Abstracts

High-Efficiency GaAs-Based pHEMT Power Amplifier Technology for 1-18 GHz

J.A. Pusl, J.J. Brown, J.B. Shealy, M. Hu, A.E. Schmitz, D.P. Docter, M.G. Case, M.A. Thompson and L.D. Nguyen. "High-Efficiency GaAs-Based pHEMT Power Amplifier Technology for 1-18 GHz." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 693-696.

Performance and reliability data for a high-efficiency microwave power amplifier design utilizing AIGaAs/InGaAs/GaAs pHEMTs are reported. A single stage MIC amplifier fabricated with a 5.6 mm gate width pHEMT resulted in P/sub out/=2.5 W and PAE=73% at 4 GHz. Twenty three amplifiers with similar performance were built with devices from 4 different wafer lots. Currently, these amplifiers are undergoing an RF lifetest and have shown no change thus far to the 2000 h point. This GaAs-based pHEMT device technology supports amplifier module designs in the 1-18 GHz frequency range with output powers up to 20 W.

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