SUNDAY 08:30 – 12:30

Microwave Carbon Footprint of Wireless Communications - from Energy Efficiency to Embedded Emissions

WS13
EuMC

Chair: Stefan Wunderer [1]
Co-Chair: Andreas Wentzel [2]
[1]NOKIA , [2]FBH

Room: Juliana 4

While wireless communications has been showing a steady growth over the past decade, sustainability puts a question mark behind this development. Already nowadays communication networks account for a non-negligible share to the global carbon footprint. Among this, the wireless infrastructure makes up for a considerable part, which is expected to see a significant increase in the coming years due to the exponential growth of transmitted data. The carbon footprint is currently dominated by energy consumption in the use phase. The percentage of used renewable energy within the infrastructure is increasing year by year. This will shift the carbon reduction efforts to embedded emissions for the network operators.

For the user equipment, on the other hand, fabrication plays an important role. In many European countries, equipment manufacturers have to provide data on the footprint in the data sheets. Altogether, the wireless community is forced to include the sustainability aspects into system and component development from the very beginning, which is new for the majority of those working in the field.

The purpose of this workshop is to provide insight into the necessary methodology, the tools, and the resulting data of how to assess the carbon footprint of wireless communication networks. The talks cover hardware components and chip technology as well as system considerations.

PROGRAMME

Sustainability as Design Imperative for 6G

Stefan Wunderer [1]
[1]NOKIA

Sustainability in the infrastructure of mobile communication networks

Kristian Lindskog [1]
[1]Ericsson

Energy Efficiency and Carbon Footprint of D-Band Point-to-Point Radio Links for 6G

Wolfgang Heinrich[1]
[1]FBH

Carbon footprint of an InP HBT process for D-band MMICs

Tuğana Aslan [1]
[1]FMD (Research Fab Microelectronics Germany)