



NEWS RELEASE

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FOR IMMEDIATE RELEASE

EM MICROELECTRONIC, TREND-SETTER IN THE FASHION INDUSTRY

More than 250 million UHF RFID IC's delivered

MARIN, Switzerland – January 23rd, 2008 – [EM Microelectronic](#), the semiconductor company of the [Swatch Group](#), today announced that it has already shipped a cumulated amount of over 250 Million Tag-Talks-Only (TTO) UHF RFID chips. The largest part is used for the manufacturing of intelligent labels for garment tagging in the fashion industry. Marks & Spencer uses it to improve their clothing in-store stock levels. Marks & Spencer's RFID initiative in apparel is known to be the world's largest item-level tagging project and thereby establishes EM's UHF chips as a de-facto standard in this field.

In many – if not most – logistics applications, which require the reading range and anti-collision performance offered by the UHF technology, the customers do not need more than a read-only tag also called licence-plate tag. The EM4X22 chip family used in the Marks & Spencer case fulfil exactly this requirement. The tag itself stores only one number in a non-volatile memory; exactly this approach has actually been a primary tenet in the meanwhile famous MIT Auto-ID Lab document "*Towards the 5¢ tag*". By requiring the tag to have nothing more than a reference code (e.g. an EPC code), we limit the memory on the chip and we reduce the minimum requirements of the system to read-only tags.

The general trend in UHF RFID today has however diverted towards a more complex approach with EPCglobal's Class 1 Gen 2 specification. "*But it is exactly our low complexity, back-to-the-roots approach that made the success of EM's chips in the M&S project*" says Marc Degrauwe, CEO of EM Microelectronic "*Lower complexity requires less expensive production process and allows to offer very competitive pricing*".

The simplicity of EM's UHF products lies also in IP-X, a Tag-Talks-Only (TTO) protocol co-developed with [IPICO](#) and powered by a non-modulated reader which allows a very efficient use of the UHF frequency band especially in dense reader environments. Meanwhile, the importance of the deployed base of IP-X tags and the growing market interest for these products pushed EM Microelectronic and IPICO to propose an improved version of the protocol (IP-X Gen 2), which will guaranty the harmonization with existing Reader-Talks-First (RTF) UHF RFID Air Interfaces. This harmonization proposal is based on a Tag-Only-Talks-After-Listening (TOTAL) concept. TOTAL ensures the tag to remain silent during the RTF communication to prevent any interference, thus avoiding the collision of the TTO and RTF worlds.

Today, the EM4X22 is a read-only product with a factory programmed code and it can therefore be considered as a Class 0 product according to EPCglobal's definition. But EM is already working on harmonized IP-X™ Gen 2 products. Factory pre-programmed, read-only chips have not only the advantage of simplicity: they are also intrinsically more secure than their programmable counterpart

from a counterfeighting point of view. Moreover, a simple incremental numbering scheme of the chips also has the advantage of a higher level of privacy protection because the number alone will not allow drawing any conclusion on the nature of the tagged item.

EM Microelectronic

EM Microelectronic is a semiconductor manufacturer that designs and produces ultra low-power, low-voltage, digital, analog and mixed-signal integrated circuits (ICs) for battery-operated and field-powered devices in consumer, automotive and industrial applications. RFID chips feature read/write, anti-collision, 125 kHz, 13.56 MHz, UHF and 2.45GHz operation for applications in security and access control, animal ID, logistics and immobilization in automotive applications. Other products include ASICs, microprocessor supervisors and reset ICs, microcontrollers, smart card ICs, optoelectronic ICs, LCD drivers, displays and modules.

EM Microelectronic is one the electronic systems companies within the Swatch Group, developing and producing ultra-low power, miniaturized and accurate microelectronic components and systems. Additional company and product information is available at www.emmicroelectronic.com.

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