Abstracts

A 1.8-V 6/9-GHz switchable dual-band quadrature LC VCO in SiGe BiCMOS technology

Hyunchol Shin, Zhiwei Xu and M.F. Chang. "A 1.8-V 6/9-GHz switchable dual-band quadrature LC VCO in SiGe BiCMOS technology." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 71-74.

This paper presents a quadrature VCO that can be reconfigured between 6 and 9 GHz frequency bands. The dual-band VCO comprises a 6 GHz LC VCO, two 1/2-dividers, two mixers, and two 3 GHz notch filters. The 9 GHz output is generated based on a fractional frequency multiplication method by mixing the 6 GHz VCO output with its divide-by-two signal. The VCO, implemented in a 0.18 /spl mu/m SiGe BiCMOS technology, shows a fast switching time of 3.6 nsec. The measured VCO phase noises are -106 dBc/Hz and -104 dBc/Hz at 1 MHz offset for 6 and 9 GHz modes, respectively, while draining 10.8 mA from a 1.8 V supply.

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