# swissbit®

**Product Fact Sheet** 

Industrial M.2 SATA SSD

X-600m2 2242 Series SATA Gen3 – 6.0 Gbit/s, SLC

**Commercial and Industrial** Temperature Grade

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### Product Fact Sheet X–600m2 2242 Series



#### **Product Summary**

- Capacities: 8 GBytes, 16 GBytes, 32 GBytes, 64 GBytes
- Form Factor: PCI Express<sup>™</sup> M.2 (2242) (42 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 520 MBytes/s, Random Read 4K up to 76,000 IOPS
  - o Write Performance: Sequential Write up to 245 MBytes/s, Random Write 4K up to 54,000 IOPS
- Operating Temperature Range\*:
  - $\circ$  Commercial: 0 °C to 70 °C
  - Industrial: -40 °C to 85 °C
- Storage Temperature Range: -40 °C to 85 °C
- Operating Voltage: 3.3 V ± 5%
- Power (Max Capacity): Read (Active): 1.5 W; Write (Active): 1.7 W; Idle: 345 mW; Slumber: 115 mW
- Data Retention: 10 Years @ Life Begin; 1 Year @ Life End
- Endurance in TeraBytes Written (TBW) Max Capacity<sup>+</sup>: Client ≥ 3,855; Embedded ≥ 1,250; Enterprise ≥ 560
- Shock/Vibration: 1,500 g/50 g
- Hardware BCH Code ECC: up to 66 bit correction per 1 KByte page
- 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
- Data Care Management
  - Active: Adaptive Read Refresh
  - Passive: Background Media Scan
- Lifetime Enhancements
  - Dynamic Bad Block Remapping
  - $\circ$  Write Amplification Reduction
- On-Board Power Fail Protection
- AHCI, 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)
- AES256 Encryption (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 115°C (industrial temperature drive) and 100°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.