

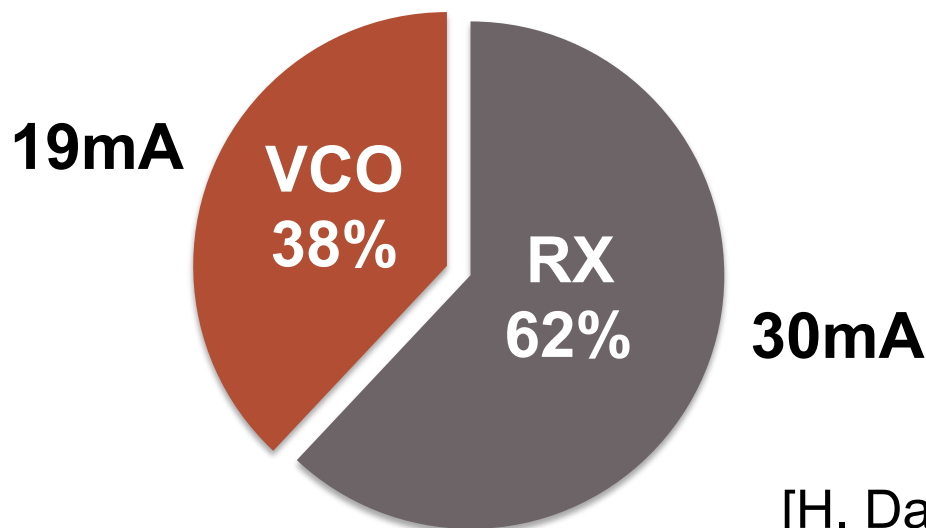
A Tail-Current Modulated VCO with Adaptive-Bias Scheme

Aravind Tharayil Narayanan, Wei Deng,
Kenichi Okada, and Akira Matsuzawa

Tokyo Institute of Technology, Japan

Motivation

VCO is one of the most power hungry PLL building block.

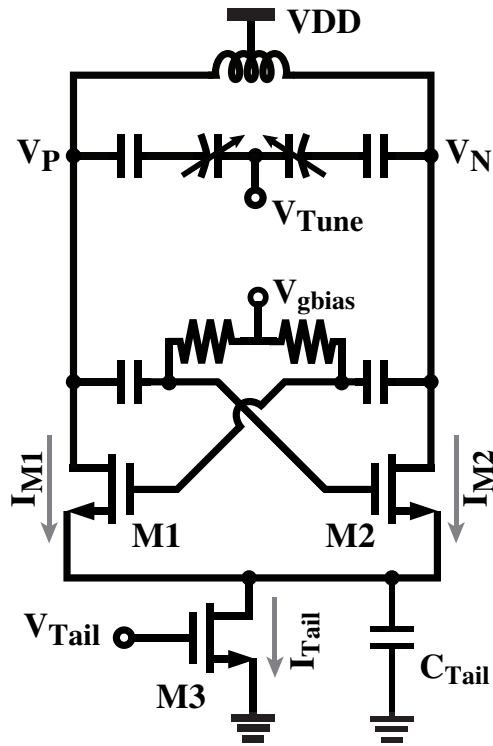


[H. Darabi, JSSC 2011]

VCO for next generation wireless devices

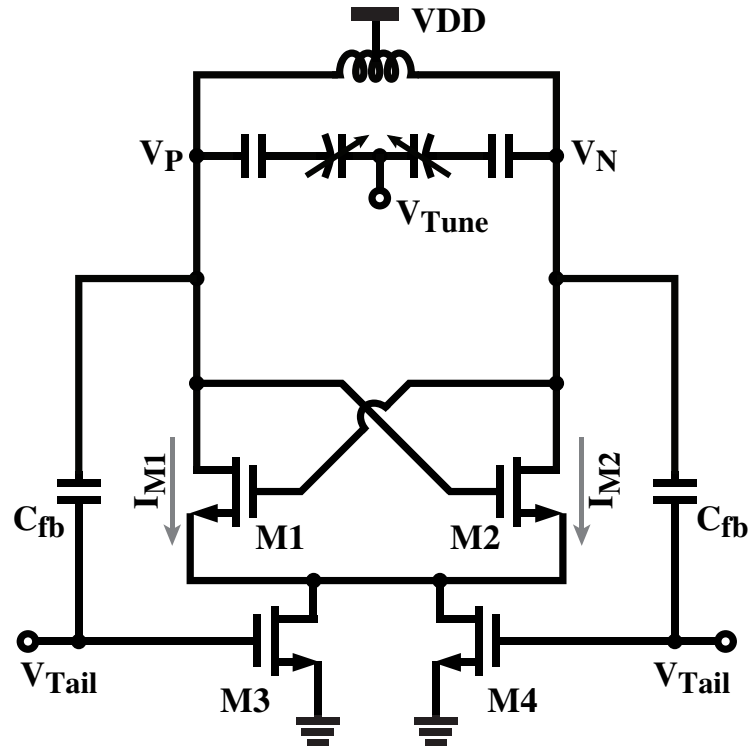
- ◆ High purity
- ◆ High efficiency
- ◆ Small area

High Performance VCOs



Class-C

[P. Andreani, JSSC 2008]



Tail-Feedback

[S. Hara, IEICE 2010]

- Better tuning range and noise performance
- Require low V_{Tail} for better performance
- VCO fails to start-up at low V_{Tail}

