Abstract

A comparative study on 4 and 16-bit digitally controlled CMOS oscillator (DCO) in terms of output frequency is presented in this paper. DCO circuits have been simulated in SPICE with 0.5\(\mu\)m technology with a 5V supply voltage. The structure of 4-bit DCO uses digital to analog converter and injection locked oscillator (ILO) circuits. The 16-bit DCO design is based on delay programmable differential latch with digital control scheme. The simulation results show that output frequency of 4-bit DCO varies from [3.0772 to 3.1181] GHz whereas 16-bit DCO shows frequency variation of [27.379 to 106.27] MHz.
A Study on 4 and 16-bit CMOS Digitally Controlled Oscillators


Index Terms
- Computer Science
- Emerging Trends in Technology

Keywords
- Cmos
- Digital Controlled Oscillators (dco)
- Voltage Controlled Oscillator (vco)