

PRESS RELEASE

EM Microelectronic's Augmented RFID powers Green IoT solutions

em|aura-sense enables sustainable, eco-friendly RFID sensors

Marin, Switzerland, 28 July 2020 – EM Microelectronic, the ultra-low-power semiconductor company of the Swatch Group and an RFID industry pioneer for more than 30 years, today has announced the release of **em|aura-sense**, its Augmented RFID product for wireless sensing applications.

em|aura-sense enables mass deployment of cost-effective batteryless sensors for ubiquitous IoT applications.

Problem statement

The pervasiveness of IoT applications poses complex challenges due to the presence of batteries, not only in terms of sustainability and environmental friendliness, but also in terms of scalability and cost.

IoT endpoints, on the other hand, need to be able to capture and communicate data dynamically, as opposed to static information. The cloud needs to know from an endpoint what's going on at the time of the enquiry rather than what data was stored there a while back.

Current solutions in the market are either based on very smart, yet expensive, battery-powered devices or on simple, very cost-effective passive RFID solutions that, in return, can only handle static data.

The EM solution

em|aura-sense fully leverages EM's Augmented RFID concept, by upgrading a passive RFID chip into a smart sensing device. The addition of a passive sensor leverages the simplicity and pervasiveness of RAIN RFID infrastructure to transform the RFID tag from an end-node into a communication pipe. The RFID becomes context-aware!

em|aura-sense Benefits

End-users can fully leverage existing RAIN RFID infrastructure, dramatically lowering the deployment effort for ubiquitous, sustainable and eco-friendly sensor deployments. Moreover, the solution dramatically reduces the complexity to operate the installation, just "place it and leave it", with no maintenance.

Measurements can be performed remotely and automatically, without human intervention and in environments where the use of battery is not an option.

Besides the environmental aspect, the absence of batteries further contributes to the affordability of these solutions, fostering their adoption and creating new opportunities in markets such as automotive, construction, energy and healthcare.

Thanks to the decoupling between antenna and capacitive sensor, **em|aura-sense** sensor tags can be manufactured using traditional RFID label manufacturing process, making them compatible with 1-step inlay manufacturing.

“The **em|aura-sense** Augmented RFID technology, coupled with Avery Dennison’s leading-edge transponder capabilities offer the ideal solution for sustainable, green IoT deployments”, said Hal Hikita, VP Product Management at Avery Dennison Intelligent Labels. “Coupled with our Green Tag initiative, this product family will allow us to massively deploy affordable, batteryless, eco-friendly IoT.”

Thomas Brunner, Managing Director at Kathrein Solutions stated, “Combining Kathrein’s smart RFID reader hardware and software offering with EM’s new passive Augmented RFID sensor solutions opens up a world of new opportunities in the Industry 4.0 and Industrial IoT market. We are excited to integrate the new **em|aura-sense** in our solution offering.”

Michel Willemin, the CEO of EM Microelectronic added, “EM is proud to disrupt the market once again and pioneer the Augmented RFID concept, fully leveraging its True Ultra Low Power (TULP) IC design expertise and the Swatch Group semiconductor manufacturing footprint. We are excited to contribute to the future of Green IoT with eco-friendly electronic solutions.”

Product features

- Higher accuracy: 7 bits resolution (17pF effective range) and offset calibration
- Measurement can be stored inside the IC: User Memory up to 2kbit
- standard RAIN RFID protocol (ISO/IEC 18000-63), no custom commands needed
- Snapshot Sensor technology can enable other types of sensing without requiring any change on the reader.
- Etc.

-ends-

Product page

More information on em|aura-sense can be found at:

<https://www.emmicroelectronic.com/product/epc-and-uhf-ics/em-aura-sense>

Notes to editors

EM Microelectronic, a company of the Swatch Group, designs and manufactures Ultra-low power ICs for small portable devices and green IoT. A leading Swiss innovator, EM has been serving the RFID market for 30 years with passive, active and semi-active ICs covering all frequency ranges: LF, HF, UHF, 2.4 GHz.

EM has pioneered the adoption of UHF RFID in retail, with the first mass deployments in the early 2000’s, paving the way for the emergence of RAIN RFID, and continues to drive new applications with its em|aura-sense family, adding passive sensing capabilities on top of RAIN RFID, enabling Green IoT.

Pictures

Product logo and media kit image, courtesy EM Microelectronic – Marin SA.

For further information, please contact:

Media inquiries

MarComedia GmbH

Monika Ailingner, tel +41 41 850 44 24, m.ailingner@marcomedia.ch

Company contact

EM Microelectronic – Marin SA

Thomas Gyger, tel +41 32 755 51 00, info@emmicroelectronic.com