Abstracts

2--19-GHz Low-DC Power and High-IP/sub 3/ Monolithic HBT Matrix Amplifier

K.W. Chang, B.L. Nelson, A.K. Oki and D.K. Umemoto. "2--19-GHz Low-DC Power and High-IP/sub 3/ Monolithic HBT Matrix Amplifier." 1992 Microwave and Guided Wave Letters 2.1 (Jan. 1992 [MGWL]): 17-18.

The design and performance of the first wideband, Iow-dc power and high-IP/sub 3/ monolithic matrix amplifier using GaAs/AIGaAs heterojunction bipolar transistors (HBT's) is reported. The amplifier uses four 2x10 μm² quad-emitter HBT's in a 2x2 matrix configuration and has a measured gain of 9.6 ± 0.9 dB over the 2--19-GHz frequency band. Measured output IP/sub 3/ and 1-dB compression point are 26 dBm and 13 dBm, respectively, at 18 GHz. The total dc-power dissipation is less than 200 mW. The input and output return losses are better than -9.5 dB within the 2--16-GHz bandwidth.

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