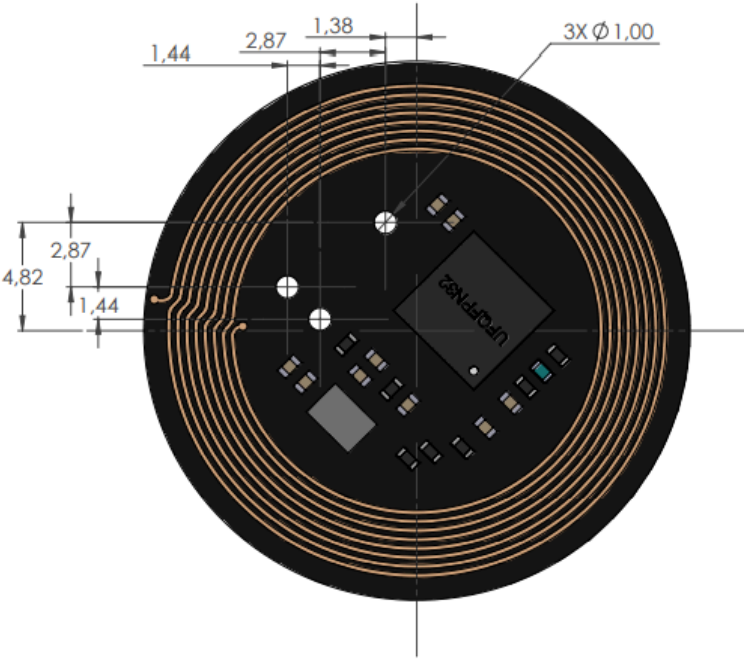


Elerium NFC tag

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The Elerium NFC system enables a production ready platform for post-quantum NFC applications, by blending Dilithium signatures with an easy to integrate JavaScript library, saving you valuable production time and development costs.

- [1. Description](#) 2
- [2. Key Features](#) 3
- [3. Key Benefits](#) 3
- [4. Specifications](#) 4
- [5. Setup & integration:](#) 5
- [6. Applications & Use Cases:](#) 6
- [7. Contact & Support:](#) 8



(Dimensions are in mm)

1. Description

The Elerium DQ113 NFC tag offers advanced digital signature capabilities with post-quantum security, ideal for peer-to-peer applications demanding high security and future-proof design. This tag ensures reliable authentication and supports diverse integration strategies, enhancing existing systems or enabling the development of new decentralised architectures to improve data redundancy and reliability.

Developers can easily incorporate the Elerium DQ113 NFC tag into mobile applications using the provided JavaScript library or tailor the example application to meet specific requirements. The tag features a rapid verification time of 6 to 12 seconds and a durable memory life exceeding 40 years at standard operating temperatures, ensuring long-term efficacy.

Compliant in most regions, the Elerium DQ113 adheres to the stringent Dilithium2 NIST Standard, providing robust quantum-resistant security. These features collectively streamline production and accelerate market entry, reducing development costs while upholding the highest security standards.

2. Key Features

Post-Quantum Cryptography:

Armed with Dilithium2 private keys, offering unparalleled security measures.

Asymmetric Cryptography Utilisation:

Goes beyond standard NFC tags, resulting in enhanced protection against counterfeiting. Elerium conducts verification on-chip, which means there is no central point of failure unlike today's tags which rely on centralised verification servers.

Compatibility:

Seamlessly interacts with the cross-platform lib-dqx React Native library and companion app.

3. Key Benefits

- **Robust Security:** Easier to integrate than existing solutions, yet crafted to withstand quantum computing attacks.
- **Serverless:** The challenge-response verification is peer-to-peer and happens solely between the Elerium NFC tag and NFC reader.
- **Customisable:** Due to the system architecture, the app can be customised to your needs with complex behaviours.

4. Specifications

Feature	Description
Part number	DQ113
Dimensions (mm)	24 x 24 x 0.67
Standard reading range (mm)	15
Manufacturer	Beechat
Part of	Elerium system
Cryptographic primitive	Dilithium2 NIST Round 3
Cryptography type	Asymmetric
Counterfeit protection	Read-Out-Protection, Enhanced protection against counterfeiting via asymmetric cryptography
Compatibility	iOS, Android
Operating Voltage (V)	1.8
Rewrite Cycles	1 000 000
Write Endurance	100 000
Operating Frequency (MHz)	13.56
ISO Standard	NFC-V (ISO 15693)
Shape	Circle
Weight	1g
PCB Material	Polyimide
Temperature Range	-40°C to +85°C
Environmental Conditions & Compliance	EU RoHS, Lead-Free, Halogen Free, CE/RED Compliant

5. Setup & integration:

While the Elerium tag functions optimally as a standalone solution, allowing offline authentication, its capabilities amplify when paired with the comprehensive Elerium Server System:

lib-dqx React Native Library & Companion App:

Allows mobile applications to read and interact with the Elerium tag, making product authentication a breeze.

Elerium Decentralised Server:

A RESTful key server of authentic public keys, simplifying and streamlining the product verification process. Managed & self-hosted options available.

Elerium NFC tag:

Visit the link below to view the latest information on how to set up and use your Elerium NFC tag:

<https://beechat.network/elerium-setup>

6. Applications & Use Cases:

In today's interconnected world, the need for reliable, unclonable authentication touches numerous industries. The Elerium NFC Tag's advanced cryptographic features and integration capabilities with the Elerium Decentralised Server make it an essential tool for a diverse array of applications:

1. Aerospace & Defense:

- **Authenticating Aircraft Parts:** Ensure the integrity of components by tagging each part with Elerium tags. This aids in distinguishing genuine parts from counterfeits, promoting safety and long-term aircraft reliability.

2. Logistics:

- **Supply chain & parcel tracking:** Each parcel could contain an Elerium tag, providing detailed information on the production steps for the parcel's contents, and their authenticity.

3. Building Security:

- **Secure Door Lock Systems:** Modern buildings and homes require advanced security measures. By incorporating Elerium NFC tags into door locks, our system ensures that key cards are truly unclonable, elevating security standards.

4. Automotive:

- Car Door Security: Vehicle theft and break-ins are evolving with technology. Elerium tags can be integrated into car keys or keyless entry systems, ensuring that only genuine keys grant access.

5. Fashion & Art:

- Certifying Authenticity: From luxury handbags to exclusive sneakers, ensure that consumers receive genuine products. The Elerium tag can validate the authenticity of fashion items, providing peace of mind to both brands and their customers.

6. Healthcare & Pharmaceuticals:

- Drug Authentication: Counterfeit drugs pose serious health risks. With Elerium tags on pharmaceutical packaging, patients and healthcare providers can verify the authenticity of medications or reagents, ensuring safety and efficacy.

The versatility of the Elerium NFC Tag, coupled with its unparalleled security features, positions it as the cornerstone of modern authentication and anti-counterfeit measures across multiple industries.



7. Contact & Support:

For queries related to the Elerium NFC Tag or the broader Elerium system, contact our support team at b2b@beechat.network

For more about the Elerium NFC Tag and the entire Elerium system, visit our official website or scan the QR code below.

<https://beechat.network/>

