

MPC8349E-mITXE Reference Platform

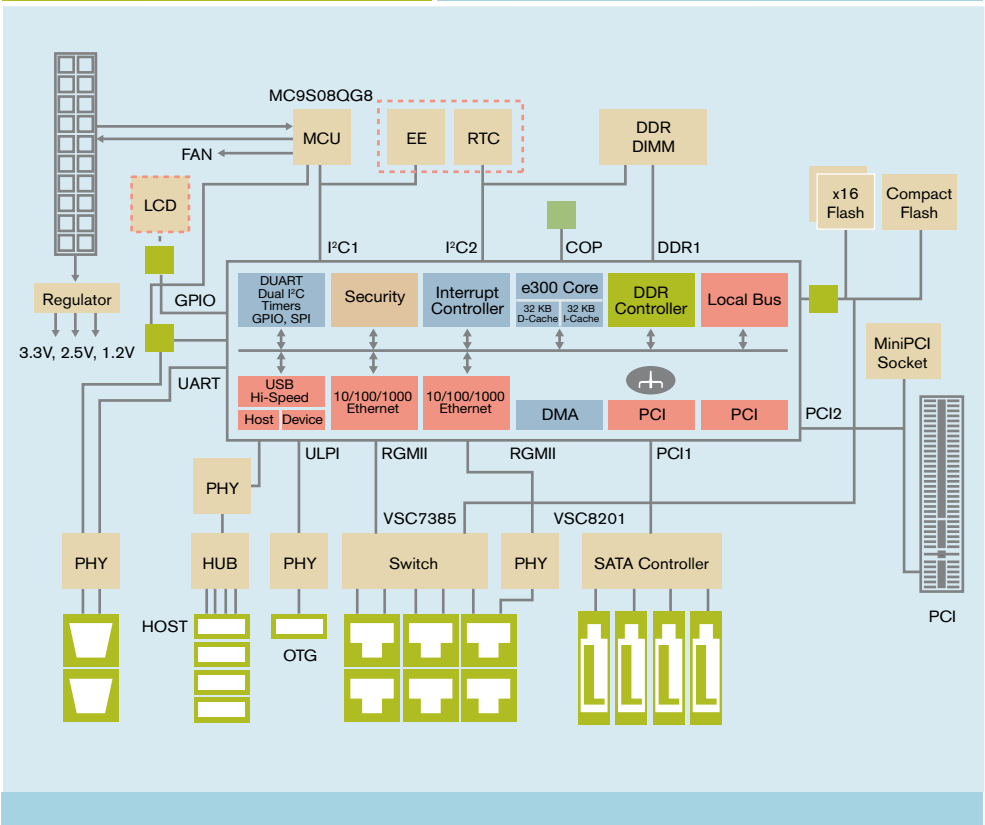
Overview

The MPC8349E-mITXE reference platform is ideal for hardware and software development for networking applications. It leverages Freescale's highly integrated MPC8349E processor built on Power Architecture™ technology and leading-edge external components—a 5-port Gigabit Ethernet switch, four high-speed USB ports, four serial ATA ports, one Peripheral Component Interconnect (PCI) slot, one MiniPCI slot and one compact flash memory slot.

The high level of integration in the MPC8349E helps to lower system costs, improve performance and simplify board design. The MPC8349E microprocessor supports dual 10/100/1000 Mbps Ethernet controllers, dual 32-bit/single 64-bit PCI controllers, integrated security engines, USB 2.0 host and device controllers, 4-channel direct memory access (DMA), dual universal asynchronous receiver/transmitter (DUART), serial peripherals, general purpose I/O and system timers. The MPC8349E also integrates a hardware encryption block that supports different algorithms for high-performance data that is critical for supporting secure communications in the residential market. It supports DES, 3DES, MD-5, SHA-1, AES, PKEU, RNG and RC-4 encryption algorithms in hardware.

A board support package (BSP) is pre-installed on the MPC8349E-mITXE. This BSP consists of a bootloader (u-boot), a generic Power Architecture technology system based on the Linux® kernel. The u-boot and the Linux kernel reside in the on-board flash memory while the file system is pre-installed on the hard disk shipped with the MPC8349E-mITXE. On powering up, the Linux system runs on the MPC8349E-mITXE.

MPC8349E-mITXE Block Diagram



The MPC8349E-mITXE BSP generation takes advantage of the Linux Target Image Builder (LTIB), a suite of tools that leverages existing open source configuration scripts and source code packages and bundles 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. Freescale developers use the LTIB to create BSPs 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 MPC8349E-mITXE. They are typically built on top of the BSP delivered by Freescale and are installed on the hard disk. To see demonstrations or to acquire details of Freescale's third-party applications for this platform, please contact your local Freescale sales office.

Features

- CPU:
 - Freescale MPC8349E running at 533/266 MHz (CPU/Coherent System Bus)
- Memory subsystem:
 - 256 MB unbuffered DIMM SDRAM that is expandable to 1 gigabyte
 - 16 MB flash memory (two Macronix™ MX29LV640M flash memory banks)
 - Type I compact flash connector to interface with the compact flash storage card in true IDE mode (3.3 mm thick)
- Interfaces:
 - 10/100/1000 Base-T Ethernet ports:
 - TSEC1, GMII interface: one 10/100/1000 Base-T RJ-45 with RJ-45 interface using Vitesse™ VSC8201 single-port 10/100/1000 Base-T PHY
 - TSEC 2, GMII interface: five 10/100/1000 Base-T RJ-45 with Vitesse VSC7385 SparX-G5™ 5 + 1-port Gigabit Ethernet integrated PHY switch
 - USB 2.0 OTG and hub:
 - USB1, ULPI interface: four USB 2.0 type A receptacle connectors, with Genesys Logic™ GL850A 4-port USB 2.0 hub controller
 - USB2, ULPI interface: one USB 2.0 type mini-AB receptacle connector with SMSC™
 - USB3300 high-speed USB host/device/OTG PHY
 - Serial ATA controller:
 - Silicon Image™ Sil3114 PCI to serial ATA controller that connects to a 66 MHz PCI-1
 - Supports four independent serial ATA channel
 - One 32-bit 3.3V MiniPCI/PCI slot connected to PCI-2
 - Atmel™ AT24C08 serial EEPROM
 - Dallas™ DS1339 RTC with battery holder
 - Freescale MC9S08QG8 MCU for fan control and soft start
- Board connectors:
 - LCD interface using GPIO
 - ATX power supply connector
 - RS-232C connectors
 - 9-pin DB9 receptacle
 - 10-pin 2.54 mm connector
 - JTAG/COP for debugging
- 6-layer PCB routing (4-layer signals, 2-layer power and ground) Orderable Part Number MPC8349e-mITXE



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