Abstracts

Integrated 2.4 GHz CMOS quadrature VCO with symmetrical spiral inductors and differential varactors (2002 [RFIC])

Baoyong Chi and Bingxue Shi. "Integrated 2.4 GHz CMOS quadrature VCO with symmetrical spiral inductors and differential varactors (2002 [RFIC])." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 451-454.

A 2.4 GHz CMOS quadrature VCO is presented. By using symmetrical inductors and differential varactors, the circuit has been integrated into a single chip completely. The principles of this VCO are described. A prototype is fabricated in 0.25 um single-poly five-metal CMOS standard digital process. The measured results show that the proposed VCO could generate quadrature LO signals with a tuning range of more than 300 MHz and phase noise -104.33 dBc/Hz at 600 kHz offset/spl ogr/2.41 GHz (when only one port of differential outputs is measured). It consumes 21 mA when VDD=2.5 V (Including 8 mA output buffers). Die area is only 0.83/spl times/0.68 mm/sup 2/. This VCO could be used in many integrated wireless transceivers.

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