TAKAMIYA LAB.

[Energy Efficient Circuits for IoT (Internet of Things) Devices]

Department of Informatics and Electronics

http://icdesign.iis.u-tokyo.ac.jp

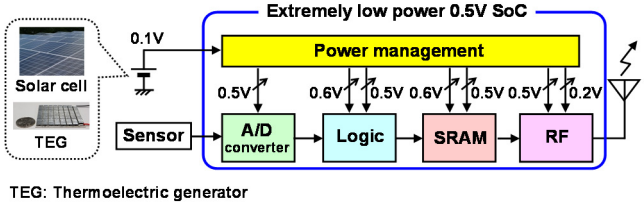
Versatile LSI System Design

Department of Electrical Engineering and Information Systems

Energy Efficient Circuits for IoT Devices

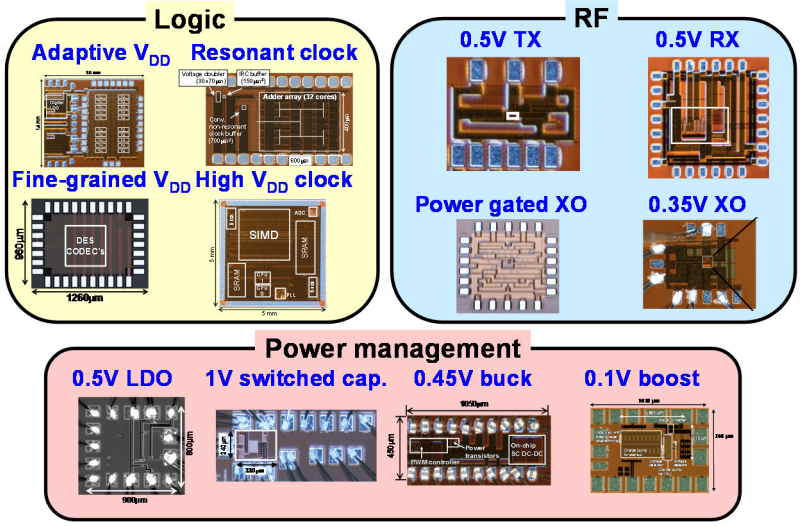
VLSI circuit design, especially

- Low-voltage (0.5V)/low-power RF circuits for wireless sensor nodes
- Low-voltage (0.5V) power management circuits
- Power management circuits for energy harvesting
- Sub-0.5V low-voltage/low-power logic circuits
- Magnetically resonant wireless power transmission
- Large area and flexible electronics with organic transistors

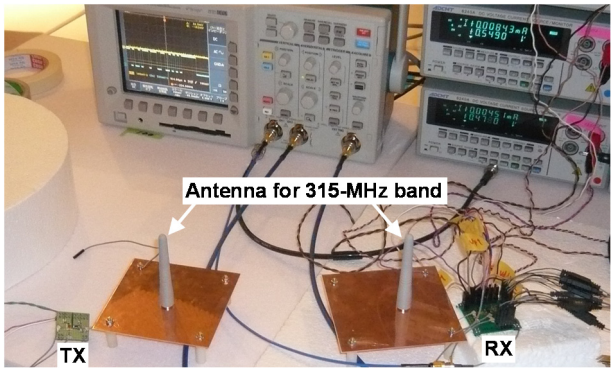


TEG: Thermoelectric generator

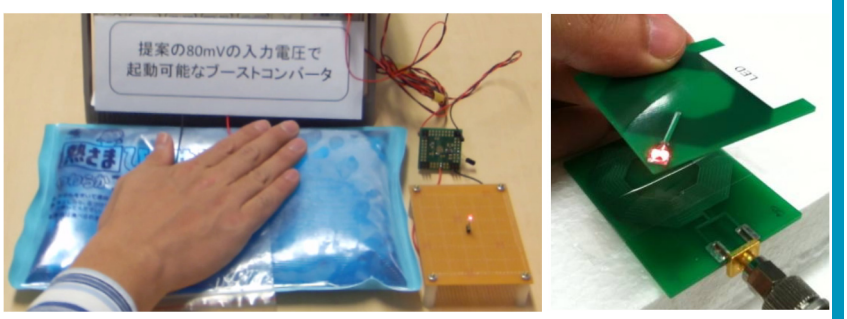
Extremely low-power LSI for wireless sensor nodes



Low-voltage (sub-0.5V) and extremely low-power LSI's



1Mbps, sub-100μW wireless tranceiver



Energy harvesting from thermoelectric generator (left) and Wireless power transmission (right)