Abstracts

High Efficiency 40 Watt PsHEMT S-Band MIC Power Amplifiers

S. Bouthillette, A. Platzker and L. Aucoin. "High Efficiency 40 Watt PsHEMT S-Band MIC Power Amplifiers." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 667-670.

High-efficiency 40 W Pseudomorphic HEMT (PsHEMT) power amplifiers at S-band have been developed. The amplifiers are single-stage designs combining four prematched PsHEMT devices, utilizing 1/8-wavelength four-way combiners with integral bias circuitry. Two amplifiers were assembled using devices from two different Raytheon processes. The first amplifier combined four 24 mm devices and the measured performance over a 2.3-2.6 GHz bandwidth achieved a peak output power at 2 dB gain-compression point of 41.4 W, with an associated gain of 14.2 dB and 52.6% Power-added Efficiency (PAE). The second amplifier utilized four 19.2 mm devices and achieved a peak output power at 2 dB gain-compression point of 43 W, with an associated gain of 13.43 dB and 57% PAE. Both amplifiers were biased at 8 V.

❑ Return to main document.