

swissbit®

Product Fact Sheet

Industrial M.2 PCIe SSD

N-20m2 Series PCIe Gen 3.1, 3D TLC

Commercial and Industrial
Temperature Grade

Date: March 08, 2021
Revision: 1.02



Made in Germany

Product Fact Sheet

N-20m2 Series



Product Summary

- **Capacities:** 15 GBytes, 30 GBytes, 60 GBytes, 120 GBytes, 240 GBytes, 480GBytes
- **Form Factor:** PCI Express® M.2 (2230/2242/2280, S4) (30/42/80 mm x 22 mm x 2.63 mm)
- **Compliance¹:** PCI Express (PCIe) Specification Revision 3.1
- **Interface:** Gen3 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 1.3
- **Performance:**
 - Read Performance: Sequential Read up to 1,773 MBytes/s, Random Read 4K up to 140,000 IOPS
 - Write Performance: Sequential Write up to 718 MBytes/s, Random Write 4K up to 100,000 IOPS
- **Host Memory Buffer (HMB):** Support for increased random performance
- **Operating Temperature Range²:**
 - Commercial: 0 °C to 70 °C
 - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Operating Voltage:** 3.3, 1.8 and 0.9V supply voltages
- **Low Power Consumption**
- **Power:**
 - Power States PSo, PS1, PS2, PS3 and PS4
 - Thermal Throttling supported
- **Data Retention³:** 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
 - LDPC Code ECC with up to 120 bit correction per 1 KByte page
- **High Reliability:**
 - Mean Time Between Failure (MTBF): > 2,000,000 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 Adequate airflow is required to ensure the temperature, as reported in the S.M.A.R.T. data, does not exceed 125°C (industrial temperature drive) and 110°C (commercial temperature drive) respectively.

³ 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 in the table for reference.