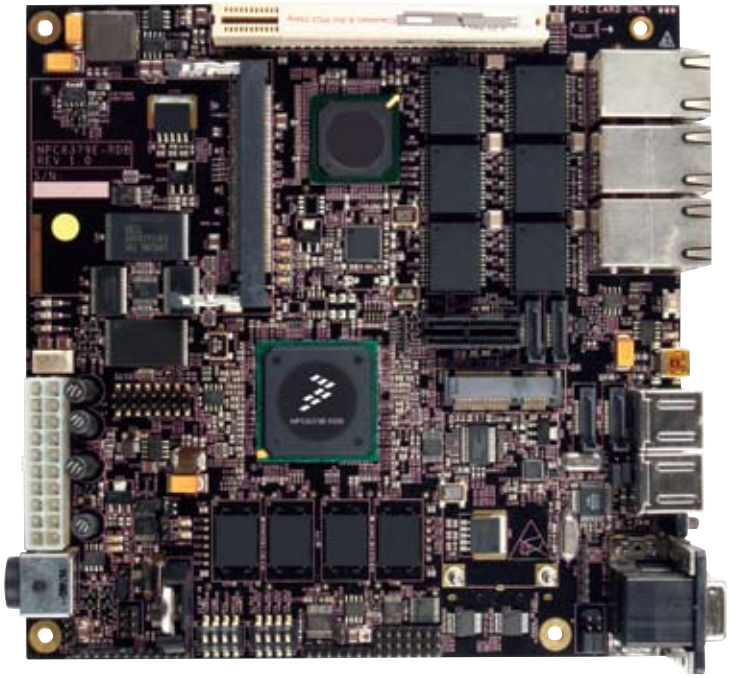
MPC8377E and MPC8379E Reference Design Boards

The MPC8377E-RDB and MPC8379E-RDB provide customers with highly integrated reference design boards that can help shorten customers' time to market. The reference designs are aimed at small-to-medium business and consumer applications, such as network attached storage (NAS) with RAID 5, multi-function printers and office-in-a box. The cost-effective boards are based on the MPC837x family, built on Power Architecture™ technology, along with leading-edge external components to help customers quickly design and implement their target application.

The MPC8377-RDB leverages the MPC8377E processor while the MPC8379E-RDB enables the MPC8379E. The MPC837x family is based on the e300 core, built on Power Architecture technology, which has a frequency range of 400–667 MHz, and supports a 32K instruction and L1 data cache. The MPC837x family also supports two Gigabit Ethernet controllers, USB 2.0, PCI 2.3, 64/32-bit DDR1/2 and an integrated security engine. The MPC8377E supports **two** x1 PCI Express® and two Serial-ATA II (SATA II) controllers, while the MPC8379E supports **four** SATA II controllers. The new MPC837x family, based in 90 nm process technology, provides high integration that simplifies board design and offers a cost-effective solution.



The MPC8377E-RDB and the MPC8379E-RDB platforms feature 256 MB unbuffered DDR2 SDRAM, 8 MB NOR flash and 32 MB NAND flash, where the platforms can boot from either NOR or NAND flash. They include both a Gigabit PHY and a 5-port Ethernet switch, as well as a 4-port USB hub or a 1-port USB on-the-go (OTG). The MPC8377E-RDB also supports a PCI Express add-in connector and a MiniPCI Express slot. The MPC8379E-RDB platform also supports up to four SATA II connectors. These components, integrated with the MPC837x family, provide an application-specific platform that can help customers to get a jump start on their next application design.

