

## 47 GHz VCO with low phase noise fabricated in a SiGe bipolar production technology

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*H. Li, H.-M. Rein, R. Kreienkamp and W. Klein. "47 GHz VCO with low phase noise fabricated in a SiGe bipolar production technology." 2002 Microwave and Wireless Components Letters 12.3 (Mar. 2002 [MWCL]): 79-81.*

A low-phase-noise and low-cost millimeter-wave voltage-controlled oscillator (VCO) has been fully integrated in commercial SiGe bipolar technologies. By varying the bias voltage of the on-chip varactor, the frequency can be continuously tuned from 43.6 to 47.3 GHz. In this frequency range, single-sideband phase noise between -103 and -108.5 dBc/Hz at 1 MHz offset frequency was measured. The output voltage swing of the differential circuit is about 0.85 V/sub p-p/ for the single-ended and 1.7 V/sub p-p/ for the differential output.

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