Abstracts

A 1-Watt, 8--14-GHz HBT Amplifier with >45% Peak Power-Added Efficiency

M. Salib, F. Ali, A. Gupta and D. Dawson. "A 1-Watt, 8--14-GHz HBT Amplifier with >45% Peak Power-Added Efficiency." 1992 Microwave and Guided Wave Letters 2.11 (Nov. 1992 [MGWL]): 447-448.

Four 0.25-W gallium arsenide heterojunction bipolar transistors (HBT's) were combined in a single-stage hybrid microstrip amplifier. An output power of >1 W was achieved over the 8.5--13.5-GHz band with >35 % power-added efficiency (PAE). The peak PAE was 45.4% at 12.5 GHz. This result was repeated on a second unit that was subsequently tuned for improved performance at the upper end of the band. The PAE at 14 GHz increased to >43% with 1-W output while, at 8 GHz, it remained at ~30%.

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