

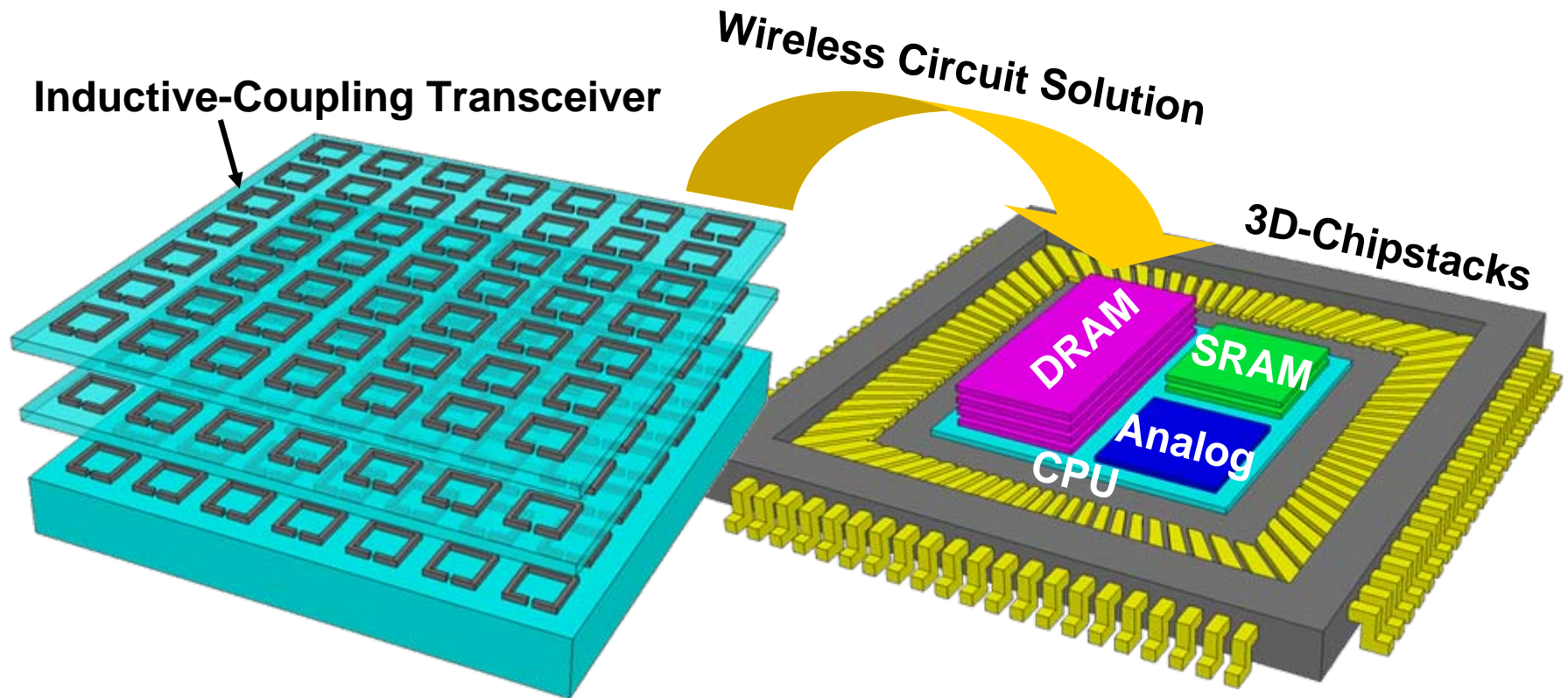
**A 1Tb/s 3W
Inductive-Coupling Transceiver Chip**

