Nearly a decade since it was first introduced, Near Field Communication (NFC) is entering the consumer technology mass market. It will soon be available on hundreds of millions of smart phones and personal mobile devices. NFC is about to revolutionize everyday activities bringing a new era of connectivity into our daily life.

Based on Radio Frequency (RF) technology at 13.56MHz, NFC provides a short-range up to 10cm wireless data connection to mobile devices. By using this new capability on existing infrastructures, the NFC enabled device is then able to support services designed for contactless cards: ticketing, payment, loyalty programs. In addition, NFC offers new functions such as the reading of NFC tags, validation of transactions and Peer-to-Peer communication.

NFC raises the bar for security, performance and convenience for the smart card industry.

Information exchange applications, such as “smart” posters, operate in a relatively open manner. Many other applications, in particular those described as electronic wallet functions, utilize information that users want to keep private. In fact, the trust of the consumer that their personal data and financial transactions are protected will be critical to wide market success for NFC.

Infineon, Your partner of choice for your NFC solution

As member of the NFC Forum and other NFC-relevant standardization bodies, we drive actively the NFC market development. Thanks to our Security Leadership and Contactless Excellence, we contribute today to the emerging NFC market with an exceptionally broad and innovative portfolio supporting all NFC applications and business models.

Since the NFC RF communication functionality is to be integrated by the wireless chipset industry in their combo-devices (Bluetooth, IR, …), we focus on security chips used to protect sensitive information from exposure, as well as RFID chips used in NFC Tags, important in the roll out of the NFC technology. We designed products to meet the security and the performance required by the challenging requirements of NFC.

We achieve the required security level to support efficiently the different solutions from the NFC SIM to the embedded Secure Elements which requires long term security. Our secure microcontrollers are certified according to the Common Criteria and EMVCo international standards. Dedicated ones feature the award-winning security technology Integrity Guard, ensuring robust protection of sensitive payment and authentication data. The security technology Integrity Guard bundles several highly sophisticated digital security mechanisms to cover a vast range of potential attacks.

Our entire portfolio is designed to deliver the highest performance of the chosen solution (SIM, microSD, Dual Interface, …) crucial to the success of NFC applications. Widespread market penetration of NFC relies on customer experience. And the consumer expects that communications and transactions will be processed quickly, reliably and intuitively.

We support NFC Systems based on open standards such as CIPURSE™ from the OSPT Alliance. The CIPURSE™ system will ease the deployment of NFC solutions to be used in ticketing and transport applications. It operates on standard infrastructures and does not require specific terminal and specific TSM management. CIPURSE™ offers a clear and transparent licensing scheme for the NFC Stakeholders and users.

www.infineon.com/nfc
A Unique and Complete NFC Product Portfolio

**Secure Elements**

- **SWP product**
- **DCLB product**
- **Dual Interface product**

The SOLID FLASH™ SLE88 and SLE97 controller series are the two state-of-the-art Infineon’s 32-bit controller families supporting the Single Wire Protocol interface. Since 2007, SWP is the standard interface connection between a NFC SIM card and a CLF modem within NFC-enabled phones. It can run up to 1.7Mbit/s and it is able to support all types of contactless transactions. Both SLE88 and SLE97 embed a secure, flexible and robust memory (500k cycles) for fast prototyping and time-to-market. In addition to the standard SWP SIM market, these security controllers also fulfill performance requirements for embedded Secure Element and SWP SD Card implementation.

**DCLB Embedded Secure Elements**

Offered as standalone chip, which can be combined with NFC modems from various suppliers, the embedded Secure Element series are highly secure controllers. The Digital ContactLess Bridge (DCLB) interface is Infineon’s connectivity interface optimized for embedded Secure Element implementation. The DCLB interface is an open solution and it offers a fast and transparent connection (up to 848kbit/s) from the antenna to the embedded Secure Element. Our embedded Secure Element series are also available including JavaCard/GlobalPlatform Operating System.

**Dual Interface Secure Elements**

The Dual Interface (DI) Security Controllers, such as the SLE78 Family, are developed for the simultaneous secure communication via both contact based and contact-less interfaces, together with the financial payment class security certifications (for example EMVCo and CC EAL 5+). Infineon is the first vendor to provide mobile payment product SIMpass™, an innovative Dual Interface NFC SIM having antenna on device. With SIMpass™ any subscribers’ mobile can be immediately equipped with secure NFC functions and financial payment securities. Furthermore the Boosted NFC SE (Secure Element), the new member of the Dual Interface Secure Controller family is carried out. Inheriting the family features and with dedicated ACLB interface the Boosted NFC SE supports active transmission technology in association with an external Boosted NFC Front-End device. This solution significantly increases small antenna transmission and enhances the contactless communication signal penetrating, thus enables ultra-small secure NFC component designs with micro antenna, e.g. an antenna-integrated NFC Micro SD or SIM.

**RFID Chips for NFC Tags**

With my-d™ move NFC and my-d™ NFC, we provide a broad range of NFC Forum™ Type 2 Tag Operation ICs ideally suited for open NFC applications like device pairing, information sharing, sticker and smart poster reading.

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**WARNINGs**

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office. Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

**INFORMATION**

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office (www.infineon.com).