

## Symbolic Analysis of Power Spectrum of CMOS Cross Couple Oscillator

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**Abstract :** This paper proposes for the first time symbolic formula of the power spectrum of cross couple oscillator and its modified circuit. Many principle existed to derived power spectrum in microwave textbook such as impedance, admittance parameters, ABCD, H parameters, etc. It can be compared by graph of power spectrum which methodology is the best from the point of view of practical measurement setup such as condition of impedance parameter which used superposition of current to derived (its current injection of the other port of the circuit is zero, which is impossible in reality). Four Graphs of impedance parameters of cross couple oscillator is proposed. After that four graphs of Scattering parameters of cross couple oscillator will be shown.

**Keywords :** optimization, power spectrum, impedance parameters, scattering parameter

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