SM2712

eMMC 4.41 Controller

The SM2712 is the most advanced eMMC controller. Compliant with the up-to-date eMMC 4.41 spec, the SM2712 provides a cost-effective and reliable solution for embedded flash storage applications. The newly-defined eMMC 4.41 security and partitioning functions make SM2712 especially suitable for mobile devices, including smart phones, tablet PCs, navigation devices and other consumer electronics applications.

The SM2712 is designed to support mainstream NAND flash, including Samsung 27nm/32nm MLC, Intel/Micron 25nm MLC, Hynix 26nm, and Toshiba/SanDisk 24nm MLC. With the advanced process technology and enhanced design, the SM2712 provides low power consumption and high random I/O performance.

Additional Features

- Supports Global Wear-leveling
- Supports Randomizer function

Key Features

- **Supports Full eMMC 4.41 Specification**
  - Supports Operating Voltage
    - Vcc = 2.7V ~ 3.6V; 1.65V ~ 1.95V
    - VccQ = 1.1V ~ 1.3V or 1.65V ~ 1.95V or 2.7V ~ 3.6V
  - Supports 1.2V I/O
  - Supports up to DDR 52
  - Mandatory command sets
  - Boot operation
  - Reliable WRITE
  - Replay Protection Memory Block (RPMB)
  - Multiple Partition
  - Secure erase/ Secure TRIM
  - Background operation
  - High Priority Interrupt
- **Supports Firmware In System Programming (ISP)**
  - Controller firmware upgradeable
  - New features can be added
  - ISP protection with Reliable mode
- **Flash Interface**
  - Supports single channel 8-bit flash interface
  - 4 CE pins per channel
- **Flash Memory Supported**
  - Supports MLC flash
    - Intel & Micron 25nm flash
    - Samsung 27nm flash
    - Hynix 26nm flash
  - Supports ONFi 2.2 standard command sets
  - Supports Samsung Toggle mode flash
  - Supports flash with 128 and 256-page per block
  - Supports 2K/4K/8K per page 2-plane flash