Abstracts

A 2-18 GHz Low-Noise/High-Gain Amplifier Module

K.B. Niclas, R.R. Pereira and A.P. Chang. "A 2-18 GHz Low-Noise/High-Gain Amplifier Module." 1989 Transactions on Microwave Theory and Techniques 37.1 (Jan. 1989 [T-MTT]): 198-207.

Earlier predictions that the two-tier matrix amplifier possesses excellent low-noise potential have been verified. Experimental modules whose topology is based on a computer-optimized design exhibit an average noise figure of F = 3.5 dB with an associated average gain of G = 17.8 dB across the 2-18 GHz frequency band. These state-of-the-art results were achieved with GaAs MESFET's whose minimum noise figure is F = 2.2 dB at 18 GHz and whose gate dimensions are 0.25 x 200 µm. The design considerations and the test results are discussed in detail.

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