

40 GHz monolithic integrated mixer in SiGe bipolar technology

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Future broadband wireless services will use carrier frequencies in the range of 10 GHz to about 42 GHz. This raises the demand for low-cost components of key RF building blocks like LNAs, mixers, and oscillators for frequencies up to 42 GHz. This work describes an active mixer in a pre-production 0.4 μm SiGe bipolar technology with bandwidth in the range mentioned above. A gain of 25 dB and double-sideband noise figure of 15 dB is achieved at 40 GHz.

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