

## PRESS RELEASE

### **EM Microelectronic makes NFC authentication scalable with new high-performance Web Authentication IC**

em|linq provides robust, versatile and cost-effective NFC Type 2 tag authentication

*Marin, Switzerland, 13 January 2021* – EM Microelectronic, the ultra-low-power semiconductor company of the Swatch Group and an RFID industry pioneer for more than 30 years, today announced the availability in full volume production of **em|linq**, its newest NFC tag authentication IC for advanced brand protection and consumer engagement.

**em|linq** offers to brands the possibility to engage with their customers via NFC and to offer advanced product authentication.



NFC tags have become a popular support for consumer engagement, turning any smartphone into a portal for accessing brand content. When the NFC tag content is dynamic, these tags turn into powerful brand protection tools, as they provide enhanced protection against cloning.

The growing demand for such solutions has been facing a serious scalability challenge, as it requires robust, yet cost-effective products. While NFC tags have been successfully deployed for consumer engagement as a straightforward extension of a typical HF RFID use case, the authentication component adds cost and complexity typical to smartcards, making the RoI more difficult.

**em|linq** provides an elegant answer to this, by combining powerful cryptographic mechanisms typically reserved to smartcard products with the convenience and affordability of RFID products.

#### Open, versatile authentication

**em|linq** is built on proven, open standards, allowing for full degree of freedom in the implementation of the authentication service. The key management and provisioning, a fundamental brick of the security architecture, can be handled and fully controlled by the company who implements the solution, regardless of its position in the value chain: inlay or label manufacturer, integrator, brand or retailer.

Moreover, programming the cryptographic keys into the chips is completely segregated from programming the URL for the authentication service, providing additional flexibility and security for the system implementation.

## Integration and convenience

em|linq offers new integration possibilities into electronic labels. Its small form factor provides superior mechanical robustness, and its power efficiency enable small antenna form factor for enhanced communication performance. Its electrical characteristics are compatible with most of the antenna designs already existing on the market, reducing the engineering effort.

## Deployment and scalability

By building its high-performance authentication engine on top of a traditional RFID architecture rather than by simplifying a cumbersome smartcard one, em|linq elegantly responds to the scalability challenge. Adding the authentication functionality remains an extension of a traditional RFID use case, with no unnecessary overhead, and the tags are produced using the same process flow and with the same quality and cost-effectiveness as the standard RFID products.

Moreover, its exceptional RF performance allows for very small inlay constructions, facilitating integration and reducing the overall cost.

## Product features

em|linq is NFC Type-2 compliant and delivers state-of-the-art radio frequency and cryptographic performance. Its highly optimized cryptographic hardware implementation provides best-in-class Web Authentication brand protection to consumers' smartphones using a dynamically generated HMAC-SHA1 code appended to the URL stored in the NDEF container.

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### Product page

More information on em|linq can be found at:

<https://www.emmicroelectronic.com/product/emlinq>

### 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 more than a decade ago, paving the way for the emergence of RAIN RFID, and continues to drive new applications with its award-winning em|echo family, combining RAIN RFID and NFC in a single RAINFC IC, enabling new consumer experience and product authentication functionalities on top of traditional use cases..

### Pictures

Product logo, courtesy EM Microelectronic – Marin SA.

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