

Marvell ARMADA 300/310 SoCs



PRODUCT OVERVIEW

The Marvell® ARMADA™ 300/310 SoCs are high-performance integrated controllers. The SoCs integrate the Marvell-developed CPU core which is fully ARMv5TE compliant with a 256KB L2 Cache. The ARMADA 300/310 builds upon Marvell's innovative Feroceon® family of processors, improves performance, and adds new features to reduce bill of materials (BOM) costs. The ARMADA 300 (88F6282) is suitable for a wide range of applications such as routers, gateway, media server, storage, thin clients, set-top-box, networking, point of service and printer products. The ARMADA 310 (88F6283) is a low power version that is targeted for computer peripherals, consumer electronics, add-on cards, and small form factor devices such as Plug Computers.

The SoCs integrates:

- High-performance single-issue CPU operating at 1.6 GHz, 1.8 GHz, and 2.0 GHz (88F6282)
- Low-power single-issue CPU operating at 800 MHz, and 1 GHz (88F6283)
- 16KB-Instruction and 16KB-Data 4-way, set-associative L1 cache
- 256KB unified 4-way, set-associative L2 cache
- 16-bit DDR2/3 memory interface (up to 1066 MHz data rate)
- Two Gigabit Ethernet MACs with interface options
- Audio Video Bridging
- Two PCI-Express ports
- Single USB 2.0 port with integrated PHY
- Two SATA 2.0 ports with integrated PHYs
- LCD controller supporting up to 1080p and UXGA resolutions
- Network security engine with various encryption algorithm support
- Audio and MPEG Transport Stream Interface
- Two TDM Channels, SDIO/MMC, NAND flash, SPI, two TWISI, and two UART interfaces
- DMA/XOR engine with four channels
- RTC and Thermal sensor
- Compact Package (15 x 15mm FCBGA)

The innovative, on-chip crossbar architecture with any-to-any connectivity enables concurrent transactions among multiple units that results in high system throughput allowing system designers to create high-performance scalable systems. Tightly integrated CPU and memory controller significantly improves application performance.

BLOCK DIAGRAM

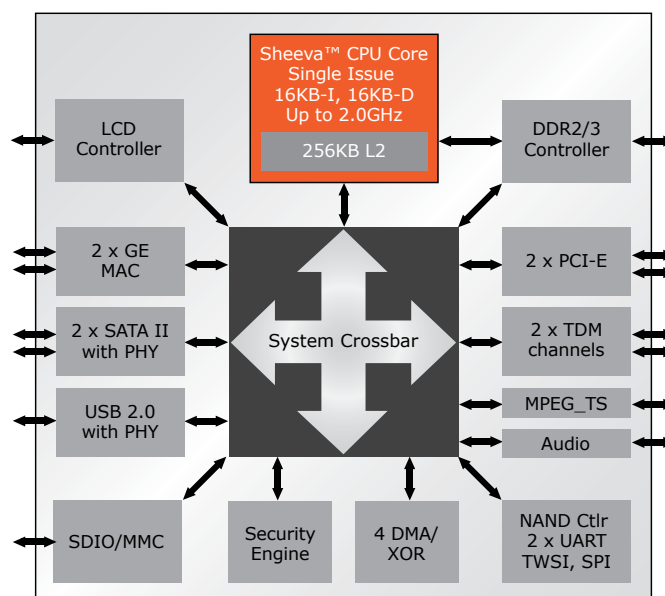


Fig 1. Marvell ARMADA 300/310 SoCs Block Diagram

▶ COMPREHENSIVE DEVELOPMENT TOOLS

Marvell offers complete development platforms for the ARMADA 300/310 SoCs, enabling customers to start system development without waiting for their own hardware. Development platforms are available. Complete reference design platforms, including software drivers and board support packages for VxWorks, BSD and Linux, accelerate customer product development cycles.

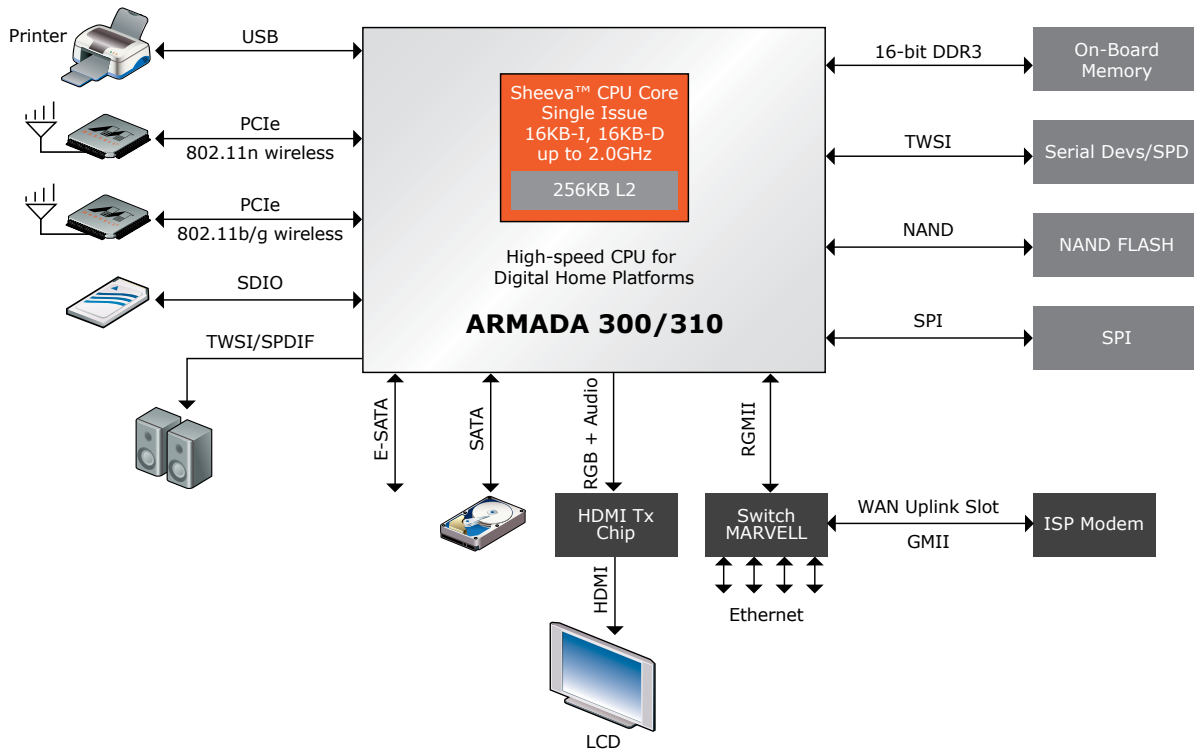


Fig 2. Marvell ARMADA 300/310— Typical System Implementation

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 is a leader in storage, communications, and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, processor, wireless, power management, and storage solutions that power the entire communications infrastructure, including enterprise, metro, home, storage, and digital entertainment solutions. For more information, visit our Web site at www.marvell.com.



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Armada300_310-01 4/10