Abstracts

A 0.6-Watt U-Band Monolithic MESFET Power Amplifier

T. Ho, K. Pande, F. Phelleps, J. Singer, P. Rice, J. Adair and M. Ghahremani. "A 0.6-Watt U-Band Monolithic MESFET Power Amplifier." 1993 MTT-S International Microwave Symposium Digest 93.2 (1993 Vol. II [MWSYM]): 531-534.

A high performance four-stage MMIC power amplifier chip has been developed using 0.3-µm gate-length and molecular beam epitaxial (MBE) MESFET technologies. These power MMIC chips have been combined to constitute a 47 GHz power amplifier with output power of 0.46 watts with associated gain of 16.6 dB. A saturated output power of over 0.58 watts was also achieved at 47 GHz. These results represent the highest reported power and gain at U-band from an MMIC amplifier utilizing a 0.3-µm gate-length MESFET. This amplifier has potential application as a driver for a monolithic doubler to obtain more than 80 mW transmitted power at 94 GHz for W-band system applications.

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