TEGRION™ SLI22

32-bit Security Controller – V31
Short Product Overview

Security controller for automotive applications

Description

Infineon offers a comprehensive portfolio for eSIM and embedded Secure Elements (eSE) applications, where high quality, endurance, and security are essential. The TEGRION™ family of security controllers sets a new standard for security, efficiency, and performance.

The SLI22 is a high-performance, multi-interface 32-bit security controller designed with Arm® v8-M architecture and TrustZone technology enhanced by Infineon's innovative Integrity Guard 32 security architecture. It provides robust security features, including strong integrity and confidentiality support, and is optimized for challenging environmental conditions.

The SLI22 features SOLID FLASH™ NVM 28nm Technology for strong IP protection and EEPROM emulation support. It's tailored for the automotive industry, supporting an extended temperature range, extended quality, and AEC-Q100 qualification.

As part of the TEGRION™ SLx22 Family, the SLI22 shares the same hardware design, tools, libraries, and security certifications with the SLC22 and SLM22 products, streamlining the development and certification processes."

Summary of Features

- Up to 1.8 MByte SOLID FLASH™ NVM and 48/64/96 kB RAM
- 32-bit Arm® v8-M extended by the Arm TrustZone with 8k+2k Bytes cache
- Supported interfaces: UART, I2C Controller, I2C/I3C Target, ESSC (SPI Slave), and GPIO
- Class D (1.2V), Class C (1.8V), Class B (3V) and 3.3V power supply range
- Advanced power saving modes
- Cryptographic Accelerator : RSA, ECC, DES, AES, SM4, PQC (ML-KEM, ML-DSA), etc
- Operating temperature (ambient) -40°C to +105°C
- Extended data retention of 17 years typical
- Certification level: CC EAL6+, AECQ-100, FIPS, ISO/SAE 21434

Typical Applications

- eSIM, eUICC
- Embedded Secure Elements, Telematics
- Authentication, In Car Payment
- V2X, Car Access
- etc

Product name	**SLI22CMA1M2 / SLM22CMA1M5 / SLM22CMA1M8** Solid Flash™
Product description	32-bit Security Controller ideal for embedded security applications
Interfaces	ISO 7816, SPI Slave, I2C Controller/Target, I3C Target and GPIOs
Memory	1.2/1.5/1.8 MByte SOLID FLASH™ 48/64/96 kByte RAM 32 kByte ROM
CPU	32-bit Arm® v8-M extended by the Arm TrustZone and Infineon Integrity Guard 32 8kB instruction +2kB Data Cache
Symmetrical cryptography	AES up to 256-bit DES support
Asymmetrical cryptography	RSA up to 4096-bit, ECC up to 521-bit, Post Quantum Cryptography support including FIPS 203 ML-KEM and FIPS 204 ML-DSA
Ambient temperature	-40 to + 105 °C
Data Retention	17 years data retention
Delivery forms	MFF2 (VQFN-8 5x6mm), MFF3 (USON-10 3x3mm), VQFN-32 (5x5mm). MSL1. Wettable flanks
Typical applications	eSIM, embedded Secure Elements, V2X, Authentication, Car Access, TPM, InCar Payment
Certification level	CC EAL6+ High, FIPS 140-3, ISO/SAE 21434, AEC-Q100 qualification and PPAP documentation

For further information on technology, delivery forms and conditions please contact your nearest Infineon Technologies sales representative (www.infineon.com).

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Edition 2026-02

Published by

Infineon Technologies AG

81726 Munich, Germany

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Document reference

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