Abstracts

The Determination of the Noise, Gain and Scattering Parameters of Microwave Transistors (HEMT's) Using Only an Automatic Noise Figure Test-Set

G. Martines and M. Sannino. "The Determination of the Noise, Gain and Scattering Parameters of Microwave Transistors (HEMT's) Using Only an Automatic Noise Figure Test-Set." 1994 Transactions on Microwave Theory and Techniques 42.7 (Jul. 1994, Part I [T-MTT]): 1105-1113.

A method for the complete characterization of microwave transistors in terms of noise, gain and scattering parameters using only a computer-controlled noise figure measuring set-up is presented. The selection of the optimum measuring conditions, all steps of the experimental procedure, the data collection and the processing needed to derive all the parameters are completely controlled by original (unpublished) software and do not require the presence of an (unskilled) operator. This is novel with respect to other approaches to the same problem. Experimental results regarding the characterization of 32 samples of HEMT's from four manufacturers in the 8-12 GHz frequency range are reported.

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