Abstracts

A Low-Noise Class-C Oscillator Using a Directional Coupler

H.J. Peppiatt, J.A. Hall and A.V. McDaniel, Jr.. "A Low-Noise Class-C Oscillator Using a Directional Coupler." 1968 Transactions on Microwave Theory and Techniques 16.9 (Sep. 1968 [T-MTT] (Special Issue on Noise)): 748-752.

An oscillator using a directional coupler is proposed as a solution to the design of efficient low-noise high-power high-frequency oscillators. FM noise measurements are presented for microwave sources derived via varactor multipliers from several different transistor oscillators of this type. The design has an isolated port which can be used to achieve injection phase lock. This feature is used to point out some of the interesting FM noise properties of these oscillators, the knowledge of which is important in the design and application of solid-state microwave sources. Also, experimental results are given which show how a low-noise microwave source can be built using a low-frequency crystal oscillator followed by a high-order varactor multiplier.

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