Abstracts

A novel common-gate mixer for wireless applications

B.M. Frank, A.P. Freundorfer and Y.M.M. Antar. "A novel common-gate mixer for wireless applications." 2002 Transactions on Microwave Theory and Techniques 50.5 (May 2002 [T-MTT]): 1433-1435.

In this paper, a balanced 27 GHz common-gate downconvert mixer is presented. The common-gate configuration allows 0.8 /spl mu/m MESFETs to be used at frequencies in excess of those practical for the common-source configuration. Measurements indicate a conversion loss of 10.7 dB at an input RF frequency of 27 GHz and local-oscillator power of 7.4 dBm, with a third-order intercept at -5.3-dBm output power. This performance is in the range of reported mixers at this frequency, even though most use higher tolerance and more expensive processes.

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