Abstracts

New nonlinear design tools for self-oscillating mixers

S. ver Hoeye, L. Zurdo and A. Suarez. "New nonlinear design tools for self-oscillating mixers." 2001 Microwave and Wireless Components Letters 11.8 (Aug. 2001 [MWCL]): 337-339.

New nonlinear design tools for self-oscillating mixers are presented here, with the aim to increase the designer's control over their behavior. The new tools enable fixing the self-oscillation frequency and selecting the optimum self-oscillation amplitude for maximum conversion gain. They can also be applied for the optimized design of harmonic self-oscillating mixers. Using bifurcation-theory concepts, it has been possible to increase the input-power range with self-oscillating-mixer operation. A self-oscillating mixer with 5.5 GHz input frequency has been designed and simulated obtaining very good agreement with the experimental results.

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