Noriyuki Miura and Tadahiro Kuroda

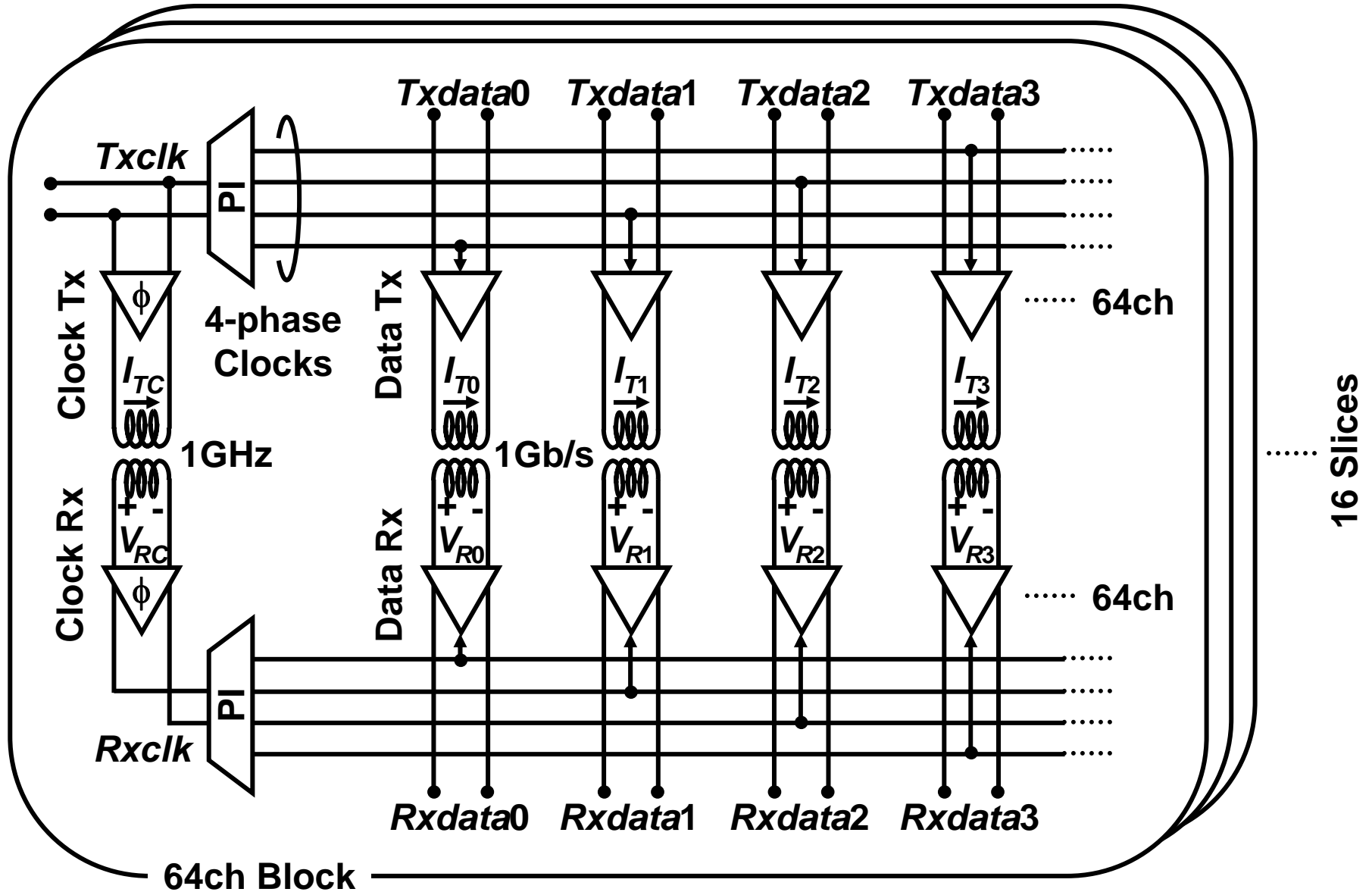
Keio University

Introduction

