

Elektrotechnik-Elektronik-Informationstechnik

EEI KOLLOQUIUM

Go Beyond the ID in RFID

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Diskussionsleitung: Dr. Amelie Hagelauer

Currently, state-of-the-art passive radio frequency identification (RFID) technologies are used in logistics and maintenance. These technologies rely on the radio communication between an RFID reader and batteryless or rather passive RFID transponders (tags) and thus allow a low-cost and unique identification (ID) of objects. This talk will focus on current research topics in the field of passive RFID technologies that go beyond the ID in RFID. In particular, the talk will focus on the development of ultra-low-power microwave components and systems to realize passive miniaturized RFID sensor tags. This kind of tags are low-cost, long-lasting, and ubiquitous sensor units with unique IDs and will thus pave the way for RFID technologies to become one of the key enabling technologies for the Internet of Things (IoT). Miniaturized sensor tags will allow to identify and monitor small objects, e.g., documents, jewelry, medicine, diagnostic devices, that can then become part of the IoT. The talk will give insights into how to realize this kind of tags by the power-efficient integration of sensing capabilities in passive tags and by the realization of miniaturized tag antennas.