PowerQUICC® II Processor with PCI, USB, Security, Communications Processor Module with UTOPIA

MPC8272

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The high-performance MPC8272 PowerQUICC® II™ processor family containing a Power Architecture core addresses the cost-sensitive needs of a wide variety of networking and communications applications. By offering integrated hardware security, the MPC8272 Family is well suited for networking equipment requiring encryption capabilities, such as small and medium enterprise (SME) routers, virtual private network (VPN) and firewall routers, wireless access points, residential gateways and xDSL equipment, as well as imaging, industrial control and test and measurement equipment. Delivering an ideal combination of price, performance and low-power operation, the MPC8272 Family supports CPU frequencies ranging from 266 MHz to 400 MHz while offering the benefits of low power consumption (0.8 W at 266 MHz). The family's high level of on-chip integration and small-footprint 27 mm x 27 mm 516-pin PBGA packaging also enables developers to reduce board space.

The MPC8272 Family includes the MPC8247, MPC8248, MPC8271 and MPC8272 processors. Each device integrates two processing blocks: an embedded Power Architecture core and a RISC-based Communications Processor Module (CPM). This dual-core architecture is designed to reduce power consumption and offer a more balanced approach to processing than traditional processor architectures. The CPM offloads low-level peripheral communications tasks, enabling the embedded Power Architecture core to manage high-level processing tasks. The MPC8272 Family supports a variety of protocols and interfaces, including dual Fast Ethernet MACs, ATM, HDLC, a 32-bit 33/66 MHz PCI interface and a USB host/device interface. The MPC8248 and MPC8272 processors feature a security engine that supports DES, 3DES, MD-5, SHA-1, AES and ARC-4 encryption algorithms. The processors also offer a Public Key accelerator and on-chip Random Number Generator. This embedded security core is derived from Our security coprocessor product line. The core offers the same direct-memory access (DMA) and parallel processing capabilities as the security coprocessor product line as well as the ability to perform single-pass encryption and authentication as required by widely used security protocols such as IPSec and 802.11i. On-chip security makes the MPC8272 Family an optimal solution for

applications that require security features in concert with high performance and low system-level cost.

MPC8272 family block diagram Block Diagram
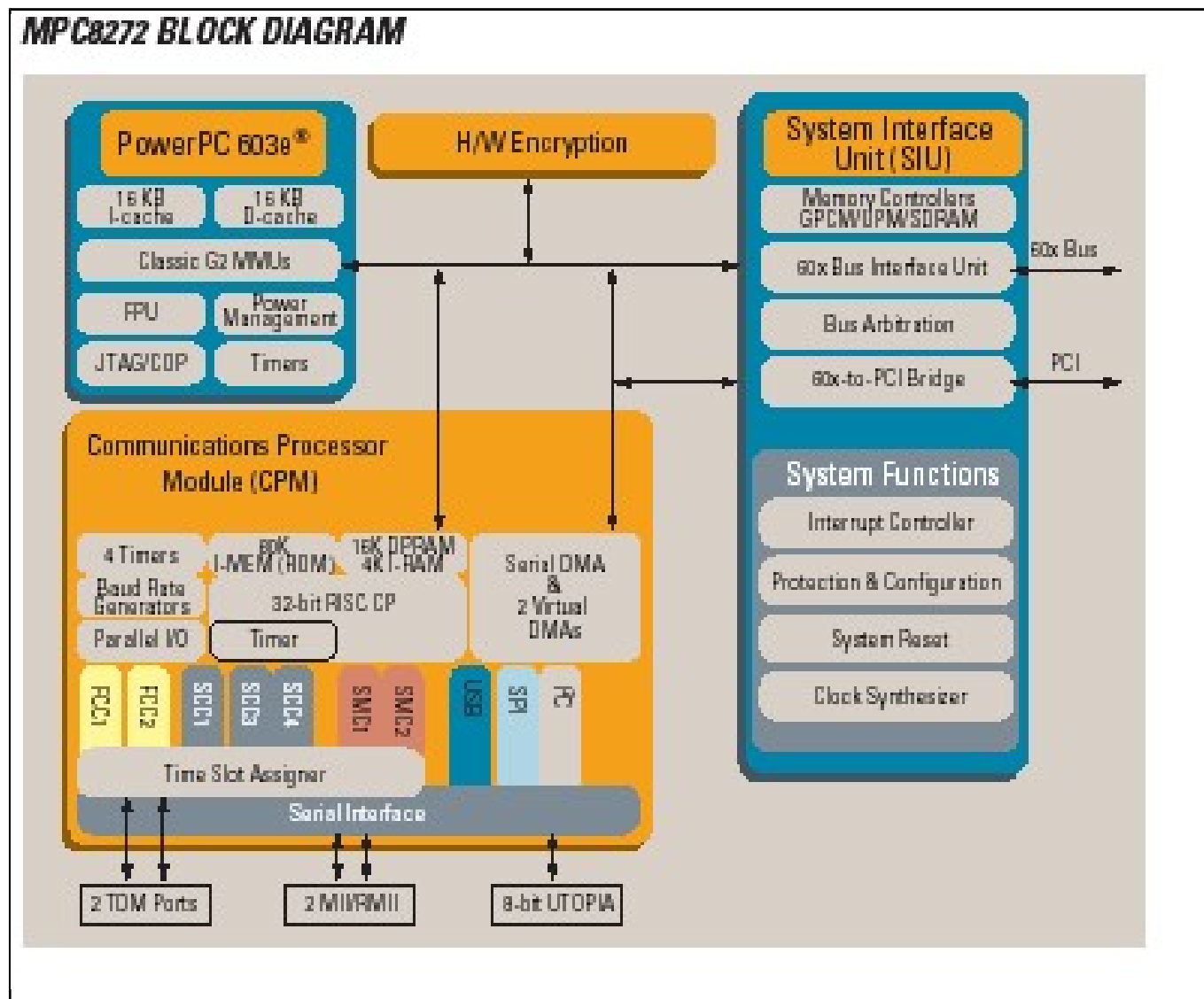
View additional information for PowerQUICC® II Processor with PCI, USB, Security, Communications Processor Module with UTOPIA.

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