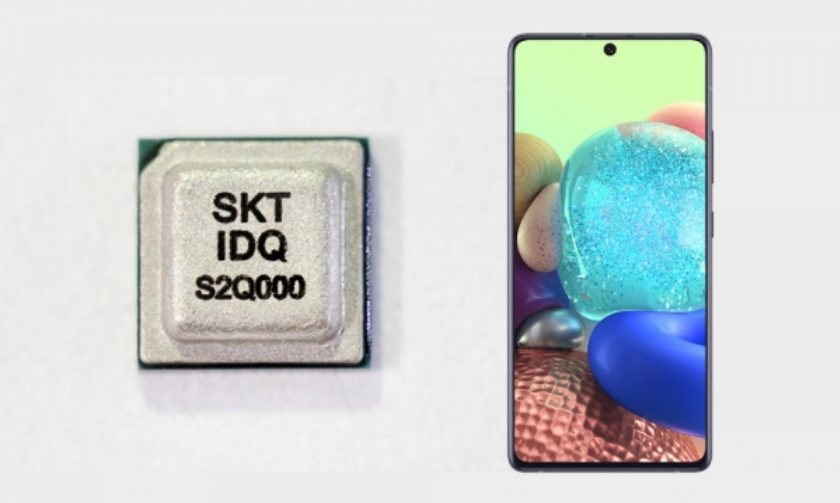
SKT to unveil the world's first quantum security 5G smartphone in cooperation with Samsung Electronics

Jung Jun-ho | 승인 2020.05.15 12:30



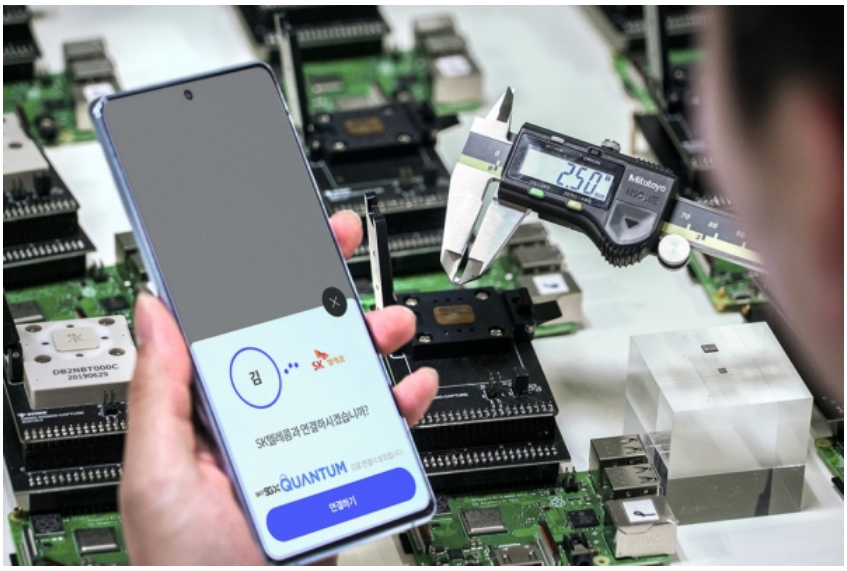
Quantum random number generation (QRNG) chipset (left) on Galaxy A Quantum (right) / Courtesy of SK Telecom

SK Telecom will introduce the world's first 5G smartphone "Galaxy A Quantum" equipped with a quantum random number generation (QRNG) chipset through a super-cooperation with Samsung Electronics. Its store price is 649,000 won ($532) and will be officially released on May 22 after pre-orders from May 15 to 21.

SK Telecom loaded the Galaxy A Quantum with the world's smallest Quantum random number generation (QRNG) chipset (2.5 x 2.5 mm). QRNG chipset helps smartphone users use certain services safely by generating unpredictable and pattern-less pure random numbers.

Customers who purchase 'Galaxy A Quantum' can now experience 'Initial', a mobile electronic authentication service that is a blockchain, T ID dual login and protection of SK Pay biometric authentication based on quantum security.

Based on the random number provided by the QRNG chipset, the concept is to strengthen service security by generating encryption keys used in three services. All services go through encryption-deciphering processes when storing or exchanging data, which requires encryption keys.



Researchers at SK Telecom's subsidiary IDQ are testing the "Galaxy A Quantum" smartphone and the quantum random number generation (QRNG) chipset at SK Telecom's Bundang office. (Courtesy of SK Telecom)

First, if a T-ID is logged in from 'Galaxy A Quantum', it will go through dual security procedures. A one-time password (OTP) authentication based on quantum security is added to the existing ID login to protect users' accounts more safely.

T-ID login is applied to SK Telecom's 28 major services, including 11th Street, T-Map, Wavve, FLO, T-Membership and Nugu, which have a wide range of actual use. There are currently about 19 million T-ID subscribers.

In addition, the SK Pay app will use biometric authentication information (fingerprints) previously stored when making payments at offline franchises such as convenience stores and restaurants, which will also be protected by quantum security. SK Telecom is currently developing quantum security for online franchise app payments.

If the user of "Galaxy A Quantum" sets biometric authentication with "SKT 5GX Quantum" in the SK Pay app, the message "SK Pay is protected by SKT 5GX Quantum" can be found at the top of the smartphone screen when using the app.

Finally, quantum security will also be applied to blockchain mobile electronic authentication service "initial." When a user stores various personal certificates (such as receipts, certificates, graduation/performance certificates, insurance claims, etc.) in "Initial," a "quantum wallet" is automatically created and can be safely stored.

In addition, the authentication process between the initial app and issuing agencies are also available with confidence. SK Telecom is planning to increase the number of certificates that can be used in 'initial' sequentially starting this month.

SK Telecom is planning to expand its ecosystem so that quantum security can be applied to more services in the future. It plans to share open APIs on SK Open API homepage and support technology development for developers.

It also plans to continue to expand quantum security-based services and create new business opportunities in various areas such as 5G networks, IoT, autonomous driving and cloud.

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