Abstracts

A New Measurement Approach for Phase Noise at Close-In Offset Frequencies of Free-Running Oscillators (Dec. 1996, Part II [T-MTT])

X. Zhang, B.J. Rizzi and J. Kramer. "A New Measurement Approach for Phase Noise at Close-In Offset Frequencies of Free-Running Oscillators (Dec. 1996, Part II [T-MTT])." 1996 Transactions on Microwave Theory and Techniques 44.12 (Dec. 1996, Part II [T-MTT] (1996 Symposium Issue)): 2711-2717.

This paper presents a new measurement approach which has been developed as a practical method for quick, accurate and low cost measurements of close-in offset phase noise of microwave free-running oscillators. To overcome the shortcomings of conventional measurement methods, the approach utilizes the injection locking technique to stabilize the free-running oscillator and down-convert the oscillator noise to baseband. Theoretical and experimental studies clearly demonstrate the accuracy, the effectiveness and the flexibility of the measurement technique. The phase noise of voltage controlled oscillators (VCO's) at 2.5 and 9.3 GHz have been measured to verify the new approach.

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