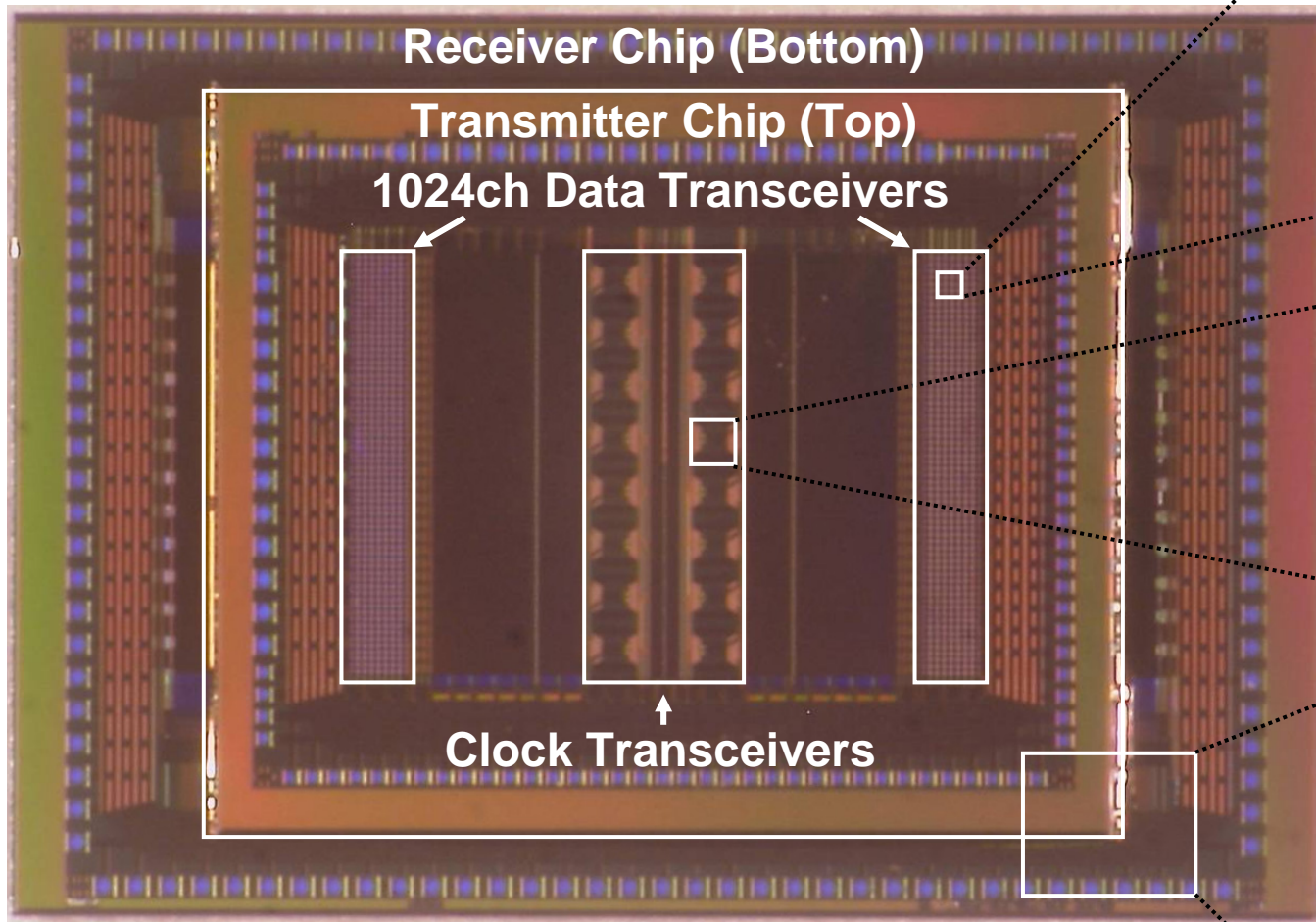
- ▶ Transceiver between 3D-chipstacks realizes high-performance and scaled LSI systems



