Abstracts

A K/Ka-Band Distributed Power Amplifier with Capacitive Drain Coupling (Dec. 1988 [T-MTT])

M.J. Schindler, J.P. Wendler, M.P. Zaitlin, M.E. Miller and J.R. Dormail. "A K/Ka-Band Distributed Power Amplifier with Capacitive Drain Coupling (Dec. 1988 [T-MTT])." 1988 Transactions on Microwave Theory and Techniques 36.12 (Dec. 1988 [T-MTT] (1988 Symposium Issue)): 1902-1907.

A 14 to 37 GHz GaAs MMIC distributed power amplifier has been demonstrated. The amplifier has three FET's of varying periphery, all capacitively coupled to the gate line. A new circuit concept has been used to increase output power: the drain of the FET nearest the output is capacitively coupled to the drain line. A gain of 4 to 5 dB has been achieved from 14 to 37 GHz. Output power of 20 dBm or greater has been demonstrated at frequencies up to 33 GHz at 1 dB gain compression. A maximum 1 dB gain-compressed output power of 23.5 dBm (220 mW) has been measured at 26 GHz. The circuit is completely monolithic, with all bias and matching circuitry included on the chip.

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