Abstracts

Nonlinear noise modeling of a PHEMT device through residual phase noise and low frequency noise measurements

O. Llopis, J.B. Juraver, B. Tamen, F. Danneville, M. Chaubet, A. Cappy and J. Graffeuil. "Nonlinear noise modeling of a PHEMT device through residual phase noise and low frequency noise measurements." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 831-834 vol.2.

The phase noise generated by a FET device is investigated using transmission and reflection residual phase noise measurements. This approach helps in locating, in the intrinsic device, the low frequency noise sources which are responsible for these phase fluctuations. On the basis of these experiments, a new nonlinear noise model of the FET is proposed. This model is able to describe a phenomenon that has been observed, but never modeled in the past: the dependence of the baseband noise on the microwave input power.

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