Abstracts

Frequency stabilization of power-combining grid oscillator arrays

Wenzhang Wang and L.W. Pearson. "Frequency stabilization of power-combining grid oscillator arrays." 2002 Transactions on Microwave Theory and Techniques 50.5 (May 2002 [T-MTT]): 1400-1407.

In this paper, we report the results of phase locking of grid oscillator arrays. First, a voltage-controlled grid oscillator array with a center frequency of 4.7 GHz and with a 300-MHz electric tuning range was locked to a frequency synthesizer through a phase-locked loop. Second, a 4 /spl times/ 4 and a 6 /spl times/ 6 grid oscillator arrays were locked by way of the injection locking. In both methods, a simple loop antenna mounted on the reflection mirror was used for taking/injecting signals from/to the array. Results show that the phase noise performance is improved significantly in the locked oscillator arrays.

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