

A Fractional-N Sub-Sampling PLL with -246dB FoM

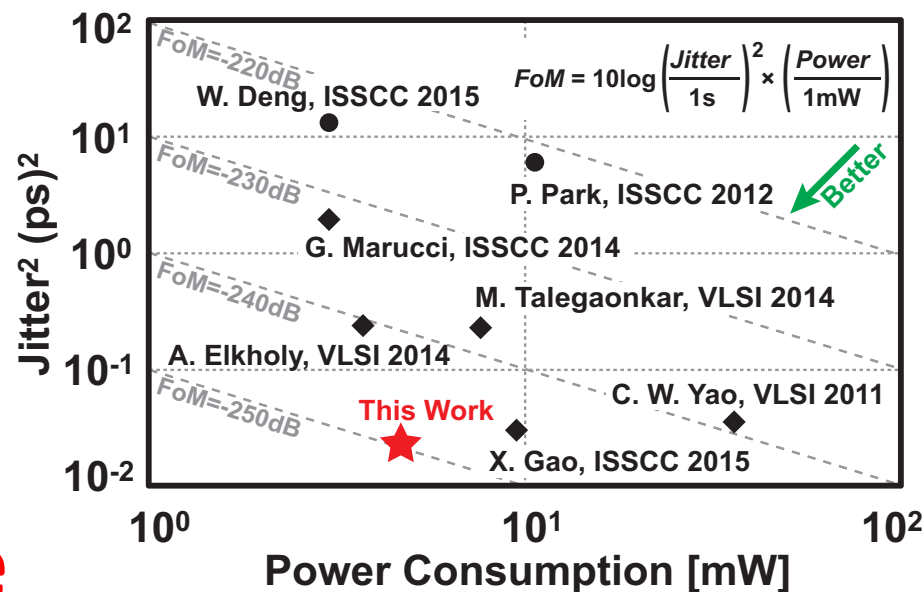
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Sub-Sampling Fractional-N PLL

Excellent candidate for wireless carrier generation.

Challenges

- ✗ In-band PN degradation.
 - $\sim -114\text{dBc/Hz}^*$
- ✗ Large spurious
 - $\sim -50\text{dBc}^*$



Proposed Architecture

Frac.-N PLL with **Pipelined phase-interpolator** and **DTC**.

- ✓ Excellent PN performance [**$-120\text{dBc/Hz @400kHz}$**]
- ✓ Lower In-band Spurious [**-60dBc**]

* Typical State of the Art Values