Abstracts

Large-Signal Technique for Designing Single-Frequency and Voltage-Controlled GaAs FET Oscillators

C. Rauscher. "Large-Signal Technique for Designing Single-Frequency and Voltage-Controlled GaAs FET Oscillators." 1981 Transactions on Microwave Theory and Techniques 29.4 (Apr. 1981 [T-MTT]): 293-304.

A systematic procedure is described for designing fixed-frequency and voltage-tuned GaAs FET oscillators for optimum large-signal performance. The approach is based on the use of a large-signal FET model for de-embedding dominant device nonlinearities, leading to a method which is both accurate and simple to apply. The viability of the technique is demonstrated with a 17-GHz fixed-frequency oscillator and a 7.4 to 13.1-GHz varactor-tuned oscillator. Design considerations as well measured performance characteristics are discussed in detail.

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