Abstracts

A GaAs MESFET Mixer with Very Low Intermodulation

S.A. Maas. "A GaAs MESFET Mixer with Very Low Intermodulation." 1987 Transactions on Microwave Theory and Techniques 35.4 (Apr. 1987 [T-MTT]): 425-429.

This paper describes the design and performance of a new type of resistive mixer, which uses the channel resistance of a GaAs MESFET to achieve frequency mixing. Because this resistance is highly linear, very low intermodulation results. The mixer can be analyzed via existing mixer theory, with good agreement with measured performance. At 10 dBm LO power, the X-band mixer achieves 6.5 dB conversion loss, 6.6 dB noise figure, 21.5 dBm output third-order intermodulation intercept point, and 9.1 dBm 1-dB compression point.

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