

PIC64HX Curiosity Ultra+ Evaluation Kit

Summary

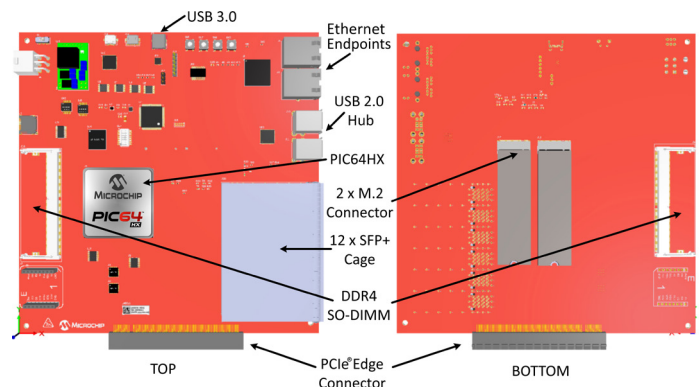
The PIC64HX Curiosity Ultra+ Evaluation Kit is the best solution for evaluating and prototyping designs based on the PIC64HX1000 64-bit microprocessor (MPU). The PIC64HX MPU is a RISC-V[®] based 10-core heterogeneous device running at up to 1.0 GHz and supporting up to 64 GB of DDR4. It also features high-speed interfaces including PCIe[®] Gen 3 and Compute Express Link[®] (CXL[®]) 2.0 interfaces, 240 Gbps Ethernet Time-Sensitive Networking (TSN), USB 3.0, and support for SD, eMMC, QSPI, NOR and NAND storage devices. These interfaces tightly synchronize the processing of large amounts of data to meet the demanding workloads of aerospace and defense applications and industrial factories. The processor supports RISC-V Vector Extensions, which enable autonomous decision-making and smart filtering in Artificial Intelligence/ Machine Learning (AI/ML) applications on edge devices. The MPU has two dedicated controllers: a system controller for comprehensive fault tolerance and system resiliency, and a security controller with anti-tamper coverage and advanced cryptography to enable safe boot and secure operation.

You can use the evaluation kit as a stand-alone platform or take advantage of the board's expansion options, including mikroBUS[™], Raspberry Pi[®], CAN bus, and PCIe edge connectors, to implement additional functionality.

The PIC64HX Curiosity Ultra+ Evaluation Kit is supported by a complete software ecosystem and Board Support Package (BSP). The kit can support boot firmware, multiple operating systems including Linux[®] and RTEMS, corresponding tools, libraries and drivers.

Curiosity Ultra+ Board Features

- PIC64HX1000 Microprocessor (MPU)
- Memory and Storage:
 - Two dual rank SO-DIMM DDR4
 - 256 Mb NOR Flash
 - 2 Gb NOR Flash
 - 64 Mb MRAM
 - 128 GB eMMC
- Connectivity:
 - Two RJ45 10/100/1000 Mbps Ethernet endpoints; TSN supported
 - Twelve hot-swappable SFP+ switch ports (10 Mb to 10 GbE; TSN supported)
 - One x16 female PCIe edge connector (supports x8 PCIe Root Port)
 - Two M.2 x4 connectors
 - Two CAN FD ports (from SPI)
 - One USB 3.0 port
 - One USB 2.0 input through USB PHY
 - Four USB 2.0 ports through USB hub
- Board expansion:
 - One mikroBUS connector
 - One Raspberry Pi connector
 - One UART connector
- Development and debug capabilities:
 - One JTAG port for debugging and troubleshooting
 - One high-speed trace port (Lauterbach probe compatible)
- 12V power supply
- Quick-start guide



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Ordering Your PIC64HX Evaluation Kit

Contact your local [Microchip sales office](#) for information on purchasing this evaluation kit.

Order Number	Name	What's Included
HX1000-KIT	PIC64HX Curiosity Ultra+ Evaluation Kit	One PIC64 Curiosity Ultra+ board with PIC64HX1000 Two single-rank DDR4 modules One 12V power supply Quick-start guide

For more information

www.microchip.com/HX1000-KIT