

Marvell ARMADA 618 Application Processor

1GHz, 1080p Encode/Decode, 16MP ISP, 45 MTPS 3D, Security Enabled



PRODUCT OVERVIEW

The ARMADA™ 618 processor is Marvell®'s latest application processor targeted for next generation, high-definition (HD)-capable smartphones. Featuring a gigahertz-class CPU, integrated full HD 1080p encode and decode, an integrated ISP capable of 16MP image capture, an integrated audio processing engine for extremely low power audio playback and exceptional high quality sound and advanced 3D graphics, the ARMADA 618 consumes extremely low power, while maintaining high processing performance at attractive price points. This allows manufacturers to deliver high-performing features in lightweight form factors, with the extended battery life that consumers look for in their smartphones.

The ARMADA 618 is based on a 1GHz Marvell-designed ARM v7-compatible CPU offering best-in-class performance. An integrated 3D engine renders 45M triangles-per-second for an immersive gameplay experience, via a complete floating point pipeline and unified vertex and fragment/pixel shading, to generate contrast-rich scenes in high definition resolution and color, ensuring complete compatibility with the most hotly anticipated mobile game titles.

With respect to video, the ARMADA 618 features Marvell's award-winning Qdeo™ technology with an integrated video accelerator that can seamlessly encode and decode h.264 High Profile 1080p video at 30fps. In addition, the ARMADA 618 incorporates a complete Image Signal Processor which can capture high resolution color pictures as well as stream 1080p video at 30fps. This enables smartphones to access the latest HD content from the web, record and playback HD videos and capture high quality images previously only seen in SLR-class cameras.

The ARMADA 618 offers support for high performance LPDDR memory, a highly flexible display controller capable of four simultaneous displays at up to 2K x 2K resolution and a highly robust security subsystem that includes a secure execution processor. The ARMADA 618 also features support for the next generation of peripheral interfaces, through support for MIPI DSI display, MIPI CSI camera, MIPI HSI and MIPI SLIMbus. Additional peripheral interfaces supported include USB 2.0 HSIC, SD/SDIO/MMC, eMMC, HDMI w/PHY and a standard set of lower bandwidth peripherals. Legacy peripherals such as Parallel LCD and Parallel Camera interfaces are also supported. The ARMADA 618 offers optimized OS support for Linux, Android™, Windows Mobile and Flash® 10, as well as industry standard APIs. Available in both a 12x12mm POP and a 12x12mm Discrete package, ARMADA 618 customers will have one of the broadest, most flexible choices of platform in the industry to create truly innovative and marketable products.

BLOCK DIAGRAM

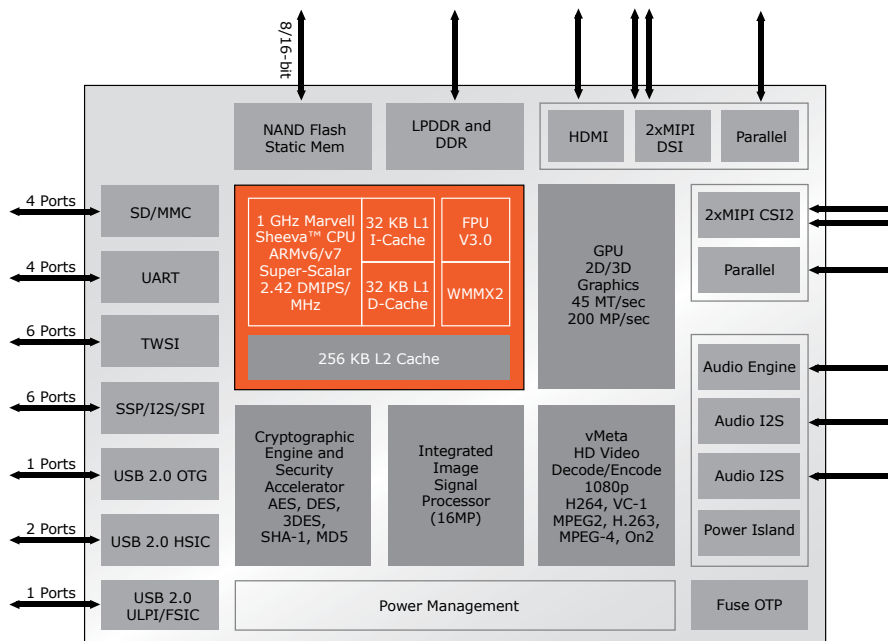


Fig 1. Marvell ARMADA 618 Application Processor

▶ APPLICATIONS

The Marvell ARMADA 618 platform offers customers a development platform for creating ARMADA 618 based smartphones. The platform incorporates the ARMADA 618 processor, the Marvell Avastar™ 88W8787 for 802.11n Wi-Fi, Bluetooth 3.0 and FM tuner support as well as a Marvell 3G baseband for high speed cellular data and voice access. The platform demonstrates the full suite of Marvell technologies for smartphone applications in a compact form factor that is easy for developers to use with powerful expansion options for adding more platform capabilities.



Fig 2. ARMADA 618 Platform Reference Design

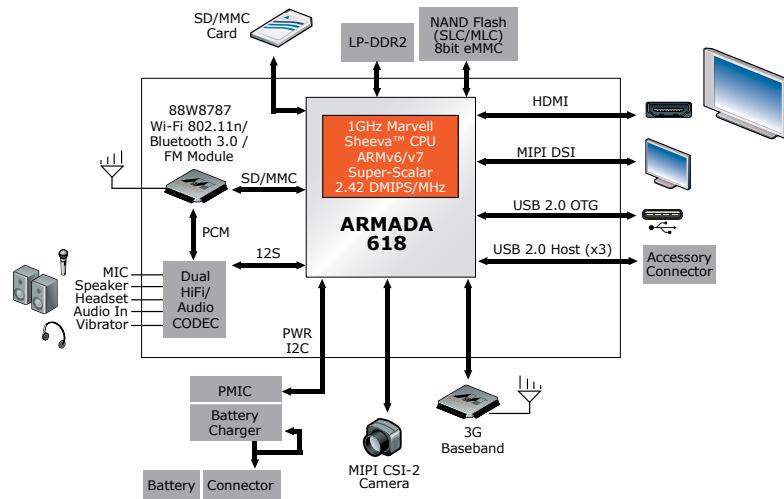


Fig 3. System Development Board Block Diagram

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.



Marvell Semiconductor, Inc.
5488 Marvell Lane
Santa Clara, CA 95054
Phone 408.222.2500
www.marvell.com

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Armada_618_Soc-03 3/10