swissbit®

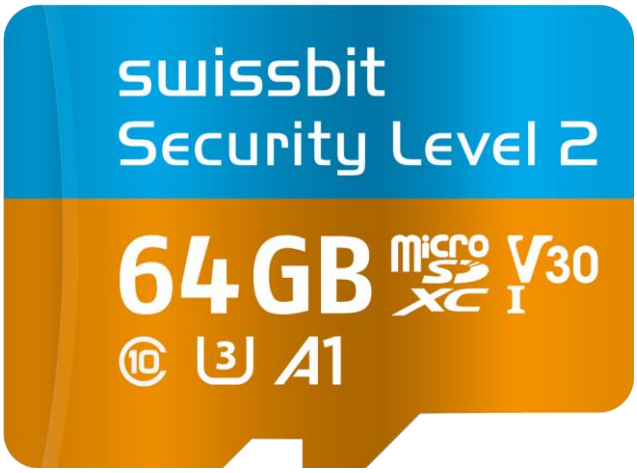
Product Fact Sheet

# Secure microSDHC / SDXC Memory Card
Security Level 2

# PS-66u
# Security Upgrade Kit
UHS-I Interface, pSLC

Industrial Temperature Grade

Date: July 31, 2024
Revision: 1.0





Made in Germany

# Product Summary


**Key Facts**

- pSLC memory technology
  Industrial & high endurance
- Easy to use access control
- Self encrypting drive
  SED using AES 256
- Individual configuration of
  protection profiles
- Hardware-Based
  Access Control

**Use Cases**

- Copy & Cloning protection
  Configurations, Privacy
  Data and AI models
- System Integrity protection
  as Retrofit Secure boot
- Data Protection for
  Removable media
- License Protection
  as hardware dongle

- **Capacities:** 16 GBytes, 32 GBytes, 64 GBytes – High endurance pSLC Flash Memory
- **Form Factor:** Standard microSD Memory card form factor - 15.0mm x 11.0mm x 0.7mm (1.0mm)
- **Compliance:** Fully compliant with SD Memory Card specification 6.10
  - SDHC default/high speed mode and UHS supported
  - Speed class 10/U3/V30/A1 according SD6.10 specification
  - 16-32GB / FAT32 and 64GB / exFAT
- **Performance:**
  - SD Default speed, SD High speed, SD UHS-I
  - Read Performance: Sequential Read up to 90 MBytes/s, Random Read IOPS up to 1500
  - Write Performance: Sequential Write up to 75 MBytes/s, Random Write IOPS up to 1600
- **Operating Temperature Range[1]:**
  - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:**
  - Industrial: -40 °C to 100 °C
- **Operating Voltage:** 2.7...3.6V normal operating voltage (Low-power CMOS technology)
- **Data Retention:** 10 Years @ Life Begin / 1 Year @ Life End
- **Humidity:** 85% RH @85°C 1000h
- **Electromagnetic Compatibility Test:** Radiated Emission; Radiated Immunity; Electrostatic Discharge

# Product Features

- **Secure microSDHC / microSDXC – Technical support via community web portal and tutorial**
- **Easy to use configurable access control mechanism** and **data protection on partition level**
- **Optimized FW algorithms especially for high read access and long data retention applications**
  - Patented power-off reliability technology, Wear Leveling technology
  - Write Endurance technology, Read Disturb Management
  - Data Care Management, Enhanced error correction (SRAM)
  - Number of card insertions/removals 20,000
- **AES 256 bit self encrypting flash memory**
- **CmReady –** Prepared for out-of-the-box use with Wibu-Systems CodeMeter (software protection & license management)
- **Tools and Libraries:** Lifetime Monitoring, Firmware Upgrade, Security Configuration, Access Control
- **Also available as fully industrial fixed BOM "PS-66u DP" including application engineering support**

[1] High Temperature storage without operation reduces the data retention, in operation the data will be refreshed, if data error issues were detected

