Abstracts

Very low phase-noise fully-integrated coupled VCOs (2002 [RFIC])

H. Jacobsson, B. Hansson, H. Berg and S. Gevorgian. "Very low phase-noise fully-integrated coupled VCOs (2002 [RFIC])." 2002 Radio Frequency Integrated Circuits (RFIC) Symposium 02. (2002 [RFIC]): 467-470.

With the aim of achieving very low phase noise, two area and power consumption efficient methods of coupling two or more identical VCOs are presented. To verify the principles, a set of fully integrated, coupled VCOs of the cross-coupled differential pair type, was manufactured in a commercial SiGe HBT technology. The measured phase noise at 100 kHz offset frequency was -106 dBc/Hz at 6 GHz using two coupled VCOs and -103 dBc/Hz at 12 GHz using four coupled VCOs. A phase noise reduction of 1-6 dB was achieved relative to a single VCO of the same topology. In one of the two methods, output signals are additionally obtained in quadrature.

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