Abstracts

Validation of a Nonlinear HEMT Model by Power Spectrum Characteristics

I. Angelov, H. Zirath and N. Rorsman. "Validation of a Nonlinear HEMT Model by Power Spectrum Characteristics." 1994 MTT-S International Microwave Symposium Digest 94.3 (1994 Vol. III [MWSYM]): 1571-1574.

The experimental bias dependence of the power output spectrum from various types of HEMT at large signal excitation was studied and compared with predicted values obtained from a newly proposed HEMT model. Good agreement between simulated and measured power spectrum up to at least the fourth harmonic was demonstrated for HEMT devices from different manufacturers. An extension of the existing model is also proposed, which models the V /sub ds/ dependence of the transconductance peak in the region where the drain current is unsaturated and at negative drain voltage.

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