



LUND
UNIVERSITY

mm-Wave Rx and Tx Circuits

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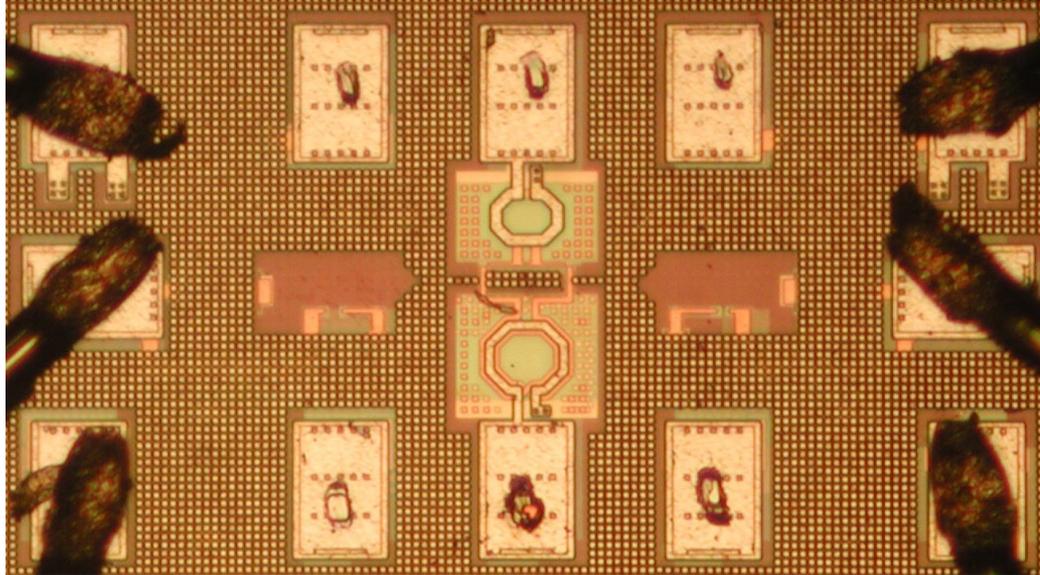


Outline

- ***A 60GHz-Band PA achieving 36% PAE in 65nm CMOS***
 - Markus Törmänen
- ***A 60GHz Receiver Front-End for Phased-Arrays utilizing PLL based Phase Controlled LO Generation in 90nm CMOS***
 - Andreas Axholt



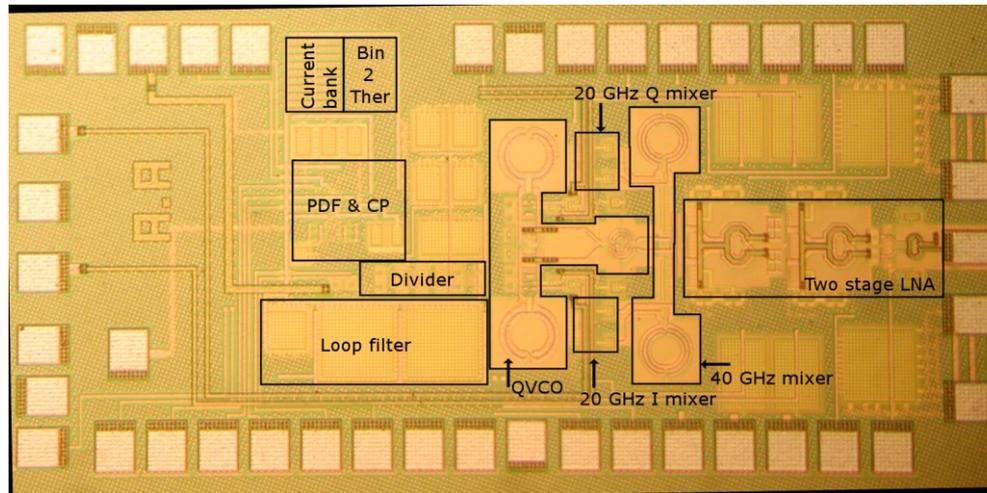
A 60GHz-Band PA achieving 36% PAE in 65nm CMOS



- **World record – 36% PAE !**
- **Highest output power/area**
- **State-of-the-art!**



A 60GHz Receiver Front-End for Phased-Arrays utilizing PLL based Phase Controlled LO Generation in 90nm CMOS



- **Phase range of 360 degrees with a resolution of 3 degrees and less than 1 degree DNL**
- **State-of-the-art!**

