Abstracts

A 6-GHz 80-W GaAs FET Amplifier with a TM-Mode Cavity Power Combiner

Y. Tokumitsu, T. Saito, N. Okubo and Y. Kaneko. "A 6-GHz 80-W GaAs FET Amplifier with a TM-Mode Cavity Power Combiner." 1984 Transactions on Microwave Theory and Techniques 32.3 (Mar. 1984 [T-MTT] (Special Issue on Power and Low-Noise GaAs FET Circuits and Applications)): 301-308.

A novel 8-way divider/combiner using TM/sub 010/- and TM/sub 020/-mode cavities was developed. This divider/combiner has an insertion loss of 0.2 dB and a bandwidth of 600 MHz in the 6-GHz communications band. For broadening the operating bandwidth of the divider/combiner, two techniques of double cavities and tight coupling are described. Degradation of power-combining efficiency is also discussed when input signals into a power combiner have variations in amplitude and phase. By using this divider/combiner, an experimental 6-GHz 80-W GaAs FET amplifier with a combining efficiency of 85 percent was demonstrated to investigate the feasibility of a solid-state high-power amplifier.

❑ Return to main document.