

## UHF/SHF 单片低噪声放大器的设计

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**摘 要:** 利用源极负反馈和共轭匹配的方法, 设计出一种特高频及超高频 (UHF/SHF) 单片低噪声放大器, 工作频带在 2.65~3.45 GHz 范围内, 噪声系数小于 1.5 dB, 增益大于 25 dB, 带内平坦度为±0.5 dB、电压驻波比小于 1.5。结果表明该低噪声放大器性能好、成本低、体积小、成品率高, 能够满足现代通信技术的要求。

**关键词:** 单片低噪声放大器; 高电子迁移率晶体管; ADS

## Design of UHF/SHF Monolithic Low Noise Amplifier

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**Abstract:** This paper introduces the application of ADS software to design the design of a UHF/SHF monolithic low noise amplifier, expounds the devices in the microwave monolithic design choice, in the frequency range of 2.65~3.45 GHz, the noise figure is less than 1.4 dB, the gain is larger than 25 dB, the flatness is 0.5 dB, voltage is less than 1.5 in Bobbi. The results show that the performance of low noise amplifier, low cost, small volume, high rate of finished products, can meet the requirements of modern equipment.

**Key words:** monolithic low noise amplifier; high electron mobility transistor; ADS

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