Abstracts

Very low phase-noise fully-integrated coupled VCOs (2002 Vol. I [MWSYM])

H. Jacobsson, B. Hansson, H. Berg and S. Gevorgian. "Very low phase-noise fully-integrated coupled VCOs (2002 Vol. I [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.1 (2002 Vol. I [MWSYM]): 577-580 vol.1.

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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