Abstracts

The design of SiGe HBT LNA for IMT-2000 mobile application

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This paper describes a SiGe HBT low noise amplifier (LNA) design for IMT-2000 mobile applications. The emitter degeneration technique for stability and the out-of-band-termination technique for improvement of IP3 (third order intercept point) are applied to SiGe HBT LNA design. This SiGe HBT LNA yields a noise figure of 1.2 dB, 16 dB gain, an input return loss of 11 dB, and an output return loss of 14.3 dB over the desired frequency range (2.11-2.17 GHz). When the RF input power is -23 dBm, the input third order intercept point (IIP3) of 8.415 dBm and the output third order intercept point (OIP3) of 24.415 dBm are achieved.

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