

Marvell 88i9441 Soleil-H SATA SSHD Controller

6Gb/s SATA, Dual ARM On-Chip Processors, Encryption

PRODUCT OVERVIEW

The Marvell® 88i9441 is a high performance, low power Solid State Hybrid Drive (SSHD) controller that is highly flexible, enabling optimization for a wide variety of storage environments. Advanced read/write channel technology with low density parity check (LDPC) makes Soleil the best choice for high density drives.

Two integrated ARM Cortex-R4 processors allow independent management of host and servo functions, enhancing overall HDD performance. A third dedicated secure processor supports AES encryption, protecting user data from unauthorized access.

The 6Gb/s SATA host interface supports Native Command Queuing, T10 CRC checking, and the ATA-8 command set, ensuring high performance, data integrity, and full compatibility with SATA hosts.

BLOCK DIAGRAM

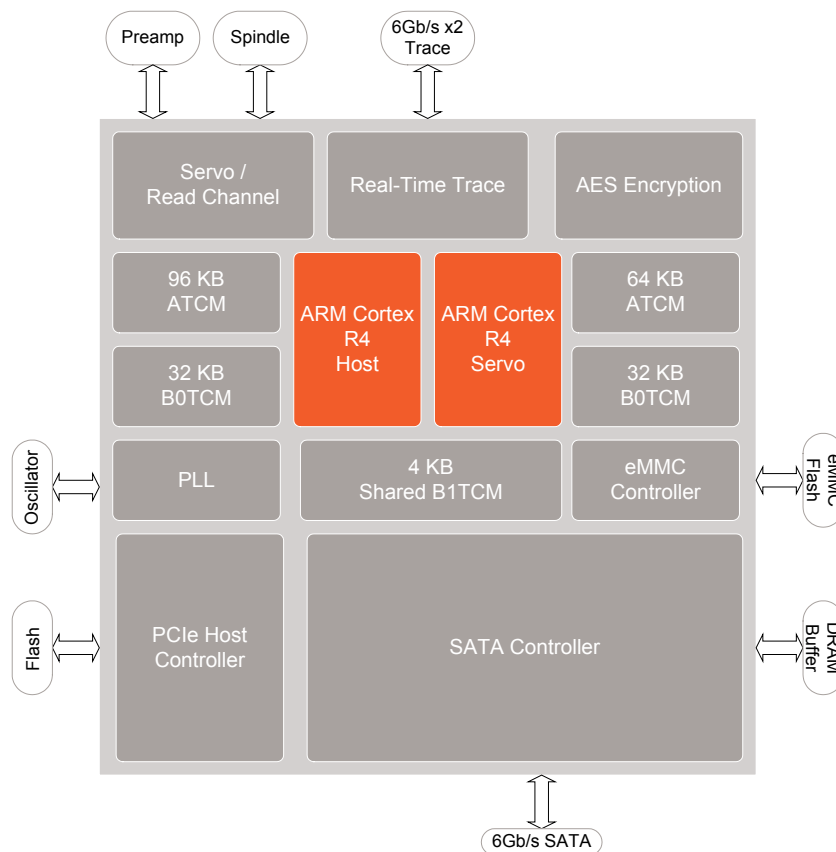


Fig 1. Marvell 88i9441 SATA SSHD Controller

BENEFITS AND FEATURES

KEY BENEFITS	KEY FEATURES
<ul style="list-style-type: none"> CPU 	<ul style="list-style-type: none"> Dual ARM Cortex R4 at 600MHZ Separate DTCM and ITCM caches
<ul style="list-style-type: none"> Host Interface 	<ul style="list-style-type: none"> 6Gb/s SATA interface Native Command Queuing enhances performance ATA-8 command support ensures compatibility T10 CRC check provides data integrity
<ul style="list-style-type: none"> Read/Write Channel 	<ul style="list-style-type: none"> Low-density parity check (LDPC) for high-density HDDs RS-ECC-less iterative decoder with programmable noise predictive non-linear Viterbi detector for wide range of densities
<ul style="list-style-type: none"> Flash Cache 	<ul style="list-style-type: none"> PCIe controller handles data transfers to/from buffer using hardware automation, minimizing latency and improving performance
<ul style="list-style-type: none"> Data Protection 	<ul style="list-style-type: none"> 256 bit AES encryption of user data Trusted Computing Group (TCG) compliant
<ul style="list-style-type: none"> Package 	<ul style="list-style-type: none"> 231-ball 8x10mm BGA

TARGET APPLICATIONS

- Solid state hybrid drives

THE MARVELL ADVANTAGE: Marvell chipsets come with complete reference designs which include board layout designs, software, manufacturing diagnostic tools, documentation, and other items to assist customers with product evaluation and production. Marvell's worldwide field application engineers collaborate closely with end customers to develop and deliver new leading-edge products for quick time-to-market. Marvell utilizes world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

ABOUT MARVELL: Marvell Marvell (NASDAQ: MRVL) is a global leader in providing complete silicon solutions enabling the digital connected lifestyle. From mobile communications to storage, Internet of Things (IoT), cloud infrastructure, digital entertainment and in-home content delivery, Marvell's diverse product portfolio aligns complete platform designs with industry-leading performance, security, reliability and efficiency. At the core of the world's most powerful consumer, network and enterprise systems, Marvell empowers partners and their customers to always stand at the forefront of innovation, performance and mass appeal. By providing people around the world with mobility and ease of access to services adding value to their social, private and work lives, Marvell is committed to enhancing the human experience. As used in this release, the term "Marvell" refers to Marvell Technology Group Ltd. and its subsidiaries. For more information, please visit www.Marvell.com.



Marvell Semiconductor, Inc.

5488 Marvell Lane
Santa Clara, CA 95054

Phone 408.222.2500
www.marvell.com