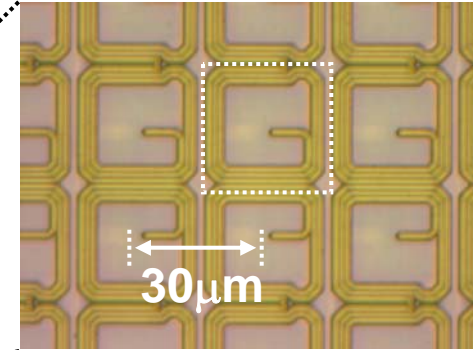
Inductive-Coupling Transceiver



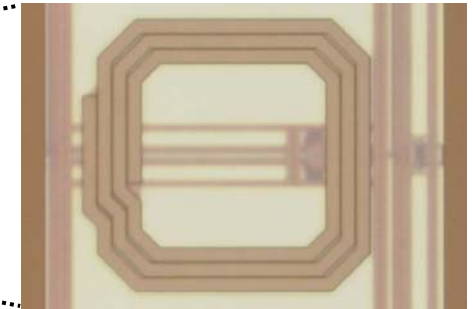
Chip Microphotograph



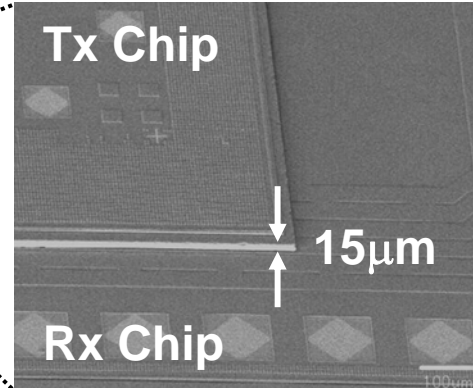
