Abstracts

7.5--14-GHz CE HBT MMIC Linear Power Amplifier

N.-L. Wang, W.-J. Ho, A.L. Sailer and J.A. Higgins. "7.5--14-GHz CE HBT MMIC Linear Power Amplifier." 1993 Microwave and Guided Wave Letters 3.3 (Mar. 1993 [MGWL]): 64-66.

A common-emitter (CE) AIGaAs-GaAs HBT MMIC amplifier was made to operate in X-band. 1W CW output power was achieved in saturated power operation from 7.5 to 12 GHz. In class A linear power operation, it provides 26-dBm CW power. The amplifier shows low two-tone intermodulation distortion: better than -20 dBc IM/sub 3/ at 1-dB compression point throughout the 7.5--14-GHz bandwidth. The low third-order intermodulation distortion is a direct result of the excellent linear power performance of the CE AIGaAs-GaAs HBT, The combination of good efficiency, low third-order intermodulation distortion, and broad bandwidth in this MMIC amplifier clearly demonstrate the potential of the CE HBT in communication transmitter applications.

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