Marvell® PXA90x Cellular Processor

Delivers 3G Wireless Capabilities

PRODUCT OVERVIEW

The Marvell® PXA90x cellular platform provides a flexible, scalable, high-performance, low-power solution for mainstream 3G cellular handsets. Designed from the ground up for advanced wireless applications and communications, the PXA90x processor is a highly integrated solution that enables advanced end-user features.

The Marvell PXA90x cellular platform supports dual-mode WCDMA and GSM/GPRS air interface capabilities for advanced UMTS cellular capabilities, and is combined with proven RF/mixed-signal solutions and third-party software to enable a complete, fully-validated platform solution. The PXA90x also includes support for a rich set of on-chip peripherals and advanced capabilities that improve wireless quality and enable rich multimedia applications such as high-quality audio and streaming video.

The Marvell PXA90x incorporates an Intel XScale® technology core for advanced applications and call-control processing and the Intel Micro Signal Architecture (MSA) core for efficient physical layer signal processing. The PXA90x also integrates Flash memory and SRAM memory all on one die. This high level of integration is possible due to an advanced, low-power 0.13 micron process that supports a variety of advanced functions. In conjunction with high integration and low-power consumption, the PXA90x offers extensive software reuse with other Intel XScale core-based products, which provides faster time to market (TTM) and higher investment reuse for handset designers.

SCALABILITY FROM MAINSTREAM TO PERFORMANCE PHONE MARKET SEGMENTS

With a consistent platform architecture and a common software ecosystem, the Marvell PXA90x cellular processor enables modular and scalable platforms for easier integration and validation. Requiring fewer components and consuming less board real estate than previous generations, the PXA90x processor is scalable across both mainstream 3G feature phone platforms and advanced 3G smartphone platforms.

Because the Marvell PXA90x cellular processor is designed for multiple 3G hardware configurations, it enables the reuse of engineering investments and reduces risk through the reuse of tools and software.

DESIGNED TO MEET USER EXPECTATIONS FOR ADVANCED CELLULAR HANDSETS

Consumer demand for more features, superior performance, and a better overall experience requires a solution with leading-edge technology. The Marvell PXA90x solutions address the demands of next-generation phones by providing support for the latest device requirements, including a camera interface, fast bus speeds, and integration with high-performance applications. In addition to supporting a superior end-user experience, devices based on the PXA90x cellular platform provide the headroom required for business, manageability, and security applications, meeting the needs of advanced 3G phones.

A COMPLETE 3G PLATFORM SOLUTION

The Marvell PXA90x cellular processor is validated and optimized with proven third-party mixed-signal, RF, and PMIC components, and is supported by an L1 protocol stack combined with proven L2/L3 protocol stack software from TTPcom. Marvell also offers a complete set of user applications and advanced development tools to help with the design effort.

EXTENSIVE PLATFORM VALIDATION

Extensive UMTS GCF/IOT validation is performed as a crucial piece of the complete platform validation of the Marvell PXA90x cellular solution. Marvell has executed an intensive IOT program for the PXA90x that includes testing at infrastructure manufacturers' laboratories, at wireless service providers' labs, and in the field.

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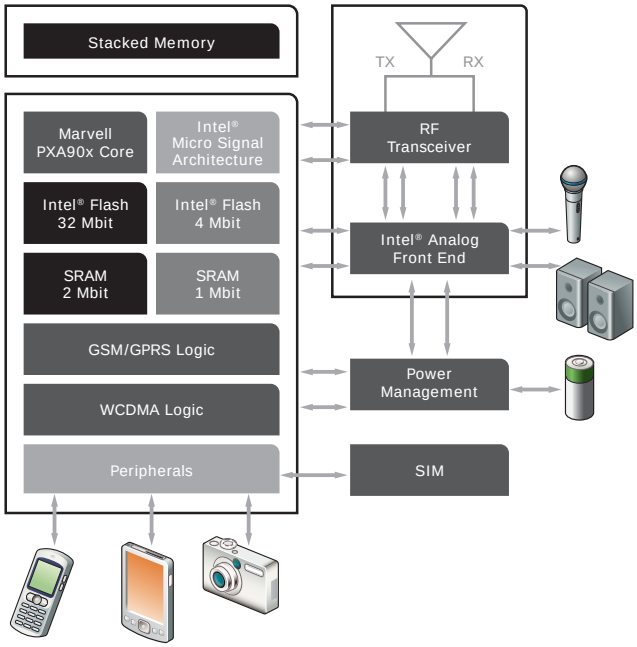
MOVING FORWARD FASTER®



FEATURES	BENEFITS
• Intel XScale® Technology	• Designed to provide optimized power consumption and high-performance processing for a wide range of wireless and networking applications.
• ARM-Compliant Architecture	• The ARM-compliant nature of the XScale core allows already compliant, existing ARM-based applications to be ported quickly to the PXA90x.
• Intel Micro Signal Architecture	• Incorporates both Digital Signal Processing (DSP) and microcontroller functionality in a single core, delivering significant improvements in performance, programmability, and power consumption over traditional DSP designs.
• Integrated SRAM and Flash Memory	• Integrated SRAM provides local memory for the system OS, cellular communications stack, and user applications code. Single bit-per-cell NOR Flash stores handset firmware and user applications, and enables execution-in-place (XIP) for code stored on-chip.
• Dual-Mode Modem	• Supports both WCDMA and GSM/GPRS cellular standards with Dual-RAT capability.
• Full Platform Solution	• Proven RF, mixed-signal, and PMIC solutions extensively validated as a unified platform. Proven third-party software solutions enable a compelling end-user experience.
• Intel Integrated Performance Primitives	• Provides pre-optimized multimedia application codecs and libraries to enable rapid application development and integration, while providing a compelling end-user experience for advanced applications.
• Full Range of Support Tools	• Includes compilers, debuggers, and simulation tools to optimize performance and speed up TTM.

THE MARVELL ADVANTAGE: Marvell products 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 the leader in storage, communications and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, processors, wireless, power management and storage solutions that power the entire communications infrastructure, including enterprise, metro, home, and storage networking. Today's cell phone and handheld users demand the latest and greatest in mobile functionality. From full-color displays and voice recognition to video streaming and Bluetooth capabilities, Marvell cellular and applications processors deliver full-featured, media-rich experiences to the palm of your hand. Based on the Intel® XScale micro-architecture, Marvell's cellular and applications processors feature advanced integration, multimedia acceleration, and superior power savings that propel the evolution of mobile devices. For more information, visit our website at www.marvell.com.

MARVELL®

Marvell Semiconductor, Inc.

5488 Marvell Lane
Santa Clara, CA 95054

Phone 408.222.2500
www.marvell.com

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