



Preliminary
Product Fact Sheet

Industrial M.2 PCIe SSD

N7601 Series
PCIe 4.0, 3D pSLC

Industrial Temperature Grade

Date: May 22, 2026
Revision: 0.90

Product Summary

- **Capacities:** 320 GBytes, 640 GBytes, 1280 GBytes
- **Form Factor:** PCI Express M.2 2280 M-key (80 mm x 22 mm x single-sided category S3)
- **Compliance¹:** PCI Express (PCIe) Base Specification Revision 4.0
- **Interface:** Gen4 x 4 Lanes
 - Drive operates in x1 mode in x1 M.2 PCIe slots
 - Drive operates in x2 mode in x2 M.2 PCIe slots
 - Drive operates in x4 mode in x4 M.2 PCIe slots
- **Command Sets:** Supports NVMe 2.0
- **Target Performance:²**
 - Read Performance: Sequential Read up to 6,500 MBytes/s, Random Read 4K up to 596,300 IOPS
 - Write Performance: Sequential Write up to 6,200 MBytes/s, Random Write 4K up to 904,000 IOPS
- **Operating Temperature Range³:**
 - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Power:**
 - Power States PSo, PS1, PS2, PS3 and PS4
 - Thermal Throttling supported
- **Data Retention⁴:** 10 Years @ Life Begin; 1 Year @ Life End, @40 °C
- **Shock/Vibration:** 1,500 g / 50 g
- **High-Performance Processor with Integrated, Parallel Flash Interface Engines:**
 - Triple-Level Cell (TLC) 3D NAND Flash in pSLC mode
 - 4K LDPC correction
- **High Reliability:**
 - Mean Time Between Failure (MTBF): > 3,000,000 hours
 - Data Reliability: < 1 non-recoverable error per 10¹⁶ bits read

¹ To check the compatibility of the customer system and the storage device is part of the customer's responsibility. Swissbit can provide guidance and support on request.

² Estimated values

³ Adequate airflow is required to ensure the temperature, as reported in the S.M.A.R.T. data, does not exceed 110 °C (industrial temperature drive).

⁴ NAND Flash suppliers refer to JEDEC JESD47 and JESD22 for Data Retention testing. Based on the information provided by the NAND Flash suppliers, Data Retention is targeted as shown

Product Features

- Diagnostic features
- Life end read only mode
- RAID engine
- Drive self-test
- Data Care Management
 - Active: Adaptive Read Refresh
 - Passive: Background Media Scan
- Active State Power Management (ASPM) Support
- In-Field Firmware Update⁵
- Adaptive Thermal control
- Conformal Coating
- Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T., Telemetry)
- 30 µinch (0.8 µm) Gold-Plated Connector (IPC-6012C Class 2 Compliant)
- End-to-End (E2E) Data Protection
- Controlled "Locked" BOM
- RoHS / REACH Compliant
- Swissbit Device Manager Tool (SBDM)

Security features

- AES256 encryption
- TCG OPAL 2.0
- Secure Boot
- Crypto erase
- Hardware erase
- Hardware write protect



Why Swissbit?

Swissbit is focused on the design, development, manufacture, and support of leading edge memory and storage solutions for the worldwide OEM/ODM marketplace. As a global supplier, Swissbit recognizes and addresses the higher level of application requirements of today's industrial, Netcom, and automotive customers by providing best-in-class products and services, with uncompromised attention to driving overall value and quality.

⁵ The support of In-Field FW update capabilities on host systems is recommended.