

Design of analog mixer for RF front-end

ABSTRACT

This paper presents design of analog mixer using modified Gilbert cell topology for use in RF front. The proposed circuit gives improvement in its performance. The input RF and LO frequency is set to 2500MHz and 2250MHz respectively, resulting in an output IF frequency of 250MHz. The simulation results show that the conversion gain is 9.605dB, single-sideband noise figure is 9.448dB and output IM3 intercept point is 15.764dBm with power consumption of 24.732mW. It uses supply voltage of 1.8V and the circuit layout has been obtained using CMOS 0.18 μ m technology fabrication.