

Wide-tuning-range dual-VCOs for cable modem receivers (2002 Vol. I [MWSYM])

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A double-conversion receiver for cable modem applications requires a wide-tuning-range VCO with low phase noise characteristics for the first LO generation. Achieving simultaneously low phase noise and large tuning range from a monolithic VCO is an exceptionally challenging task. The design aspects of wideband monolithic LC-VCO are tackled in this paper with the boundaries set by a 0.9- μm SiGe HBT technology. Two dual-VCO implementations are presented and a method for buffering the VCO signal without loading the LC-resonator is proposed. Both simulation and experimental results are given.

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