Abstracts

5 Watt High Efficiency Wideband 7 to 11 GHz HBT MMIC Power Amplifier

J.J. Komiak and L.W. Yang. "5 Watt High Efficiency Wideband 7 to 11 GHz HBT MMIC Power Amplifier." 1995 Microwave and Millimeter-Wave Monolithic Circuits Symposium Digest 95.1 (1995 [MCS]): 17-20.

A fully monolithic HBT power amplifier that has established new benchmarks for bandwidth and efficiency at X-band is reported. Power-added efficiencies of 56 % max/38 % min/44.4 % average across 7 to 11 GHz are the highest X-band efficiencies and widest bandwidth reported for MMIC HPA's. These amplifiers have demonstrated high power levels (up to 7.3 Watts) with high gain (11 to 14.1 dB) under thermally challenging long pulse (500 µsec) high duty cycle (25%) conditions. The amplifiers were fabricated using an advanced re-aligned AIGaAs/GaAs power HBT process with a plated bathtub heat sink.

❑ Return to main document.