

Product brief

OPTIGA™ Authenticate S

Enhanced device authentication to protect against counterfeits

Counterfeits are a growing concern for brand owners and consumers

In recent years, the amount of counterfeit goods has skyrocketed and so has the cost for the world economy. Fake items can seriously damage brand reputation and business continuity, and can also carry health and safety risks for consumers. Establishing product authenticity across the supply chain and at the point of use can be challenging.

Infineon's enhanced turnkey solution against counterfeits

With OPTIGA™ Authenticate S, we offer a full turnkey device authentication solution that verifies the authenticity of electronics and replacement parts to protect Original Equipment Manufacturers (OEMs) and their customers from counterfeits. OPTIGA™ Authenticate S gives each product a secret key so it can be authenticated at the point of use, and so products can be tracked and traced throughout the supply chain.

Rich set of customization options

OPTIGA™ Authenticate S offers four authentication modes, four separate lifecycle counters, three temperature ranges, three sets of memory and two communication profiles, making it easy to find the right fit for your requirements. With 16 customization options in total, our solution suits an extensive range of applications, from batteries and disposables to home appliances and consumer electronics.

Effortless implementation

OPTIGA™ Authenticate S is a turnkey solution that offers full system integration support including embedded software and host software, as well as an intuitive visualization kit (VizKit) for easy assessment and an evaluation kit with full support documentation, both based on PSoC™ 6 for better speed and performance. All keys are pre-loaded, which further simplifies the implementation process.

Freedom to design

With a package of only 1.5 x 1.5 mm, OPTIGA™ Authenticate S is optimized even for the smallest of devices and disposables, eliminating the need to impose size restrictions during product design.

Security to rely on

OPTIGA™ Authenticate S offers enhanced hardware security with an extended key length, asymmetric cryptography with a secured unique identity for each chip, and protection against reverse engineering. All key and certificate provisioning is carried out at Infineon's CC-certified environment.

Key features

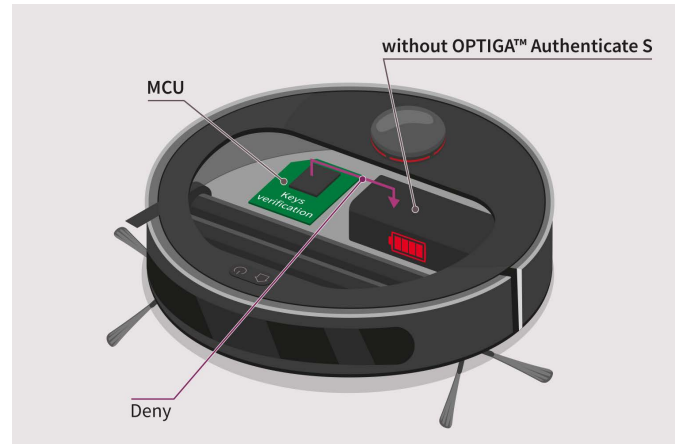
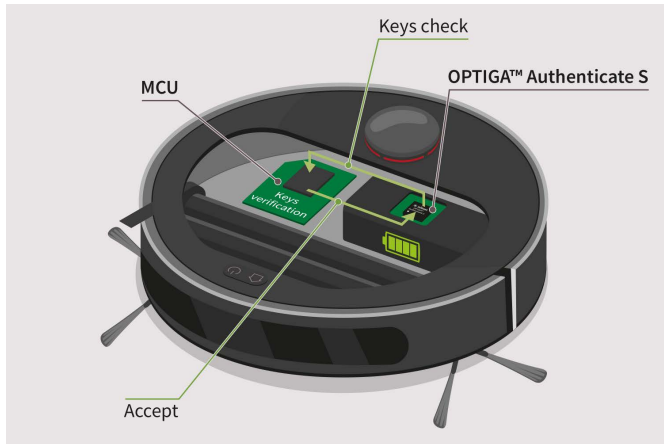
- > 4 authentication modes (one-way, mutual, host binding and host support)
- > 4 lifecycle counters with independent kill structures
- > 3 types of lockable NVM sizes (1 K, 2 K, 5 Kbit)
- > 3 temperature options (-40 to 85°C/ -40 to 105°C/ -40 to 120°C)
- > 2 ECC 163-bit key pairs and 193-bit ODC
- > 2 serial communication options (on-chip SWI&I²C + GPO)
- > Host code software – with new OS library
- > 1.5 x 1.5 x 0.38 mm PG-TSNP-6-12 package
- > Asymmetric cryptography with secured unique identity for each chip
- > Infineon proprietary protection against reverse engineering (PRE)
- > High-end security controller certified to Common Criteria EAL6+ (high)
- > Message authentication code providing mutual authentication
- > Capless Low dropout (LDO) regulator

Applications

- > Batteries for smartphones, portable devices, e-scooters, etc.
- > Replacement parts (water filters, printer cartridges)
- > Electronics (power tools, wearable devices, multicopters, and drones)

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A counterfeit battery may compromise the safety of the robot. With OPTIGA™ Authenticate S, it is possible to check whether replacement parts like batteries are genuine.

Benefits

- > Protection of OEM reputation and business continuity
- > Freedom to focus on growing the company
- > Additional customer services, such as alerts when spare parts need replacing
- > No need to invest in security know-how thanks to the effortless implementation of OPTIGA™ Authenticate S
- > Freedom to design even very small products

Product summary

Sales code	Temperature range	Package	Application area
SLE95401/2/5-xxxx (1k/2k/5k)	-40 to 85°C	PG-TSNP-6-12	Core solution
SLE95411/2/5-xxxx (1k/2k/5k)	-40 to 105°C	PG-TSNP-6-12	Host authentication
SLE95652/5-xxxx (2k/5k)	-40 to 105°C	PG-TSNP-6-12	Host support

The OPTIGA™ Authenticate family

The OPTIGA™ Authenticate product family gives smart “things” a secured and unique ID (Identity of Things) to verify their authenticity so users can trust them. Reaching beyond batteries, these

all-in-one, turnkey device authentication solutions are ideal for all sorts of disposables and spare parts ranging from filters, purifiers and cartridges to complex industrial systems.



www.infineon.com

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