Abstracts

A 5.8-GHz 1-V low-noise amplifier in SiGe bipolar technology

M. Soyuer, J.-O. Plouchart, H. Ainspan and J. Burghartz. "A 5.8-GHz 1-V low-noise amplifier in SiGe bipolar technology." 1997 Radio Frequency Integrated Circuits (RFIC) Symposium 97. (1997 [RFIC]): 19-22.

A 5.8-GHz monolithic low-noise amplifier (LNA) with a minimum noise figure of 1.65 dB and an associated gain of 15 dB is implemented in a standard SiGe bipolar technology. It dissipates 13 mW from a 1-V supply (with only 9 mW in the gain stages). The measured transducer gain is 13 dB with a noise figure of 2.1 dB at 5.8 GHz. This is believed to be the lowest noise figure reported for a 5.8-GHz LNA in any production-level technology. The transducer gain is above 10 dB from 3.8 to 8 GHz. At 5.8 GHz, the input return loss and reverse isolation are 6 and 28 dB, respectively.

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