Data Transceiver



Clock Transceiver

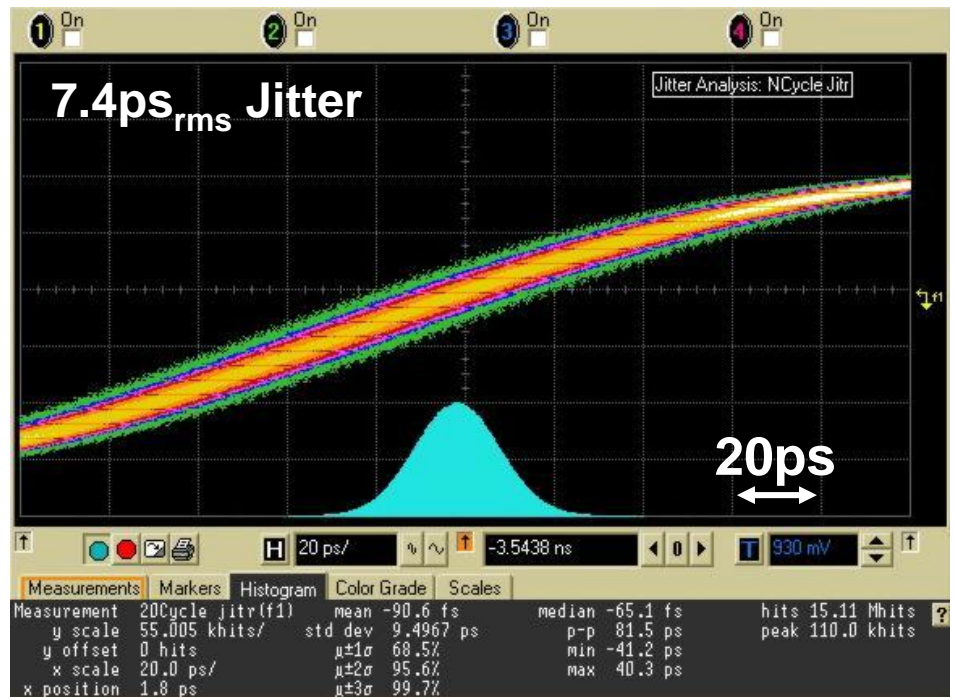
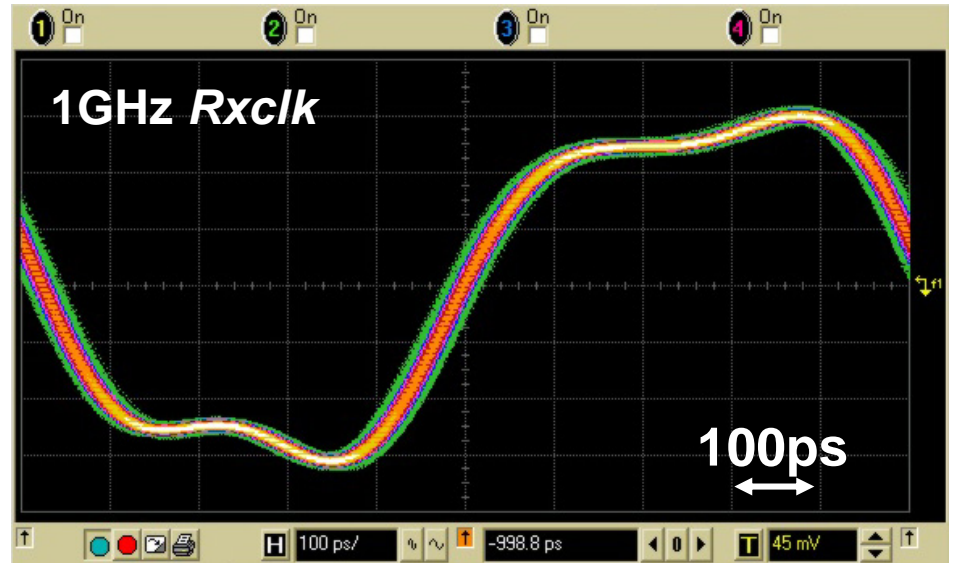
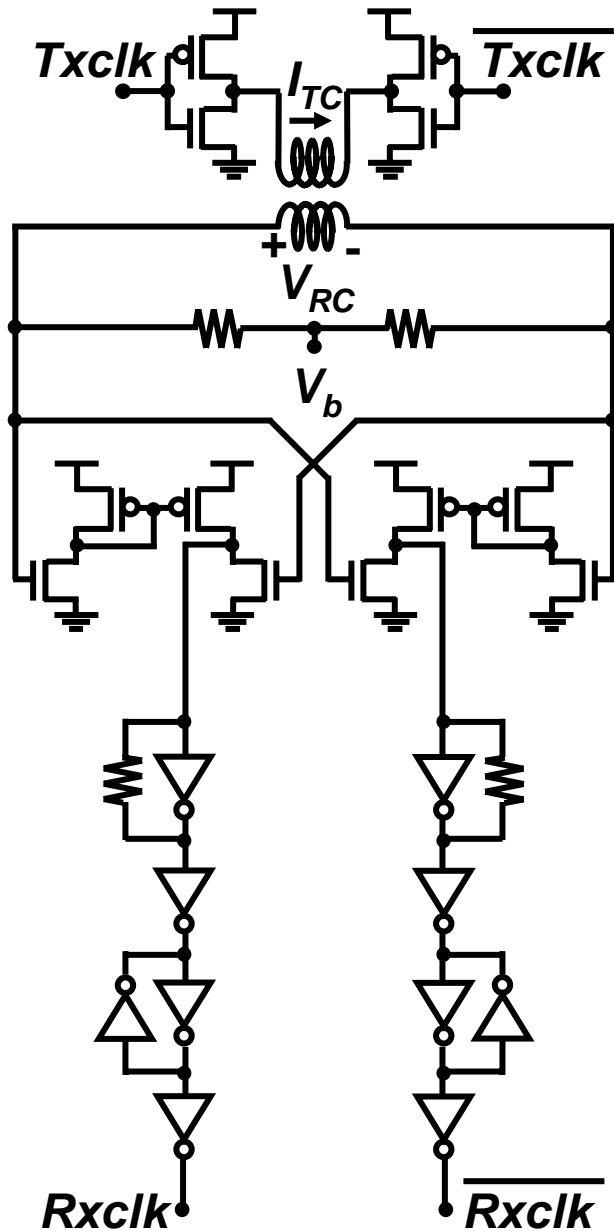


