

Abstracts

An Ultraminiature 5-10 GHz, 2-W Transmit Module for Active Aperture Application

J. Pierro and R. Clouse. "An Ultraminiature 5-10 GHz, 2-W Transmit Module for Active Aperture Application." 1987 MTT-S International Microwave Symposium Digest 87.2 (1987 Vol. II [MWSYM]): 941-944.

An ultraminiature 5-10 GHz, 2-w transmit module with integral 3-bit phase shifter has been developed for active aperture applications. The module provides nearly 35 dB of gain and occupies a volume of only 0.25 cubic inch! This high degree of miniaturization has been achieved by using a blend of lumped-element and distributed thin film circuits in combination with advanced packaging techniques. The MTTF of the amplifier was an overriding concern and was enhanced by constraining the FET channel temperature rise to 65°C maximum by optimizing the thermal and circuit designs.

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