# An optimally coupled 5 GHz quadrature LC oscillator

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## Abstract

A 22 mW BiCMOS 5 GHz quadrature LC oscillator, based on a new architecture for multi-phase LC oscillators, is realized. In this new architecture, phase shifters are used to optimally couple the stages of the oscillator. As a result the degradation in quality factor and carrier-to-noise ratio, as found in previous multi-phase LC oscillators, is prevented. Theoretically, improvements in carrier-to-noise ratio can be as high as 20 dB.