# Access Control Mechanism

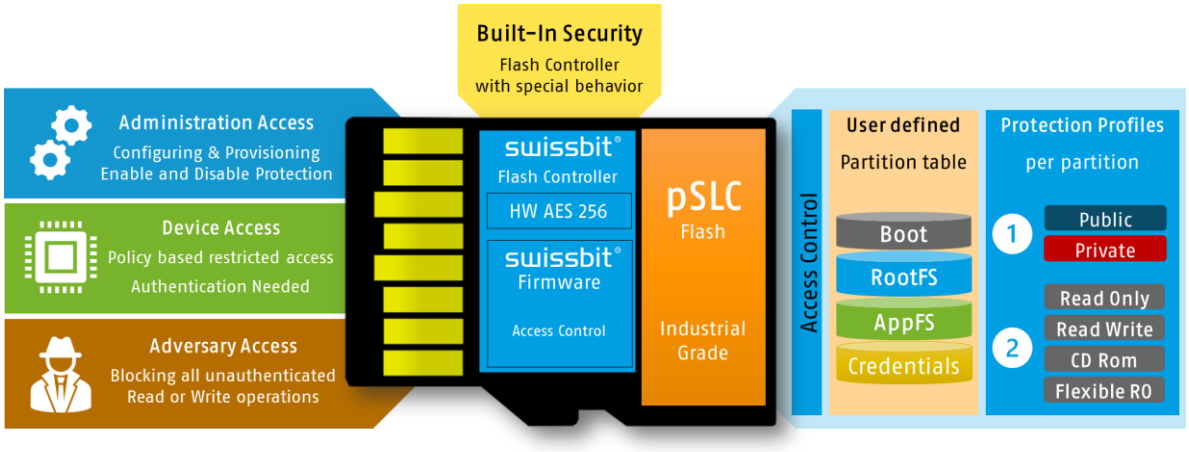



Figure 1: Swissbit S9 flash controller and the augmented Swissbit Firmware enable special security features, like the partition based and user configurable Access Control

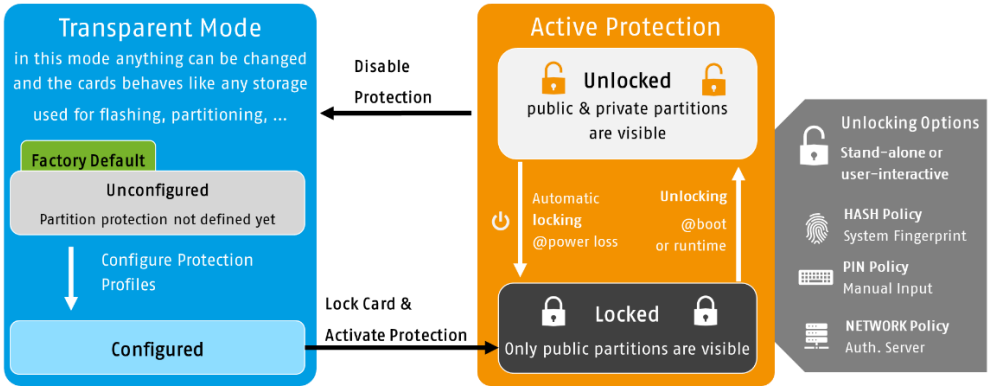



Figure 2: The Security Level 2 cards are shipped in "Transparent Mode" and can be used like any microSD card. The protection can be enabled and disabled with Swissbit tools.

# Ordering Information

| Security Level 2 | | | |
|---|---|---|---|
| **Product Type** | **Product Series** | **Capacity** | **Part Number** |
| microSD | PS-66u Security Upgrade Kit | 16 GBytes | SFSD016GN1PT1TB-I-5E-02P-SW8 |
| microSD | PS-66u Security Upgrade Kit | 32 GBytes | SFSD032GN1PT1TB-I-6F-02P-SW8 |
| microSD | PS-66u Security Upgrade Kit | 64 GBytes | SFSD064GN1PT1TB-I-7G-02P-SW8 |

# Downloads and Documentation

Visit our community portal for Support and Tutorials: www.swissbit.com/security-upgrade-kit

# Why Swissbit?

Swissbit strives to create innovative technologies for future market opportunities utilizing a highly skilled in-house research and development team. Swissbit maintains a marketing edge by continuing to manufacture world-class high-quality memory and security products and providing customers with both high value and low cost of ownership achieved through efficient processes and procedures.