

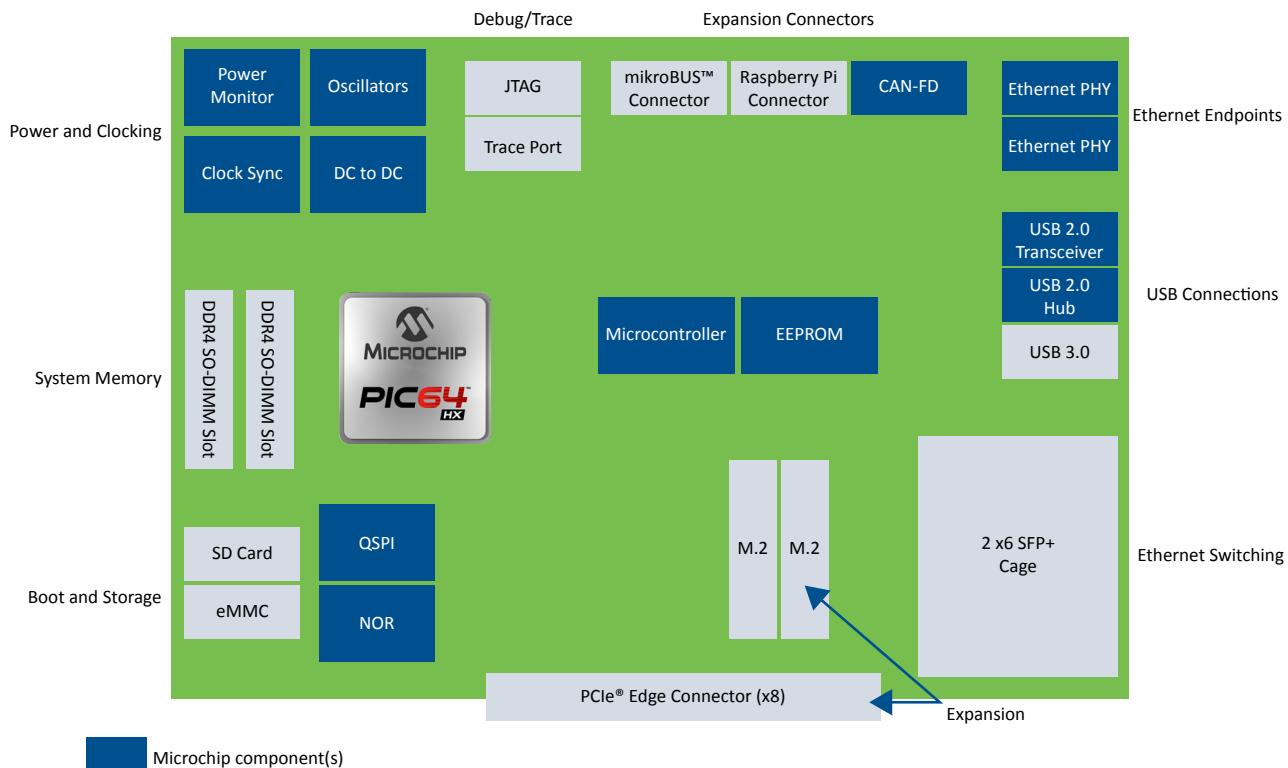
# Total System Solution for PIC64HX Series of Microprocessors

## Summary

The PIC64HX family consists of multi-core 64-bit RISC-V® based MPUs plus software and platform components to enable your development and deployment of computing solutions for the aerospace, defense and industrial markets. The PIC64HX family supports advanced technologies including hardware virtualization, Artificial Intelligence (AI), Ethernet Time-Sensitive Networking (TSN), Remote Direct Memory Access over Converged Ethernet (RoCE) v2, PCIe®, Compute Express Link® (CXL®) 2.0 and post-quantum cryptography.

To simplify your design, we offer a pre-engineered Total System Solution (TSS) for the PIC64HX family. This total systems solution delivers the features and performance to support all aspects of your design, including power management, application complex configuration, end-to-end security, attaching AI/ML accelerators and a complement of peripheral devices (storage, sensors or actuators). This differentiated offering allows you to focus immediately on delivering your design.

## PIC64HX Single-Board Computer Example Diagram



## PIC64HX TSS Reference Design

- HX1000-KIT: PIC64HX Curiosity Ultra+ Evaluation Kit
- Includes TSS BOM and schematics

## PIC64HX Component Recommendations

We offer a comprehensive portfolio of terrestrial-grade components for use in your PIC64HC MPU-based design.

Function	Recommended Part Number	Product Description
<b>Microcontroller (MCU)</b>	SAM D51	32-bit Arm® Cortex®-M4F based processor
<b>Dual Ethernet PHY</b>	VSC8662XIC-03	Dual-port 10/100/1000BASE-T PHY and 100BASE-FX/1000BASE-X SerDes with recovered clock output
<b>CAN FD Controller/Transceiver</b>	MCP251863	External CAN controller with integrated transceiver
<b>32.768 kHz Oscillator</b>	DSC60xx	Ultra-small, ultra-low-power MEMS oscillator
<b>12 MHz Oscillator</b>	DSC10xx	1.8–3.3V low-power precision CMOS oscillator
<b>USB 2.0 Hub Controller</b>	USB2514B	Four-port USB 2.0 hub controller
<b>Hi-Speed USB 2.0 Transceiver</b>	USB3341	26 MHz USB 2.0 ULPI PHY IC
<b>I<sup>2</sup>C IO Expander</b>	MCP23008	8-bit I <sup>2</sup> C I/O expander with serial interface
<b>Power Monitor</b>	PAC1934	Quad DC power monitor with accumulation
<b>EEPROM</b>	24LC64	64 kb EEPROM
<b>64 Mb QSPI NOR Flash</b>	SST26VF064B	64 Mb 2.3–3.6V Serial Quad I/O (SQI) Flash
<b>LVDS Oscillator</b>	DSC1103/23	Low-jitter, precision LVDS oscillator (100 MHz PCIe® reference clock and 156.25 MHz reference clock)
<b>Clock Synchronizer</b>	ZL30632	System synchronizer with up to five channels
<b>DC-DC Converter</b>	MIC24055	12A switching regulator
	MIC26603	6A switching regulator
	MIC5167	6A VTT switching regulator
	MIC22705	7A switching regulator
	MIC69303	3A LDO

### For More Information

Visit [microchip.com/PIC64HX](http://microchip.com/PIC64HX) or contact your local Microchip sales representative

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- High-performance standard and specialized microcontrollers, Digital Signal Controllers (DSCs) and microprocessors
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- Clock and timing solutions
- Wireless and wired connectivity solutions
- FPGA solutions
- Nonvolatile EEPROM and Flash memory solutions
- Flash IP solutions