

Low noise amplifier Project

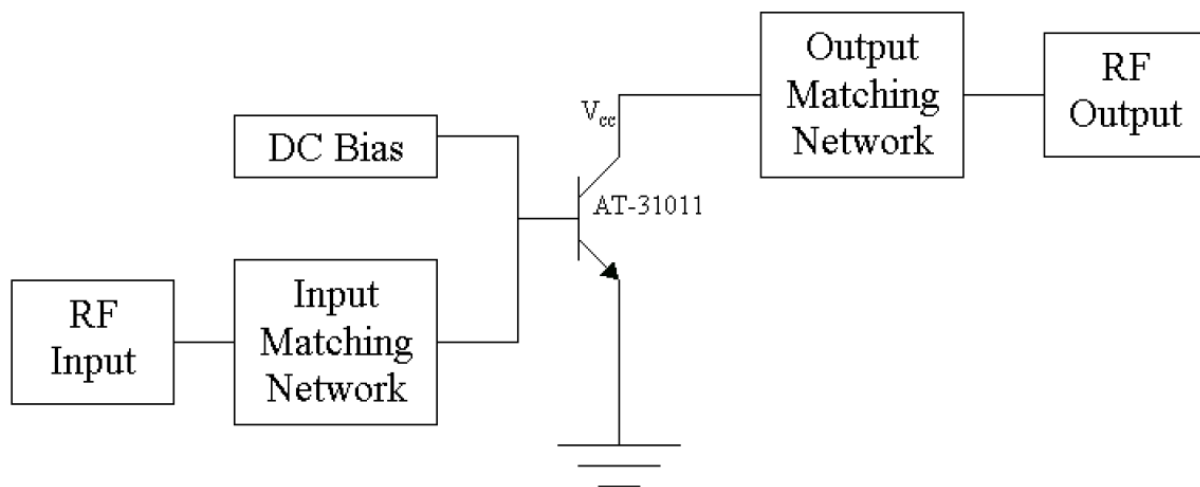
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Low noise amplifiers (LNA) represent one of the basic building blocks of the communication system. Signal coming from the antenna is very small -100 dBm ($3.2\mu\text{V}$) \sim -70 dBm (0.1 mV), then, amplification is needed for the following stage (mixer) to handle.

The purpose of the LNA is to amplify the received signal to acceptable levels while minimizing the noise it adds.

The block diagram of a low noise amplifier is shown below.



The required design specifications for the low noise amplifier in this project are as follows:

- Gain $> 10 \text{ DB}$
- Noise Figure $< 2\text{-}3 \text{ dB}$
- Use microstrip - matching networks
- Frequency band: 2.3 GHz to 2.5GHz