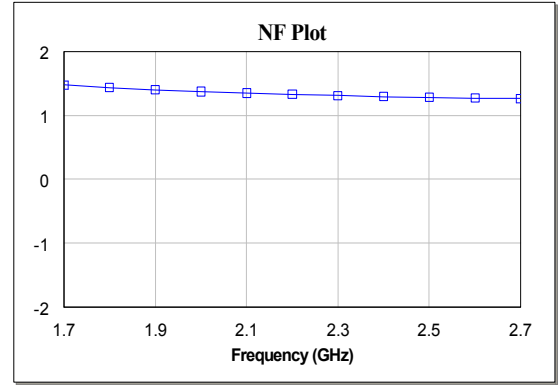


Fig2: Plot of Noise Figure Vs. Frequency

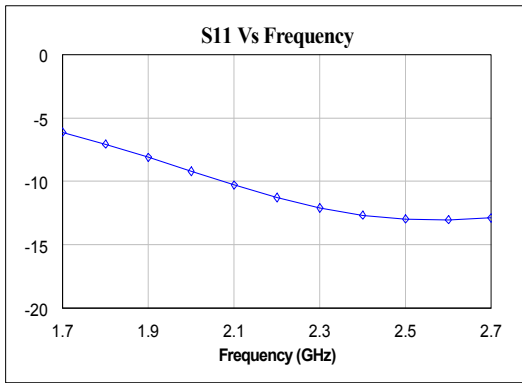


Fig3 : Input Return Loss Vs. Frequency

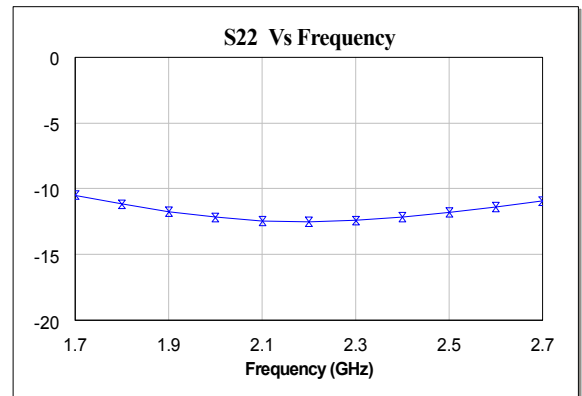


Fig4: Output Return Loss Vs. Frequency

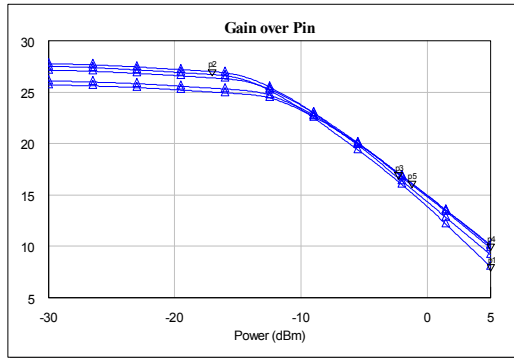


Fig5: Plot of Gain over Pin

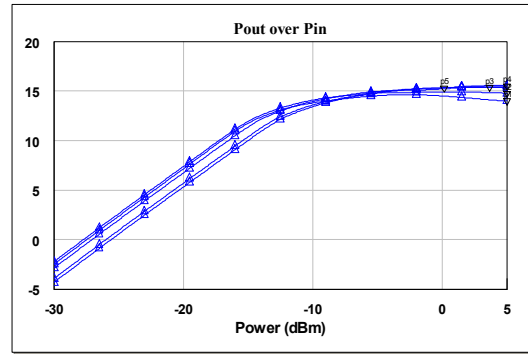


Fig6: Plot of Pout over Pin

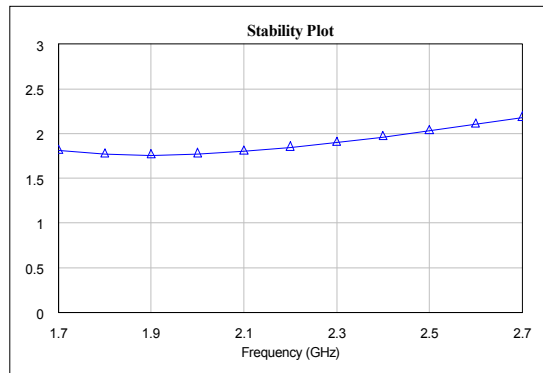


Fig5: Plot of Stability vs. Frequency

Layout

