



PowerQUICC® II Processor with PCI, USB, 256-ch. HDLC, UTOPIA II Ports, 10/100 Ethernet, IMA

MPC8280

Last Updated: May 30, 2025

Introducing the next generation of PowerQUICC® II™ processors: the MPC8270, MPC8275 and MPC8280.

Utilizing Our HiPerMOS7 0.13-micron process technology, the next generation PowerQUICC II family offers a range of performance, feature enhancements and package options with lower power requirements. Ideal for wired and wireless infrastructure communications processing tasks, enhancements to the PowerQUICC II family offer system designers a high degree of integrated features and functionality and a compelling, proven architecture.

The next generation of PowerQUICC II processors is an optimum solution for integrated control and forwarding plane processing in high-end communications and networking equipment -- such as routers, DSLAMs, remote access concentrators, telecom switching equipment and cellular base stations. Combining extensive layer 2 functionality with control plane processing, Our PowerQUICC II processors include a high-performance embedded 603e™ core built on Power Architecture technology, and a powerful RISC-based Communications Processor Module (CPM). The CPM off-loads peripheral tasks from the embedded core and provides support for multiple communications protocols, including 10/100Mbps Ethernet, 155Mbps ATM and 256 HDLC channels. And, of course, the next generation PowerQUICC II devices retain full software compatibility with the PowerQUICC II family.

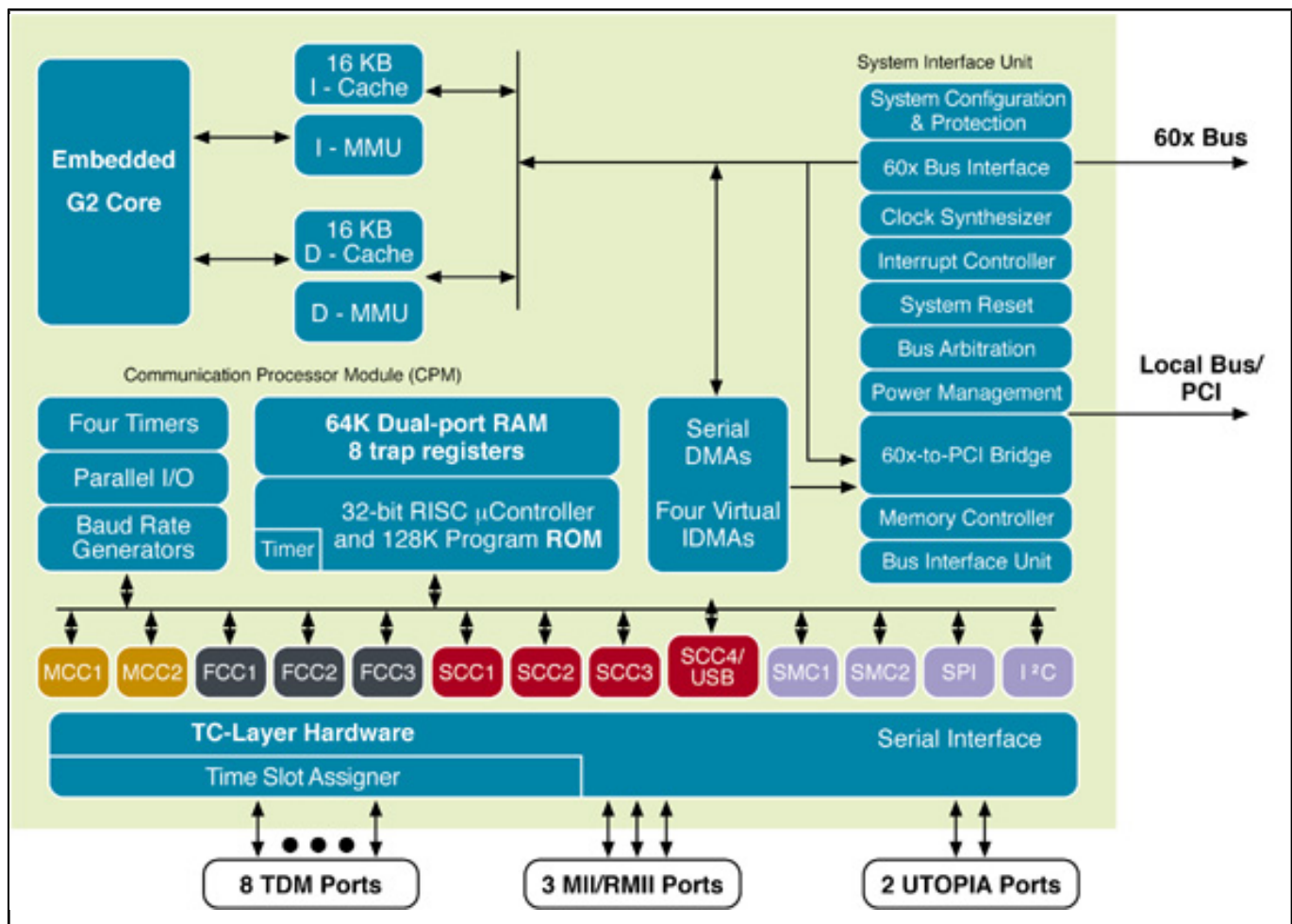
A range of performance and package options

Taking advantage of the 0.13-micron process, the next generation of PowerQUICC II devices offers significant performance increases and power savings over the current generation PowerQUICC II devices, with speeds of up to 450MHz and 300MHz in the core and CPM

respectively at less than 2 watts. The new processors continue to enhance the PowerQUICC architecture's ATM support, offering up to 2 UTOPIA ports with support for up to 31 PHYs per interface -- ideal for high-density DSLAM line cards.

The next generation of PowerQUICC II solutions also delivers support for USB, an on-target addition for high performance SOHO and CPE networking equipment. And unlike most other integrated communications processors in the market, the PowerQUICC architecture integrates two processing cores to handle specific tasks: the core built on Power Architecture technology and the RISC-based CPM -- enabling a balanced approach for systems by handling both high-level tasks and low-level communications all in one integrated device.

MPC8280_BLKDIAG Block Diagram



View additional information for [PowerQUICC® II Processor with PCI, USB, 256-ch. HDLC, UTOPIA II Ports, 10/100 Ethernet, IMA](#).

Note: The information on this document is subject to change without notice.

www.nxp.com

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2025 NXP B.V.