

# Marvell ARMADA 166E eReader Platform

Industry's Most Complete Integrated Solution



## ▶ PRODUCT OVERVIEW

The eReader (or eBook reader) is shaping up to be the hot personal electronics item of 2009 and 2010. As more content goes online, consumers, enterprise users and students are all looking for more cost-efficient ways to utilize that content. The Marvell® ARMADA™ 166E application processor is built specifically for the eReader market, with a high-performance Sheeva™ CPU core running up to 800 MHz and a high level of peripheral integration, including a 5-in-1 card reader and USB host and OTG clients, and the option of either low-power Mobile DDR or low-cost DDR2 memory, allowing for very competitive system pricing. The ARMADA 166E is also the industry's first SoC with integrated e-paper display (EPD) controller, adding a new dimension of display performance and system cost reduction compared to competitive offerings. Marvell provides the most complete solution for eReaders on the market today with a complete platform offering including the ARMADA application processor, combination Wi-Fi/Bluetooth system-on-a-chip (SoC), power management, 3G HSDPA modem technology and a robust pre-integrated software environment.



Fig 1. ARMADA 166E eReader Platform Reference Design

## ▶ KEY FEATURES AND BENEFITS

FEATURES	BENEFITS
<ul style="list-style-type: none"> <li>ARMADA 166E application processor with a high performance, 800 Mhz Sheeva™ CPU</li> <li>Integrated EPD controller</li> </ul>	<ul style="list-style-type: none"> <li>High Performance CPU for rendering of advanced content and layouts (large PDFs, newspapers, magazines, textbooks)</li> <li>Multimedia performance for joint LCD/EPD designs</li> <li>First integrated EPD controller on the market</li> <li>Unmatched display refresh performance</li> <li>Partial and parallel update support</li> <li>Up to 1600x1200 display resolution support</li> <li>Significant BOM cost reduction for manufacturers</li> </ul>
<ul style="list-style-type: none"> <li>Complete system solution: Marvell provides all major hardware components except the display</li> <li>Pre-integrated hardware/software development and reference designs</li> </ul>	<ul style="list-style-type: none"> <li>Lower development costs and less design cycles</li> <li>Fast time-to-market for new, differentiated eReader devices</li> </ul>

## ▶ APPLICATIONS

Marvell's ARMADA eReader platforms enable large or small manufacturers to quickly develop eReader systems for a wide variety of end markets, from basic book readers to subscription content devices to dedicated enterprise and educational devices. EPD panels of multiple sizes are supported and the ARMADA platform also supports LCD screens, allowing for flexibility of implementation. With Marvell's proven Wi-Fi/Bluetooth SoCs and HSDPA modem technology, connectivity to the WLAN or WWAN is a snap. Power management solutions from Marvell provide efficient switching regulators and power-factor correction for AC-DC adapters. Marvell also offers full development systems and turnkey reference designs, as well as Linux, Android™, and Windows® Embedded CE board support packages (BSPs) for eReaders.

## ▶ SYSTEM BLOCK DIAGRAM

The following is a sample block diagram of Marvell's turnkey reference design for eReaders, highlighting the components supplied by Marvell. More information is available upon request or on Marvell's extranet.

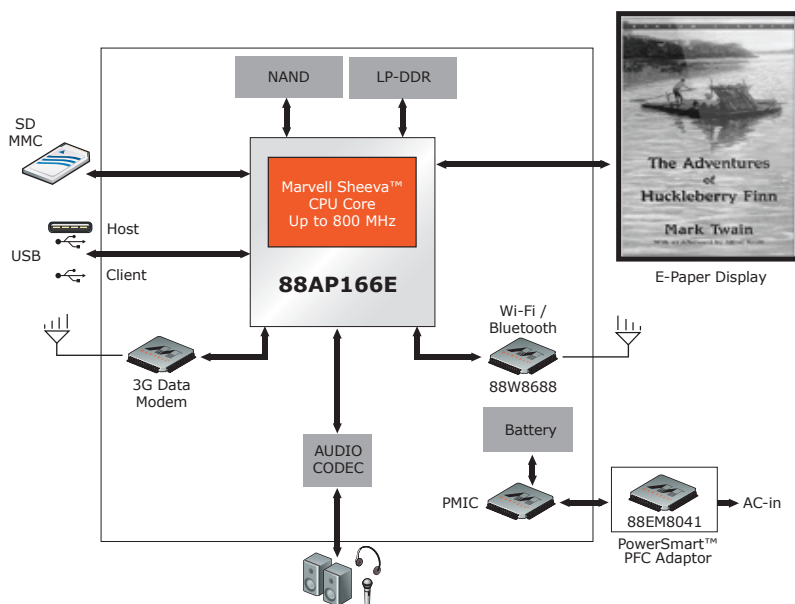


Fig 2. ARMADA eReader Turnkey Reference Design

**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](http://www.marvell.com).



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