Abstracts

A robust 3W high efficiency 8-14 GHz GaAs/AlGaAs heterojunction bipolar transistor power amplifier

M. Salib, A. Gupta, A. Ezis, M. Lee and M. Murphy. "A robust 3W high efficiency 8-14 GHz GaAs/AlGaAs heterojunction bipolar transistor power amplifier." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 581-584.

A monolithic power amplifier has been developed using GaAs/AlGaAs HBT technology. This amplifier uses cascode HBTs and provides /spl sim/3 W CW from 8 to 14 GHz with a power added efficiency of /spl sim/40% and a gain of /spl sim/15 dB. The cascode HBT is designed to be free of burnout problems associated with current collapse. Spurious signals at the output of the MMIC are kept /spl sim/50 dBc, worst case, and phase noise 1 kHz from the carrier is -130 to -140 dBc/Hz, better than that of comparable PHEMT amplifiers.

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