# Abstracts

## Monolithic Millimeter-Wave Pseudomorphic HEMT Power Amplifiers at Ka-Band

*T. Ho, G. Metze, A. Cornfeld, T. Lee, K. Pande, H. Huang, P. Ferguson and M. Foisy. "Monolithic Millimeter-Wave Pseudomorphic HEMT Power Amplifiers at Ka-Band." 1992 Microwave and Guided Wave Letters 2.8 (Aug. 1992 [MGWL]): 325-327.*

A Ka-band monolithic HEMT power amplifier, based on 0.25-µm gatelength single quantum-well AlGaAs-InGaAs pseudomorphic high-electron mobility transistor (PM-HEMT) technology, has been developed for millimeter-wave system applications. These amplifiers include single-ended and on-chip combined configurations and have on-chip dc-block, RF-bypass and bias network. A cascaded four-stage power amplifier exhibhed 210 mW output power with an associated gain of 21.3 dB at 34.5 GHz. The saturated output power of this amplifier exceeded 230 mW. These power modules need only single positive bias to simplify system power supply requirements, and are highly stable. Moreover, multistage can easily be cascaded/combined to achieved even higher gain and power for future millimeter-wave systems.

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