EnerHarv 2024

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INFRACHIP
European Research Infrastructure on Semiconductor Chips

The European research platform for the sustainable development of next-generation and future semiconductor chips

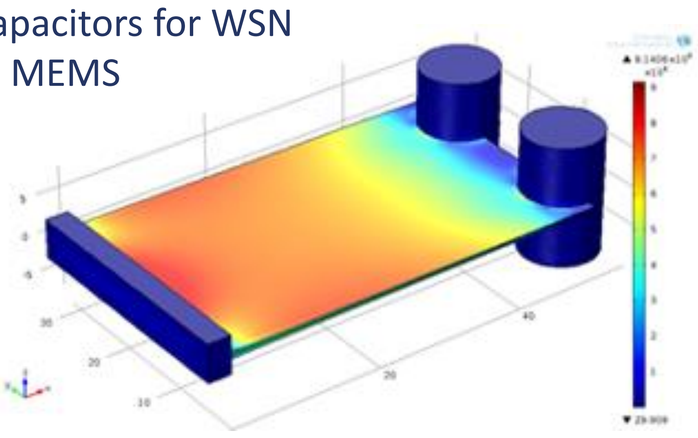
INFRACHIP project – infrachip.eu

INFRACHIP aims at advancing the state-of-the-art by supporting comprehensive user projects for path-finding research on sustainable Information and Communications Technologies (ICT) driven by the secure edge. Through the Transnational Access for Integrated Power, it offers a platform for novel solutions to extend the battery lifetime of autonomous IoT nodes, minimising energy consumption through power electronics innovation and micro-power management as well as providing hybrid solutions to harvest energy.

Energy Autonomy

Energy Harvesting and Storage

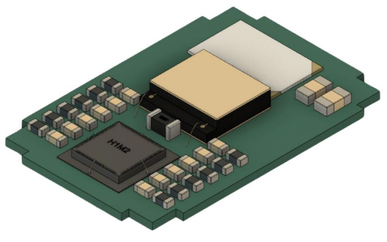
- PV technology (performance, stability, evaluation)
- Triboelectric characterisation
- Solar cells, light harvesting
- Mechanical Nanigenerators (fabrication, characterisation)
- Magnetic, electromagnetic, piezo & thermoelectric MEMS for WSN
- Energy material characterisation, electrochemical cells and solid state battery/supercapacitors for WSN
- Microfabrication and MEMS



PMU Design

Power management IC

- Power characterisation and EH compatibility for application validation
- Low power analog & mixed signal design for IoT circuit building blocks
- Simulation tools & libraries
- Testbeds & system optimisation tools



eSiP (energy source in package)

- WSN optimisation suite & testbed
- Tools & expertise to optimise WSN for various applications
- On-site deployment testbed for real-life experiments

Integrated Power

PCB Embedded Magnetics

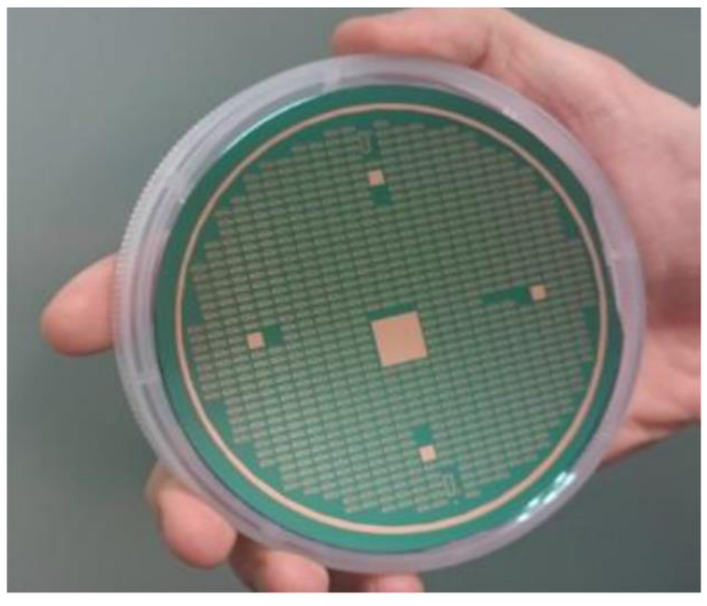
- Characterisation of magnetic materials and thin films
- High Frequency measurement of magnetic permeability

On-Silicon Magnetics

- Multiphysics and finite element based simulation tools
- Test-bed for signal analysis (inductors and transformers)
- Design Infrastructure

Device processing (SiC & GaN)

- Lithography
- Thin film deposition
- Dry Etch
- Characterisation



Free Transnational Access to Semiconductors Technologies

By providing a simplified EU funded access route to a diverse interdisciplinary portfolio of offerings, INFRACHIP will enhance the development of critical leading-edge semiconductor technologies. The programme is open to PhDs, researchers, Post-Docs, Academics, SMEs and industrials. Applications are done on the website by detailing shortly your needs.
Visit the website and discover the showroom!

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