Abstracts

A Fast and Reliable Method for Computer Analysis of Microwave Mixers

B. Schuppert. "A Fast and Reliable Method for Computer Analysis of Microwave Mixers." 1986 Transactions on Microwave Theory and Techniques 34.1 (Jan. 1986 [T-MTT]): 110-119.

In this paper, a numerical method is presented for analyzing microwave mixers. Particular consideration is given to the solution of the nonlinear pumping problem of real Schottky-barrier diodes. The new technique has a significantly improved convergence rate, which is demonstrated by means of direct comparisons with other methods. A convergence test procedure is proposed and applied which uses randomly generated harmonic impedances. The proposed numerical technique for solving the nonlinear and linear problem is extended to the analysis of balanced mixers. Fabricated planar balanced mixers are analyzed, both theoretically and experimentally, in a separate paper.

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