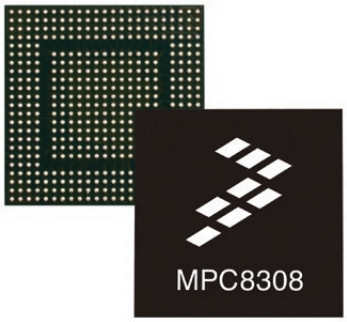
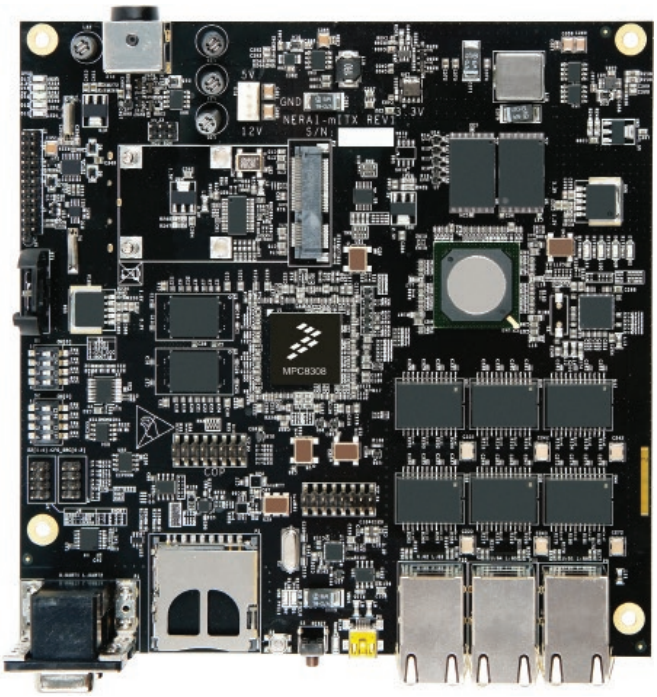
Reference Platform Based on Power Architecture® Technology

MPC8308-RDB Reference Platform



Overview

The MPC8308-RDB reference platform is ideal for hardware and software development in embedded applications, including consumer printers, wireless access points, industrial control and factory automation equipment. It leverages the cost-effective MPC8308 PowerQUICC II Pro communications processor, built on Power Architecture® technology, which is designed to meet the requirements of several low-end embedded networking applications with high-speed peripherals while striving for low power consumption and a small-footprint package design.



The MPC8308-RDB integrates leading-edge external components: 5 x Gigabit Ethernet ports, 1 x USB 2.0, x1 mini PCI Express® connector and an SD/MMC card interface. The MPC8308 microprocessor supports dual 10/100/1000 Mbps Ethernet controllers, single-lane PCI Express, USB 2.0 controller, enhanced SDHC controller for SD memory interface, dual universal asynchronous receiver/transmitter (DUART), serial peripherals, general-purpose I/O and system timers. This high level of integration in the MPC8308 processor helps to lower overall system costs, improve performance and simplify board design.

The MPC8308-RDB incorporates a pre-installed board support package (BSP) containing a boot loader (u-boot)—a generic Power Architecture technology system based on the Linux® kernel. The u-boot and Linux kernel reside in the on-board flash memory and launch when the board is powered up.

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MPC8308-RDB Features

- MPC8308 PowerQUICC II Pro processor up to 333/266 MHz (CPU/DDR2)
- Ethernet
  - 4-port Gigabit Ethernet switch, supporting RGMII/MII
  - Single Gigabit Ethernet PHY (RGMII)
- PCI Express interconnect
  - Mini PCI Express for WLAN
- Two I²C
  - Connected to real-time clock
  - May be eliminated using the MCU
- Dual UART
  - Connectors for debug connectivity
- Local bus
  - NAND flash/NOR flash memory
- High-Speed USB 2.0
  - Single USB 2.0 supporting host, device or OTG
- Memory
  - 32-bit DDR2 with population option for 16-bit
- eSDHC
  - Single-port SD/MMC connector
- IEEE® 1588v2 support for timing synchronization

MPC8308-RDB Contents

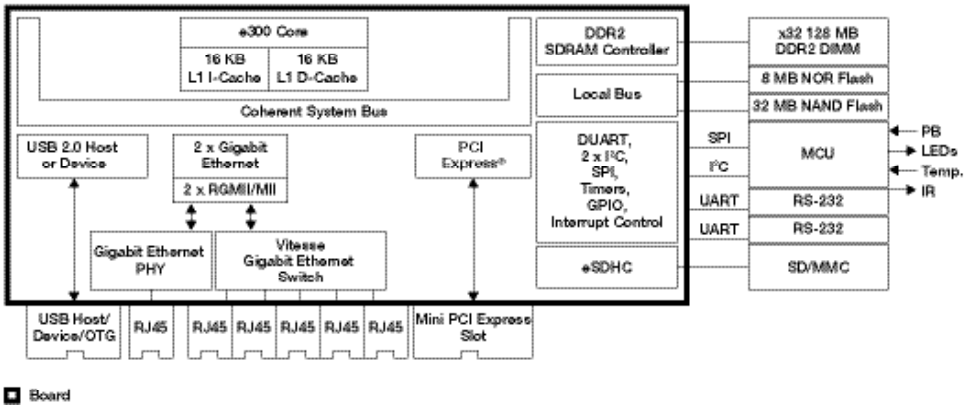
- MPC8308-RDB board
- Cables
- Power supply
- User guide
- Free six-month evaluation license for CodeWarrior tools

Also Available on the MPC8308-RDB Product Page at freescale.com

- Bill of materials
- Schematics
- Gerber files

The MPC8308-RDB is $299 USD.

MP8308 Block Diagram



Board

The MPC8308-RDB BSP takes advantage of the Linux Target Image Builder (LTIB)—a suite of tools that leverages existing open source configuration scripts and source code packages, combining them all into a single BSP generation bundle. The source code packages include boot loaders and Linux kernel sources as well as many user-space source code packages to build a complete BSP. The LTIB also provides compiler packages required to build the BSP, which is also used by Freescale developers for a multitude of Freescale development markets. The LTIB leverages as many BSP elements as possible for all Freescale markets supported, while offering the flexibility necessary to customize components that require platform-specific modifications.

Many third-party applications are available for the MPC8308-RDB. They are typically built on top of the BSP delivered by Freescale and can be installed on the hard disk. For demonstrations or to acquire details of Freescale's third-party applications for this platform, please contact your local Freescale sales office.

For more information, visit freescale.com

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