SEM Photo

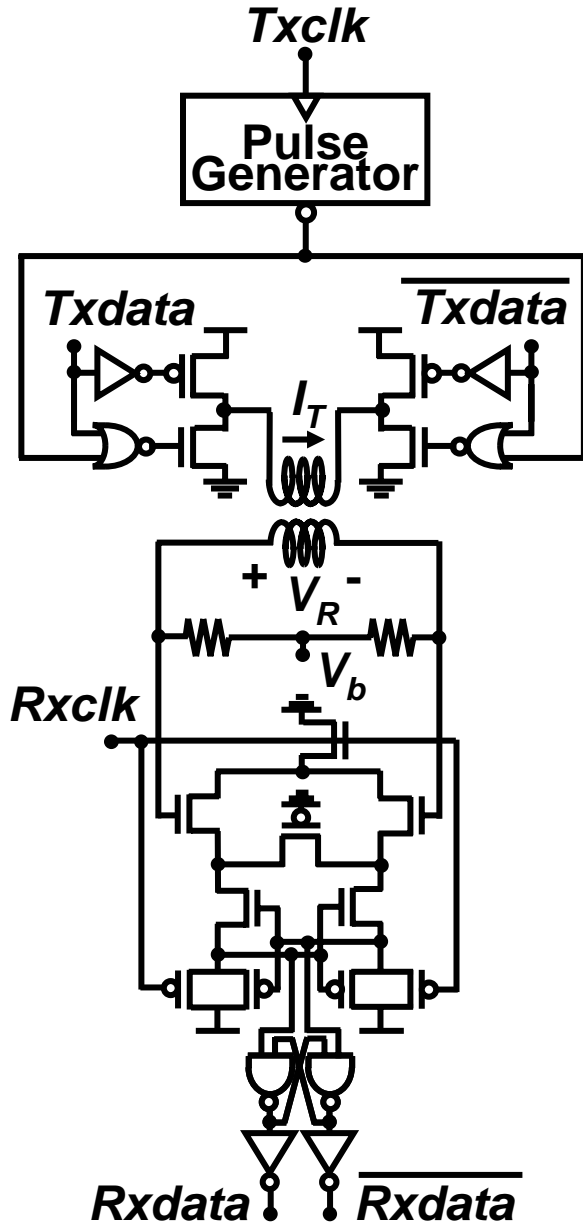


Fabricated in 0.18µm CMOS
Transmitter Chip is Stacked on Receiver Chip.

