Processor Enablement

Cost-Effective MPC830x PowerQUICC II Pro Processor Evaluation Kit

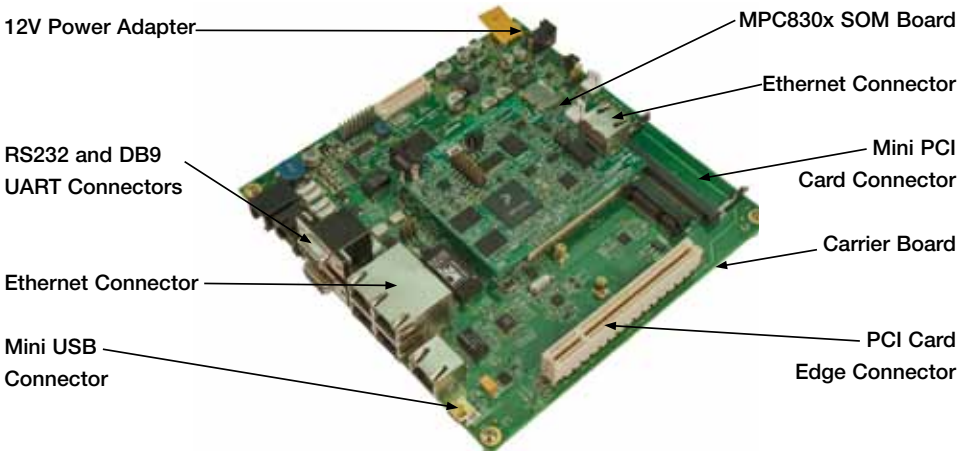
Overview

The MPC830x evaluation kit (MPC830x-KIT) is a cost-optimized reference design board for Freescale's MPC8306/S and MPC8309 PowerQUICC II Pro processors, built on Power Architecture® technology. The kit consists of a carrier card and a system on module (SoM) representing each of the two processors.

The MPC830x-KIT can be customized per project and combined with off-the-shelf software for product development. The module components provide the tools, device drivers and additional features needed for embedded Linux® OS projects.

Target Applications

- Network communication
- Low-end printers
- Factory or building automation
- IEEE® 1588 in test and measurement equipment and industrial automation
- Programmable logic controller
- Managed industrial router



Tools

- Linux target image builer (LTIB) is a tool framework used to manage, configure, extend and build Linux software elements to develop a u-boot boot loader, Linux target image and a root file system. LTIB runs on a personal computer with Linux OS.
- CodeWarrior Power Architecture 8.8 Service Pack 2
- NetComm Software for MPC830x Rev 1.0

Evaluation Kit Pricing	
MPC8306-KIT	**MPC8309-KIT**
USD $759	USD $779

MPC830x Reference Design Kit Contents

The MPC830x evaluation kit includes the following items:

- MPC830x SOM board
- MPC830x carrier card
- Two UART cables
- Board support package
- Ethernet cable
- Power adaptor (12V–5A) and cable

Production quantity SoMs may be purchased from partner eInfochips at einfochips.com.

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MPC830x PowerQUICC II Pro Processors on SoM			
	MPC8309	**MPC8306**	**MPC8306S (Supported on the MPC8306-KIT)**
Core	e300	e300	e300
I-Cache/D-Cache	16K/16K	16K/16K	16K/16K
Floating Point Unit	Yes	Yes	Yes
Core Frequency	266/333/400/417	133/200/266	133/200/266
QUICC Engine Subsystem	32-bit RISC	32-bit RISC	32-bit RISC
Memory Controller	16/32-bit DDR2 with ECC	16-bit DDR2	16-bit DDR2
Local Bus	8/16-bit up to 66 MHz	8/16-bit up to 66 MHz	8/16-bit up to 66 MHz
PCI Interface	32-bit up to 66 MHz	No	No
Ethernet	3 x 10/100 MII/RMII or 2 x 10/100 with IEEE 1588 V2	3 x 10/100 MII/RMII or 2 x 10/100 with IEEE 1588 V2	3 x 10/100 , MII/RMII
USB 2.0	Yes	Yes	Yes
UART	Yes (4 x)	Yes (4 x)	Yes (4 x)
I²C Controller	Dual	Dual	Dual
SPI	Yes	Yes	Yes
Interrupt Controller	IPIC	IPIC	IPIC
IEEE® 1588 Support	Yes	Yes	No
eSDHC	Yes	Yes	No
FlexCAN	Yes	Yes	No
Package	489-pin MAPBGA	369-pin MAPBGA	369-pin MAPBGA

MPC830x Kit Features		
	MPC8306-KIT	**MPC8309-KIT**
CPU	MPC8306 PowerQUICC II Pro	MPC8309 PowerQUICC II Pro
CPU Frequency Supported on SoM	133/266 MHz	266/333 MHz
Memory Subsystem	• 128 MB DDR2 SDRAM • 8 MB NOR flash memory • 512 MB NAND flash memory • 256 KB serial EEPROM	• 256 MB DDR2 SDRAM • 8 MB NOR flash memory • 512 MB NAND flash memory • 256 KB serial EEPROM
Ethernet	1 x 10/100 MII/RMII, 2 x 10/100 MII	3 x 10/100 MII/RMII
USB 2.0	1	1
eSDHC	1 (microSD)	1 (microSD)
UART	2	2
I²C	2	2
FlexCAN	1	1
Connectors—SOM	• 3-pin power jack • 3-pin UART header for console • JTAG/COP for debug • 120-pin and 140-pin board-to-board connector • 6-pin BDM header for KA2 programming • RJ-45 for Ethernet • microSD card • 6-pin header for boot device (NAND/NOR) selection	• 3-pin power jack • 3-pin UART header for console • JTAG/COP for debug • 120-pin and 140-pin board-to-board connector • 6-pin BDM header for KA2 programming • RJ-45 for Ethernet • microSD card • 6-pin header for boot device (NAND/NOR) selection
Connectors—Carrier Board	• Dual stack DB9 connector for RS-232 console and RS-485 • RJ45 connector for T1/E1 • RJ45 connector for FEC-3 • MiniAB USB • Microcontroller UART header • Microcontroller BDM header • 4-pin CAN header • RJ-11 for SLIC/PSTN phone interface • 60-pin local bus • 120-pin and 140-pin board-to-board connector • 16-pin SPI and IEEE® 1588 header • 16-pin GPIO header	• PCI card edge connector • Mini PCI card edge connector • Dual stack DB9 connector for RS-232 console and RS-485 • RJ45 connector for T1/E1 • RJ45 connector for FEC-3 • MiniAB USB • Microcontroller UART header • Microcontroller BDM header • 4-pin CAN header • RJ-11 for SLIC/PSTN phone interface • 60-pin local bus • 120-pin and 140-pin board-to-board connector • 16-pin SPI and IEEE 1588 header • 16-pin GPIO header
Form Factor—SOM	90 mm x 70 mm	90 mm x 70 mm
Form Factor—Carrier Board	170 mm x 170 mm	170 mm x 170 mm
Certification	FCC Class A, CE	FCC Class A, CE
RoHS	Yes	Yes

Learn More: For current information about Freescale products and documentation, please visit **freescale.com/PowerQUICC.**

BUILT ON Power

Document Number: MPC830XSOMFS / REV 3

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