Abstracts

Third-Order Intermodulation Distortion and Gain Compression in GaAs FET's

R.S. Tucker. "Third-Order Intermodulation Distortion and Gain Compression in GaAs FET's." 1979 Transactions on Microwave Theory and Techniques 27.5 (May 1979 [T-MTT] (Special Issue on Solid-State Microwave/Millimeter-Wave Power Generation, Amplification, and Control)): 400-408.

A simple unilateral nonlinear circuit model of a GaAs FET is used in the analysis of the third-order intermodulation distortion and gain compression characteristics of a single-stage amplifier. Expressions are obtained for these characteristics, relating them to the input power level and to the device load admittance. The expressions are illustrated with contours on the load admittance plane of constant intermodulation distortion ratio, intercept point gain compression, AM-to-PM conversion, and output power, and as output power versus input power plots for fixed terminations. Agreement with experimentally measured distortion characteristics is good.

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