Abstracts

A 1.9 GHz double-balanced subharmonic mixer for direct conversion receivers

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This paper presents a 1.9 GHz double-balanced subharmonic mixer for wireless communications applications. The mixer is fabricated in a 0.35 /spl mu/m BiCMOS process. The conversion gain of the subharmonic mixer at an RF input of 1.6-1.9 GHz with an LO input at 750-900 MHz is 9.5-7.5 dB. The mixer has a measured IIP3 of -3 dBm and an input 1 dB compression point of -10 dBm at 1.9 GHz. The measured SSB noise figure is 9.5-10.5 dB at 1.9 GHz. The mixer core consumes 8 mA of current and the LO buffers consume 7 mA of current from a 3 V power supply. The application areas are in direct conversion transceivers for wireless systems.

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