Abstracts

On the Design and Performance of a 6-18 GHz Three-Tier Matrix Amplifier

K.B. Niclas and R.R. Pereira. "On the Design and Performance of a 6-18 GHz Three-Tier Matrix Amplifier." 1989 Transactions on Microwave Theory and Techniques 37.7 (Jul. 1989 [T-MTT]): 1069-1077.

A 3x3 matrix amplifier for the 6-18 GHz frequency band has been developed. Employing MESFET's fabricated on VPE material, gains of G = 23.5±0.5 dB with a maximum reflection loss of RL = -10 dB were obtained from 5.2 to 18.7 GHz. Gain improved to G = 29.1±1.1 dB at a worst-case reflection loss of RL = -7.5 dB between 4.6 and 18.3 GHz when MBE material was used for the MESFET's. In addition to the experimental results, important design considerations, especially in regard to the termination impedances of the idle ports, are discussed.

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