swissbit®

Product Fact Sheet

Industrial M.2 PCIe SSD

N-30m2 Series

PCIe 3.1, 3D TLC

Industrial Temperature Grade

Date: February 23, 2023
Revision: 1.01

Made in Germany

Product Summary

- **Capacities:** 240 GBytes, 480 GBytes, 960 GBytes, 1920 GBytes, 3840 GBytes
- **Form Factor:** PCI Express M.2 2242/2280 (42/80 mm x 22 mm x 3.8 mm)
- **Compliance[1]:** PCI Express (PCIe) Base 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 1.4
- **Target Performance:**
  - Read Performance: Sequential Read up to 3,510 MBytes/s, Random Read 4K up to 475,900 IOPS
  - Write Performance: Sequential Write up to 3,110 MBytes/s, Random Write 4K up to 520,000 IOPS
- **Operating Temperature Range[2]:**
  - Industrial: -40 °C to 85 °C
- **Storage Temperature Range:** -40 °C to 85 °C
- **Power:**
  - Power States PS0, PS1, PS2, PS3 and PS4
  - Thermal Throttling supported
- **Data Retention[3]:** 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
  - DDR4 DRAM based Controller architecture
  - 240 bit LDPC correction per 2 kByte
- **High Reliability:**
  - Mean Time Between Failure (MTBF): > 3,000,000 hours
  - Data Reliability: < 1 non-recoverable error per 10^{16} 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).
[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