

# SM2708

## SD Express Controller

### Overview

The SM2708 is SD Express controller that supports UHS-I interface with the PCIe Gen3 x2 and NVMe interfaces. The controller supports the latest 3D NAND which offers significantly increased density, to respond the growing need for more data storage space. Silicon Motion proprietary NANDXtend<sup>®</sup> ECC technology, internal data path protection, and programmable firmware, together maximize reliability and endurance. Embedded the NAND Flash interface support of up to 1200MT/s, the SM2708 can fully saturate the highest bandwidth on 2-lane PCIe Gen3 interface.

The SM2708 is complies SD 7.0/7.1/8.0 specification, including the latest UHS-I SD 6.1 specifications and PCI Express up to Gen3 x2. With the ever-faster speed, the SM2708 is targeted for the advancement of applications such as higher resolution videos, 3D graphic games, social media, drones, action camera, virtual reality and streaming video content that is stored on SD memory cards for offline usage. In addition, the SM2708 enables high performance and high reliability expandable storage applications for high-end laptops, such as gaming and workstation PCs.

### Highlights

- **Embedded the NAND Flash interface support of up to 1200MT/s**
- **High throughput transfer rate up to 900MB/s @ SD 7.0/7.1 (PCIe Gen3 x1) and up to 1700MB/s @SD 8.0 (PCIe Gen3 x2)**
- **NANDXtend<sup>™</sup> ECC technology with a performance-optimized 2KB LDPC engine and RAID to enhance flash reliability**
- **End-to-end data path protection with CRC parity (512bytes + 2bytes)**
- **Supports SED to maximize data integrity and reliability**
- **Low power consumption**

### Key Features

- **PCIe Interface: Host Interface**
  - PCIe Gen3 (8Gb/s) x2 lane with L1.2 support
  - Compliant with PCI Express 3.1
  - NVMe 1.3x register interface and command set1
- **UHS-I Interface**
  - Compliant with SD 6.1
  - Supports Video Speed Class (up to V30)
  - Supports UHS Speed Class (up to U3)
  - Supports UHS-I Bus Mode: SDR104/SDR50/DDR50
- **NAND Flash Support**
  - Supports 3D NAND Flash
  - Supports Toggle 3.0 NAND
  - Supports ONFI 4.1 NAND
  - Supports 2-CH with 8-CE pin per channel