

Abstract:

This paper describes designs in hybrid technology of low noise amplifiers (LNAs) based on S-parameters operating at different frequencies. The analysis concern different design structures and it is carried out using the advanced design simulator (ADS) software of Agilent Technologies Inc. In the first part, two design methods of 2 GHz LNA based on lumped and distributed elements have been compared. The best performance is obtained with lumped elements; the designed amplifier provides a noise figure of 0.35 dB and a gain of 16.77 dB. In the second part, a 10 GHz LNA has been designed based on microstrip matching network. It has been observed that the simulation results match with the desired requirements which demonstrate the robustness of the design procedure.