Abstract

A design of wide band low noise amplifier for a typical antenna system is investigated here. This utilizes a wide frequency band from 1-6 GHz. The design objective is to achieve minimum Noise Figure at reasonable gain throughout the entire band. The transistor model used is ATF58143, an e pHEMT family member offering the best noise performance. After simulations, a NF below 1 db is achieved from 1-3.6 GHz band along with a gain above 10 dB. While below 2 dB noise figure is achieved between 3.6-5.6 GHz but at this the gain achieved is above 7 dB. The input and output matching networks for the circuit are designed using micro wave transmission lines and PCB used is PTFE board.

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Index Terms

Computer Science

Circuits And Systems

Keywords