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STMicroelectronics unveils world's first ST54M secure mobile chip with post-quantum cryptography for next-generation connected services

- *Advanced single-die solution with PQC (post-quantum cryptography) hardware accelerator*
- *Helps mobile device makers prepare for future security requirements while enabling rich consumer and ecosystem use cases*
- *Common Criteria 2022 EUCC and EMVCo certifications target July 2026*

Geneva, Switzerland, June 24, 2026 – **STMicroelectronics (NYSE: STM),** a global semiconductor leader serving customers across the spectrum of electronics applications, has introduced the ST54M, a secure mobile chip designed to help smartphone and personal electronics manufacturers meet upcoming quantum-ready security requirements while supporting a seamless user experience across connected services.

ST54M brings to the market a single-die device featuring an innovative hardware accelerator for post-quantum cryptography (PQC), combined with NFC, secure element and eSIM functionality, delivering a powerful future-ready solution for secure mobile connectivity and services. The solution supports a wide range of use cases, including contactless payments, transit ticketing, access control, digital identity, driving licenses, connectivity services, and digital car keys.

Future-proof protection for expanding mobile use cases

As mobile devices increasingly serve as trusted platforms for financial transactions, identity credentials, operator services, and secure access, product developers need solutions that combine multiple functions without compromising security, performance, or convenience. ST54M addresses this need by enabling OEMs and ecosystem partners to support multiple applications on one platform while preparing for the transition toward PQC.

The device is designed for use across personal electronics ecosystems involving mobile network operators, banks, governments, transit operators, car manufacturers, digital-wallet and service providers. It helps manufacturers create devices that preserve a stable and familiar user experience while meeting stronger long-term security expectations.

Arriving now, ST54M enables customers and partners to deliver post-quantum-ready implementations with enough time to meet demanding industry-driven market deployment requirements, which are expected to be mandated around 2030.

"*With ST54M, we are extending our mobile-convergence platform to help customers address evolving security challenges while supporting the rich set of services users now expect from their devices*," said **David Richetto, Connected Security Group VP, Division General Manager, STMicroelectronics**. "*By combining a PQC hardware accelerator with NFC, embedded secure element, and embedded SIM capabilities, ST54M gives device makers a secure path to start preparing next-generation mobile experiences.*"

Engineered for security, integration, and RF performance

ST54M is an advanced single-die solution that integrates an NFC controller with a secure element supporting secure applications, eSIM and NFC-compliant products. A key feature is its hardware accelerator for post-quantum cryptography algorithms, including ML-KEM and ML-DSA, supporting the transition from hybrid cryptographic approaches toward full post-quantum deployment. The hardware engine is designed to address emerging PQC requirements while helping protect against side-channel and fault-injection attacks and is the latest result from ST's long-term commitment that also includes certified software libraries NesLib-PQML and X-CUBE-PQC in STM32 microcontrollers.

In addition to its security architecture, the device integrates large memory capacity to support multiple applications and includes an enhanced RF front end. These capabilities can help improve performance with smaller antennas and single-ended configurations, support more stable reader-writer operation, and enable demanding use cases such as mobile Point-of-Sale (mPOS) and wireless charging. The platform has completed certification testing under Common Criteria 2022 EUCC and EMVCo, underscoring its suitability for security-sensitive mobile applications.

ST54M sampling is available for customers, with production and certification targeted for July 2026. Pricing information and sample requests are available from local ST sales offices.

Further technical information is available here: www.st.com/st54m

About STMicroelectronics

At ST, we are 49,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of cloud-connected autonomous things. We are on track to be carbon neutral in all direct and indirect emissions (scopes 1 and 2), product transportation, business travel, and employee commuting emissions (our scope 3 focus), and to achieve our 100% renewable electricity sourcing goal by the end of 2027. Further information can be found at www.st.com.

For further information, please contact:

INVESTOR RELATIONS
Jérôme Ramel
EVP Corporate Development & Integrated External Communication
Tel: +41 22 929 59 20
jerome.ramel@st.com

MEDIA RELATIONS
Alexis Breton
Group VP Corporate External Communications
Tel: +33 6 59 16 79 08
alexis.breton@st.com