



High-Performance Quad-Core DSP with Security

MSC8154E

Archived

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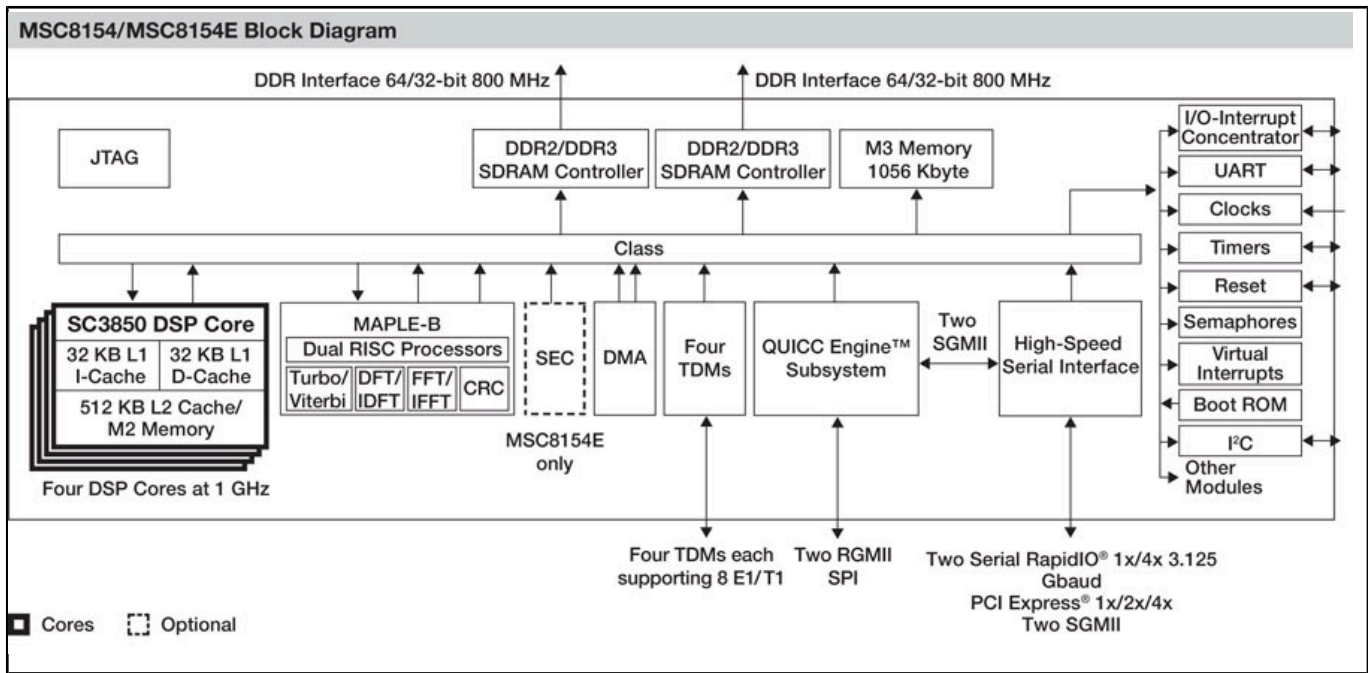
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The MSC8154E device is one of Our fourth-generation high-end multicore DSP devices that target broadband wireless base stations and other communications infrastructure with security processing. The MSC8154E is a four-core DSP based on NXP's SC3850 StarCore® technology and designed to advance the capabilities of wireless broadband equipment. It delivers higher performance and power savings, leveraging 45 nm process technology in a highly integrated system-on-chip (SoC) to provide performance equivalent to a 4 GHz single-core device. The MSC8154E helps equipment manufacturers and carriers create solutions and services that enable near-term, mainstream adoption of next-generation wireless standards such as 3G-LTE, WiMAX, HSPA+ and TDD-LTE. The device is designed to lower system costs by integrating functionality into a single device that previously required multiple discrete parts.

The MSC8154E DSP delivers a high level of performance and integration, combining four fully programmable new and enhanced SC3850 DSP cores, each running at up to 1 GHz with an architecture highly optimized for wireless infrastructure applications. Developed by NXP® and integrated on-chip, the MAPLE-B baseband accelerator supports hardware acceleration for Turbo and Viterbi channel decoding and for DFT/iDFT and FFT/iFFT algorithms and includes CRC processing. An internal RISC-based QUICC Engine® subsystem supports multiple networking protocols to guarantee reliable data transport over packet networks while significantly offloading processing from the DSP cores.

The MSC8154E embeds large internal memory and supports a variety of advanced, high-speed interface types, including two RapidIO® interfaces, two gigabit Ethernet interfaces for network communications, a PCI Express® controller, two DDR controllers for high-speed, industry standard memory interface, four multi-channel TDM interfaces and a security encryption/decryption processor (SEC).

MSC8154 Digital Signal Processor Block Diagram Block Diagram



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