Abstracts

Noise in Two-Tier Matrix Amplifiers

K.B. Niclas and A.P. Chang. "Noise in Two-Tier Matrix Amplifiers." 1988 Transactions on Microwave Theory and Techniques 36.1 (Jan. 1988 [T-MTT]): 11-20.

A noise theory for the two-tier matrix amplifier has been developed that permits the computation of the amplifier's noise figure as a function of the active device and circuit parameters. The computed results based on the noise parameters of a GaAs MESFET with the gate dimensions 0.25x200 µm are discussed. In addition, a comparative study is done on the performance data of a 2x4 matrix amplifier and its equivalent two-stage distributed amplifier. Finally, the noise characteristics of two 2x4 matrix amplifiers incorporating GaAs MESFET's processed on either ion-implanted or VPE substrate material are compared with those measured on actual amplifiers.

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