## swissbit®

**PRELIMINARY Product Fact Sheet** 

**Industrial** M.2 SATA SSD

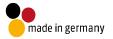
X-76m2 2280 Series SATA Gen3 - 6.0 Gbit/s, 3D pSLC

Commercial and Industrial Temperature Grade

Date: Revision: October 31, 2019

0.90





# Product Fact Sheet X-76m2 2280 Series



## **Product Summary**

- Capacities: 10 GBytes, 20 GBytes, 40 GBytes, 80 GBytes, 160 GBytes, 320 GBytes
- Form Factor: PCI Express™ M.2 (2280) (80 mm x 22 mm x 3.58 mm)
- Compliance: SATA Gen3 6 Gbit/s (Gen2 3 Gbit/s and Gen1 1.5 Gbit/s backward compatible)
- Command Sets: Supports ATA/ATAPI-8 and ACS-2
- Performance:
  - Read Performance: Sequential Read up to 565 MBytes/s, Random Read 4K up to 77,400 IOPS
  - o Write Performance: Sequential Write up to 490 MBytes/s, Random Write 4K up to 84,900 IOPS
- Operating Temperature Range\*:
  - o Commercial: o °C to 70 °C
  - o Industrial: -40 °C to 85 °C
- Storage Temperature Range: -40 °C to 85 °C
- Operating Voltage: 3.3 V ± 5%
- Power (Max): Read (Active): TBD; Write (Active): TBD; Idle: TBD; Partial: TBD
- Data Retention: 10 Years @ Life Begin; 1 Year @ Life End
- Endurance in TeraBytes Written (TBW) @ Max Capacity<sup>†</sup>: Client ≥ 7,590 (target); Enterprise ≥ 2,400 (target)
- Shock/Vibration: 1,500 g | 50 g
- LDPC ECC with up to 165 bit correction per 1 KByte page
- NAND Flash Technology: Triple-Level Cell (TLC) 3D NAND Flash in pSLC mode
- Mean Time Between Failure: > 2,000,000 hours
- Data Reliability: < 1 non-recoverable error per 10<sup>16</sup> bits read

### **Product Features**

- Dynamic and Static Wear Leveling
- Active and Passive Data Care Management
- Lifetime Enhancements
  - Dynamic Bad Block Remapping
  - o Write Amplification Reduction
- On-Board Power Fail Protection
- TRIM and NCQ Support
- ATA Security Feature Set Support
- DEVSLP Compatible
- In-Field Firmware Update
- Enterprise-Grade Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.)
- 30 µinch Gold-Plated Connector (IPC-6012B Class 2 Compliant)
- End-to-End (E2E) Data Protection
- AES256 Encryption (on request)
- TCG Opal 2.0 Compliant (on request)
- Swissbit Life Time Monitoring (SBLTM) Tool and SDK for SBLTM (on request)

#### 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 addressees 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.

<sup>\*</sup> 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) and 95°C (commercial temperature drive) respectively.

<sup>&</sup>lt;sup>†</sup> According to JEDEC (JESD47I), the time to write the full TBW is a minimum of 18 months. Higher average daily data volume reduces the specified TBW. The values listed are estimates and are subject to change without notice.