Abstract

Voltage Control Oscillator (VCO) is an integral part of many electronic applications like PLL, clock generation in microprocessors & carrier synthesis in cellular telephones etc. Such applications require different topologies which gives robust high performance. Consequently, VCO design in CMOS technology continues to pose interesting challenges. This paper presents the design of Voltage Control Ring Oscillator with the oscillation frequency up to 1.05 GHz. The
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circuit is implemented using Cadence tool in 0.18um CMOS technology with 1.8V supply. The supply voltage of 1.8V is generated from low drop out volatage regulator (LDO). In this paper an attempt is made to integrate both voltage control oscillator(VCO) and LDO circuits to cater the needs of system on chip(SOC) design solutions. The integrated VCO is generating a frequency of 1.05GHz over a temperature range from -40oC to 125oC, & the linearity is achieved over a range of frequency 1.09GHz at 0.9V to 1.163GHz at 1.35v.

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Index Terms

Computer Science Wireless

Key words
Understanding linearity range of 1GHz-VCO with 1.8V LDO

LDO  VCO  PLL