Abstracts

Design and performance of a highly integrated wideband active downconverter MMIC

C.F. Campbell and J.M. Beall. "Design and performance of a highly integrated wideband active downconverter MMIC." 2001 Radio Frequency Integrated Circuits (RFIC) Symposium 01. (2001 [RFIC]): 245-248.

The design and performance of a highly integrated wideband downconverter MMIC is described. The circuit utilizes 0.25 /spl mu/m pHEMT technology and a high density interconnect (HDI) process to yield a single ended, double balanced active downconverter with a 1 mm/sup 2/ die area. The circuit is self biased and draws 17-24 mA from a single 3-5 V positive supply. Diode level shifting is employed to achieve a direct coupled IF output. Measured performance of the MMIC demonstrates 10 GHz 3 dB-RF bandwidth and positive conversion gain through 18 GHz.

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