Abstracts

Determination of wave noise sources using spectral parametric modeling (Dec. 1997, Part II [T-MTT])

T. Werling, E. Bourdel, D. Pasquet and A. Boudiaf. "Determination of wave noise sources using spectral parametric modeling (Dec. 1997, Part II [T-MTT])." 1997 Transactions on Microwave Theory and Techniques 45.12 (Dec. 1997, Part II [T-MTT] (1997 Symposium Issue)): 2461-2467.

A new method for the extraction of a noise correlation matrix is presented in this paper. This method is based on a kind of reflectometric technique which needs two noise-power measurements corresponding to two different input coefficients for the extraction of the wave correlation matrix. Then, we measure those two noise-power densities emanating from the device under test (DUT) transistor and compute their inverse Fourier transform (FT) in order to find out noise-power behaviors in time domain. Thus, one may apply spectral parametric modeling to this power spectral density (PSD) for the estimation of noise sources that model the DUT noisy two-port. Finally, we calculate the standard noise parameters of the transistor, and the results obtained by this new method are experimentally compared with a conventional method.

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