



NXP ICODE®  
DNA

## Enhance Security for Vicinity Applications

ICODE DNA features AES cryptographic authentication for vicinity applications, enabling cloud connectivity through NFC phones. System integration is made easy with a broad range of supporting tools.

### KEY FEATURES

- ▶ AES128 authentication compliant to ISO/IEC 15693
- ▶ 2016-bit user memory, organized in blocks of four bytes each
- ▶ Operating frequency: 13.56 MHz; fast data transfer: up to 53 Kbit/s
- ▶ Three user keys for tag authentication and/or mutual authentication
- ▶ Separate privileges to define different access rights per key
- ▶ Optional authentication limit (maximum number of authentications, reset possible with valid mutual authentication)
- ▶ Flexible user memory segmentation with corresponding access conditions
- ▶ Additional fast anti-collision read
- ▶ Persistent quiet mode to enable faster inventory speed
- ▶ 32-byte ECC-based NXP originality signature (customer programmable)
- ▶ Counter and privacy feature
- ▶ TAG Type 5 NFC Forum compliance

### APPLICATIONS

- ▶ Brand protection
- ▶ Consumer engagement
- ▶ Track and trace along supply chain
- ▶ Document tracking and authentication
- ▶ Access control

### KEY BENEFITS

- ▶ AES cryptographic authentication for vicinity
- ▶ NFC phone readability and cloud connectivity
- ▶ Broad availability of supporting tools for easy system integration
- ▶ Easy differentiation thanks to customer programmable originality signature



## ABOUT ICODE

NXP's industry-leading ICODE product portfolio is the first choice for high-frequency (HF) smart tag and label solutions with billions of ICs in the field and thousands of installations. As the leader in secure authentication, NXP brings unique features to the ICODE DNA tag IC.

Excellent read performance allows for an increased level of automation along the supply chain. Due to NFC phone readability, ICODE DNA enables direct one-to-one consumer engagement and subsequently customized marketing campaigns.

## BRAND PROTECTION AND CONSUMER ENGAGEMENT

Counterfeiting is a major global problem that impacts a range of industry areas including apparel and shoes, luxury accessoires, pharmaceuticals, consumer electronics and more, with over 90 percent of Fortune 500 companies affected. Global financial losses from counterfeiting and piracy are forecast to jump to \$2.3 trillion by 2018.<sup>1</sup>

ICODE DNA is an ideal solution for verifying the authenticity of individual components, documents or products and protecting brands. Moreover, NFC compliancy enables direct interaction with consumers, enabling item authentication in real time anywhere in the world. On top, brand owners achieves a new way to engage their customers in deeper dialogues, and increase confidence in their brands and products.

Thanks to cloud connectivity and direct engagement with user-enabled monitoring of consumer behavior, analytic data can be collected. System integrators and operators can use this data to create customized marketing activities and strengthen consumer loyalty and satisfaction.

## HANDS-FREE ACCESS CONTROL

Well-working hands-free access management is one of the major success factors for ease of access to buildings, resorts and other locations. ICODE DNA offers AES cryptographic authentication and read performance in order to enhance the security and increased convenience for hands-free access.

Thanks to the possibility of dividing memory into protected and unprotected parts, system integrators can offer new enhanced and convenient services such as easy online booking via mobile phones or downloadable resort maps with links to the closest restaurants and bars.

## ORDERING INFORMATION

Delivery	Type
Bumbed die on sawn 8" 120µm wafer with 7 µm polyimide layer	SL2S6002FUD/BG

<sup>1</sup> Vandagraf International Research, "Luxury Accessories, Beauty & Apparel: Anti-Counterfeit and Brand Protection - Markets, Opportunities and Synergies for Providers of Integrated Solutions & Technologies (incl. Packaging/Labels Converters)," February 2015.

