



SM2262EN

Ultra High Speed PCIe Gen3 x4
NVMe 1.3 SSD Controller

The SM2262EN is a 8-channel high-performance PCIe Gen3 x4 SSD controller ideally suited for client SSDs. The SM2262EN features four 8 gigabit-per-second (Gbps) lanes (PCIe Gen3 x4) of simultaneous data flow coupled with eight NAND channels. By optimizing hardware and software to take full advantage of PCIe 3.1 and NVMe 1.3 SSD specifications, the SM2262EN solution delivers ultra-high performance and better reliability SSD solutions. In addition, with the state-of-the-art low-power design, the SM2262EN delivers ultra-low power consumption no matter in low power or active state.

The SM2262EN is a complete merchant ASIC/firmware solution supporting 3D NAND from all major NAND suppliers. Leveraging Silicon Motion's proprietary NANDXtend™ error-correcting code (ECC) technology, the SM2262EN 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

- **Ultra High Performance**
 - PCIe Gen3 x4
 - 8 NAND channels
- **Best-in-class Low Power**
 - PS3: 50mW
 - PS4 (L1.2): <5mW
- **Datapath Protection**
 - End to end data protection
 - SRAM ECC
- **NANDXtend™ ECC Technology**
 - 2KB codeword LDPC
 - Embedded programmable RAID



SPECIFICATIONS

SM2262EN

Host Interface	PCIe Gen3 x4
PCIe Protocol	NVMe 1.3
NAND Flash Channel	8
CE/Channel	4
Max Performance	Sequential Read: 3,500 MB/s Sequential Write: 3,000 MB/s Random Read: 420K IOPS Random Write: 420K IOPS
NAND Flash Support	ONFI4.0/3.0 and Toggle3.0/2.0 NV-DDR3 up to 800MT/s
DRAM Interface	Supports DDR3, DDR3L, LPDDR3 and DDR4 32-bit/16-bit data bus width 2 chip enable pins
Security	Real time full drive encryption with AES TCG Opal protocol Hardware SHA 256 and TRNG
Temperature Support	c-temp: 0°C to 70°C i-temp: -40°C to 85°C
Package	472-ball TFBGA (18mm x 16mm)

BLOCK DIAGRAM

