Abstracts

Experimental Characteristics and Performance Analysis of Monolithic InP-Based HEMT Mixers at W-Band

Y. Kwon, D. Pavlidis, P. Marsh, G.-I. Ng and T.L. Brock. "Experimental Characteristics and Performance Analysis of Monolithic InP-Based HEMT Mixers at W-Band." 1993 Transactions on Microwave Theory and Techniques 41.1 (Jan. 1993 [T-MTT]): 1-8.

Experimental characteristics of monolithic InAIAs/ InGaAs HEMT mixers are presented together with a theoretical analysis. Experiments at W-band show a maximum conversion gain of 0.9 dB with 2 dBm of LO power level. This is the first demonstration of a monolithic HEMT mixer with conversion gain at W-band. The conversion gain dependence on LO power, RF frequency and gate bias is measured and compared with the theoretical predictions. Good agreement between the theory and experiment could be found.

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