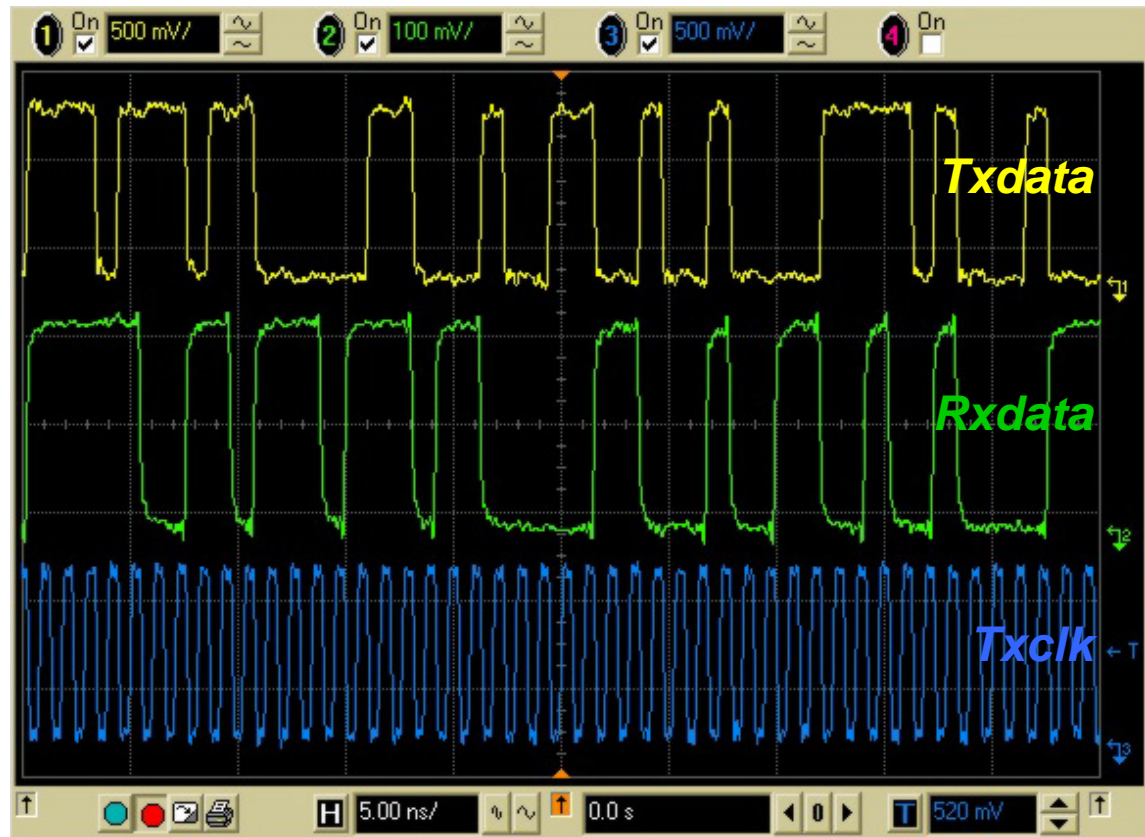
Clock Link



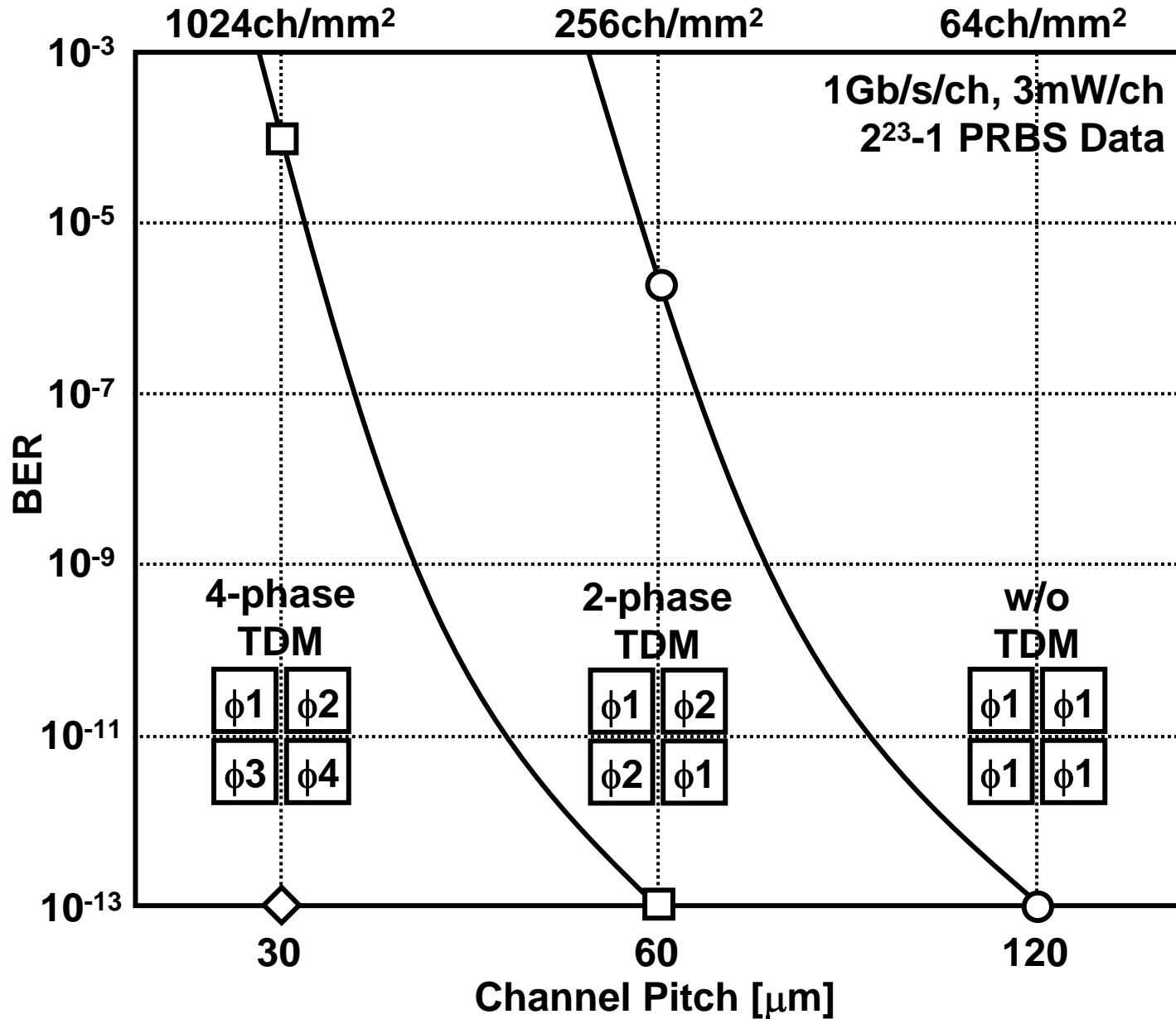
Data Link (Single)



1Gb/s, $2^{23}-1$ PRBS Data, BER < 10^{-13}



Data Link (Parallel)



Performance Summary

