NXP®
NTAG® 413 DNA

NTAG 413 DNA delivers higher security & unique experiences with each tap

High-level security features, such as cryptographic authentication and a new SUN mechanism, which generates a unique authentication code each time the tag is tapped, enable more advanced product and content protection, plus more dynamic user experiences.

KEY FEATURES

- New Secure Unique NFC message (SUN) feature, to create tap-unique authentication data each time tag is tapped
- SUN also assures integrity of the data
- NXP Originality Signature (ECC-based, 56-byte), to assure tag and data origin
- Unique 7-byte identifier (UID)
- Fully ISO/IEC 14443-A compliant & NFC Forum Type 4 Tag compliant, for maximum interoperability with NFC infrastructure
- 13.56 MHz HF operation
- 160-byte read/write memory
- Features, in combination with web-based authentication services
  - Cryptographic Tag authentication (AES 128)
  - Optional: Secure host authentication (Mutual authentication)
  - Optional: Secure channel for data transmission between tag and host
- Tamper-resistant secure hardware

TARGET APPLICATIONS

- Enhanced product and brand protection
- Unique user experiences and interactions
- Monetary offers such as vouchers, loyalty programs
- Document authenticity
- Proof of physical presence
- Event ticketing
- Log-in credentials

KEY BENEFITS

- More advanced security, through cryptographic authentication and unique authentication data with each tap
- Stronger protection of goods and documents, with tap-to-check content originality and integrity
- Enhanced user engagement, with unique, dynamic content experiences triggered by users and served in real time
- Easy consumer adoption, through automatic tag connection to web services that work without a dedicated app

The NTAG 413 DNA NFC tag is an industry first from NXP, the number-one supplier of semiconductor-based ID solutions. NTAG 413 DNA is the only NFC tag to enable AES cryptographic authentication with a new Secure Unique NFC message (SUN) feature, which generates a unique, secure authentication code each time the tag is tapped by an NFC-enabled mobile device. The result is an NFC tag that can automatically connect to web-based services while ensuring the highest levels of data authenticity and integrity. There's no need for a dedicated app, so tag reads are quick and intuitive.

Embedding cryptographically secure NTAG 413 DNA tags with the SUN feature into goods and documents provides a more reliable method of authentication, and gives users an easier, faster way to check content originality and integrity. NTAG 413 DNA can also create truly unique end-user experiences, served in real-time.

NTAG 413 DNA supports use cases that require the tag's physical presence. The setup can also be configured to support extra security features, such as mutual authentication, for authorized-only access to the tag by the host system, and a secure communication channel, to protect data while it's in transmission.

SECURITY IS THE FOUNDATION

With just one tag, brand manufacturers and other organizations can use multi-layered security to enable a broad range of trusted services:

- Advanced anti-counterfeiting:
  The "tap-unique" SUN feature creates a unique authentication code with each tag tap, so anyone - a consumer or business inspector - can use an NFC phone, without an app, to digitally verify a product is genuine. Businesses can confirm authenticity of warranty returns. Tags can be used to assign products to a geographic location or distributor, and, when connected to a cloud monitoring service, can help identify sales outside authorized markets.

- Authenticated documents:
  Use digital verification to instantly authenticate originality and provenance of any document that bears a specific credential, such as a certificate, warranty, or diploma.

- Exclusive user experiences:
  Make marketing smarter with dynamically evolving and unique content experiences that are fully triggered by end users and serviced in real time by web content platforms. Reward consumers with exclusive, personalized content, offers, and privileges.

- Protected monetary offers:
  Confer trust to proximity transactions and ensure authenticity of discounts, coupons, vouchers, loyalty points, sweepstakes entries, and more, by preventing misuse and counterfeits.

- Verified physical presence:
  Enable secure visitor authentication, with proof of presence and confirmation of visit details. Provide real trust, with an auditable history of tag presence and data logs, for personnel in equipment maintenance, repair workers, field inspectors, security guards, caregivers, and more.

- Secure event access:
  Ensure safe entry with event tickets that can't be cloned. Also, enhance visitor satisfaction with convenient, one-tap access plus new levels of interactive, context-sensitive user experiences, all accessible with an NFC phone.

- Secure log-in credentials:
  Protect web services, using two-factor authentication for logons to corporate sites, ecommerce, email, social media, and more. Use secure, one-time codes on cards or key fobs to complement user names and passwords, and provide user-friendly access with a simple tap of the phone upon log-in.

VALUE-ADDED SOFTWARE AND SERVICES

NXP offers value-added services for overall system security. During wafer production, NXP Trust Provisioning supports secure crypto key provisioning and management, and NXP Tag Personalization securely encodes customer-specific NFC tag data.

Further NTAG 413 DNA is supported by a free set of software tools, for quick system integration. The TapLinx SDK for Android and the NXP Reader Library are plug-and-play solutions that make application development fast and easy.

ORDERING INFORMATION

NTAG 413 DNA	Delivery Form	Input Capacitance	Part Type	12NC
	75 µm wafer on FFC	70 pF	NT4H1321G0DUF	935351545005
	120 µm wafer on FFC	70 pF	NT4H1321G0DUD	935347347005

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