

Abstracts

400W X-Band GaAs MMIC CW Amplifier

*M. Knox, R. Youmans, M. Kumar, L. Forker, H. Voigt, P. Brand, F. Marcotte and A.S. Hughes.
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This paper presents the development of a 400W CW solid-state amplifier operating over 10.0 to 10.7 GHz band. An output power of 400W is achieved by combining forty-seven 10W GaAs MMIC amplifier modules using a 47:1 low-loss waveguide combiner. Other key parameters are the measured AM noise level of -120 dBc/Hz at 1 KHz offset and -137 dBc/Hz at 10 KHz, and FM noise level of -128 dBc/Hz at 1 KHz offset and -142 dBc/Hz at 10 KHz. To the best of the authors' knowledge, 400W CW output power at X-band using GaAs MMICs is achieved for the first time.

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