Abstracts

20-GHz High-Efficiency Power Amplifiers Using Monolithic Multi-Cell Permeable Base Transistors

R. Actis, K.B. Nichols, R.W. Chick and R.A. McMorran. "20-GHz High-Efficiency Power Amplifiers Using Monolithic Multi-Cell Permeable Base Transistors." 1992 MTT-S International Microwave Symposium Digest 92.1 (1992 Vol. I [MWSYM]): 281-284.

The performance at 20 GHz of high-efficiency power amplifiers using a new class of GaAs permeable base transistors (PBTs) is described. These devices utilize chip-level power-combining of multi-cell 8-by-20-µm PBT active areas and have demonstrated an output power of 437 mW with a power-added efficiency of 35% in a connectorized rnicrostrip amplifier. The power, efficiency, and gain performance of demonstration amplifiers using these new devices is described.

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