# Abstracts

## A 2 Watt, 8-14 GHz HBT Power MMIC with 20 dB Gain and >40% Power-Added Efficiency

*F. Ali, A. Gupta, M. Salib, B.W. Veasel and D.E. Dawson. "A 2 Watt, 8-14 GHz HBT Power MMIC with 20 dB Gain and >40% Power-Added Efficiency." 1994 Transactions on Microwave Theory and Techniques 42.12 (Dec. 1994, Part II [T-MTT] (1994 Symposium Issue)): 2635-2641.*

A two-stage, 8-14 GHz high-efficiency AlGaAs/GaAs HBT MMIC power amplifier has been designed and tested. At 7 V collector bias, this common-emitter monolithic amplifier has achieved 20 dB gain, 33 dBm (CW) output power, and >40% power-added efficiency over the 8-14 GHz band. The amplifier is designed for 25 Omega input and output impedance, and all the matching networks, as well as biasing circuits, are contained within this HBT MMIC. To our knowledge, this is the highest efficiency, the highest gain, and the highest output power reported for any monolithic power amplifier covering a 6 GHz bandwidth in the X-Ku band.

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