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.
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 PC
  • 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.

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.