



SM2261XT

High-Effective PCIe Gen3 x2 NVMe 1.4 SSD Controller

The SM2261XT is the high-effective PCIe NVMe Gen3 x2 SSD controller ideally suited for cost-effective, small form factor and low power client SSD. The DRAM-less design of SM2261XT reduces BOM cost without compromising performance while enabling small form factor SSDs as well as SSDs supporting the HMB (Host Memory Buffer) architecture. The SM2261XT features PCIe Genx3 at 8GT/s x2 lanes (PCIe Gen3 x2) coupled with two NAND flash channels up to 1,200 MT/s per channel, the SM2261XT can fully saturate the highest bandwidth on 2-lane.

The SM2261XT is complete merchant ASIC/firmware solution supporting 3D TLC/QLC NAND from all major NAND suppliers. Leveraging Silicon Motion's proprietary NANDXtend® error-correcting code (ECC) technology, the SM2261XT enhances the endurance and retention of 3D NAND and provide a comprehensive data protection through SRAM ECC and End to End data path protection.

KEY FEATURES

- **High Value**
 - PCIe Gen3 x2
 - 2 NAND channels
- **Best-in-class Low Power**
 - PS4 (L1.2): <2mW
 - Supports power gating
- **Datapath Protection**
 - End to end data protection
 - SRAM ECC
- **NANDXtend® ECC Technology**
 - 2KB codeword LDPC
 - Embedded programmable RAID

SPECIFICATIONS

SM2261XT

Host Interface	PCIe Gen3 x2
PCIe Protocol	NVMe 1.4
NAND Flash Channel	2
CE/Channel	8
NAND Flash Support	ONFI 4.1/3.0 and Toggle 3.0/2.0 frequency up to 1,200 MT/s VCCQ 1.8V/1.2V
Max Performance	Sequential Read: 1,750MB/s Sequential Write: 1,500MB/s Random Read: 165K IOPS (HMB) Random Write: 220K IOPS
DRAM Interface	DRAM-less
Security	Real time full drive encryption with AES TCG Opal protocol Hardware SHA 256 and TRNG
Temperature Support	0°C to 70°C
Package	221L-ball FCBGA (9 mm x 6.7mm)