

Abstracts

Eight Watt Ku-Band Module

M. Gat, D.S. Day and J.R. Basset. "Eight Watt Ku-Band Module." 1991 MTT-S International Microwave Symposium Digest 91.3 (1991 Vol. III [MWSYM]): 1299-1302.

A Ku-band MBE monolithic power amplifier is reported. In the design, two pairs of MMICs combined in parallel are balanced between Lange couplers and driven by a fifth identical MMIC. Each MMIC is a two-stage power amplifier which incorporates a full interstage matching network and a partial input matching network. Individually, the MMICs deliver more than 3 watts of power, 11 dB gain and more than 20% power-added efficiency (PAE) from 15 to 18 GHz. To our knowledge, these are the best published results for a power MMIC operating at 18 GHz. The full power module has 8 watts of P_{sub out}, 20 dB gain and 14% PAE at 18 GHz. The module could be tuned for a 1 GHz instantaneous bandwidth anywhere in the 15-18 GHz band.

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