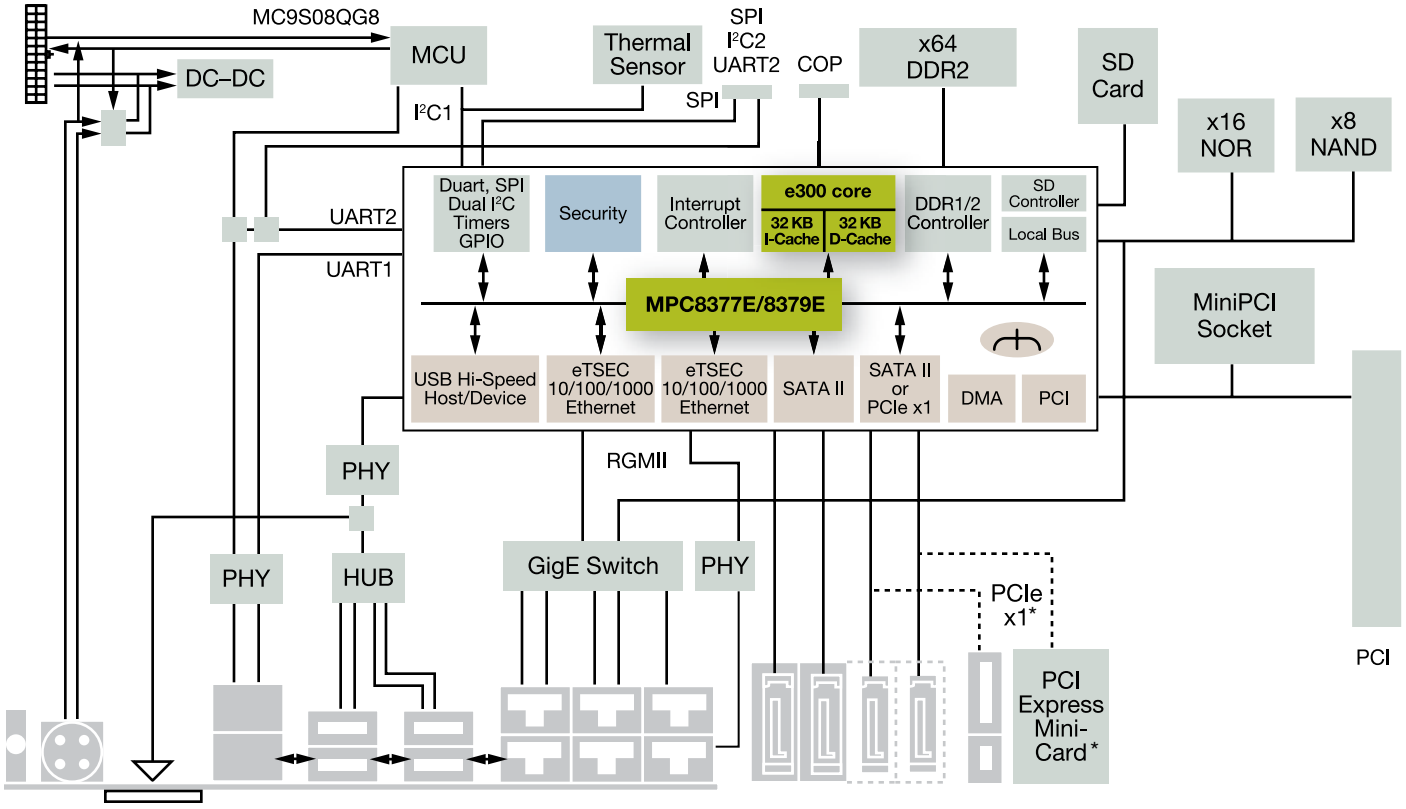
Along with the hardware support, the MPC8379E-RDB and MPC8377-RDB come with a board support package (BSP) that includes both U-boot and Linux® 2.6 support. The platform is also available with third-party software applications. To see demonstrations or to acquire details of Freescale's third-party applications for this platform, please contact your local Freescale sales office.

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MPC8379-RDB and MPC8377-RDB Boards Features

- CPU: Freescale MPC8379E or MPC8377E
- Memory subsystem
  - 256 MB unbuffered DDR2 SDRAM
  - 8 MB NOR flash
  - 32 MB NAND flash
  - 256 Kb serial EEPROM
  - SD card socket
- Interfaces
  - 10/100/1000 Ethernet ports
- One Gigabit RGMII connected to Vitesse Gigabit PHY (VSC8201)
- One 5-port Vitesse Ethernet switch (VSC7385)
  - PCI and PCI Express (MPC8377E-RDB only)
- PCI Express add-in connector
- MiniPCI Express for WLAN
- One MiniPCI connector
- One standard PCI connector with extended REQ/GNT connector for riser card
  - SATA
- Two (MPC8377E) or four (MPC8379E) standard SATA II connectors
- USB 2.0
- 4-port USB hub or 1-port USB OTG
- DUART
- Thermal sensor on I²C bus
- Programmable LEDs for debug use
- Mini-ITX form factor: 170 mm x 170 mm
- 6-layer PCB routing (4-layer signals, 2-layer power and ground)
- Lead-free (ROHS), CE and FCC Certification

MPC8377E-RDB and MPC8379E-RDB Block Diagram



* MPC8377E-RDB only

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