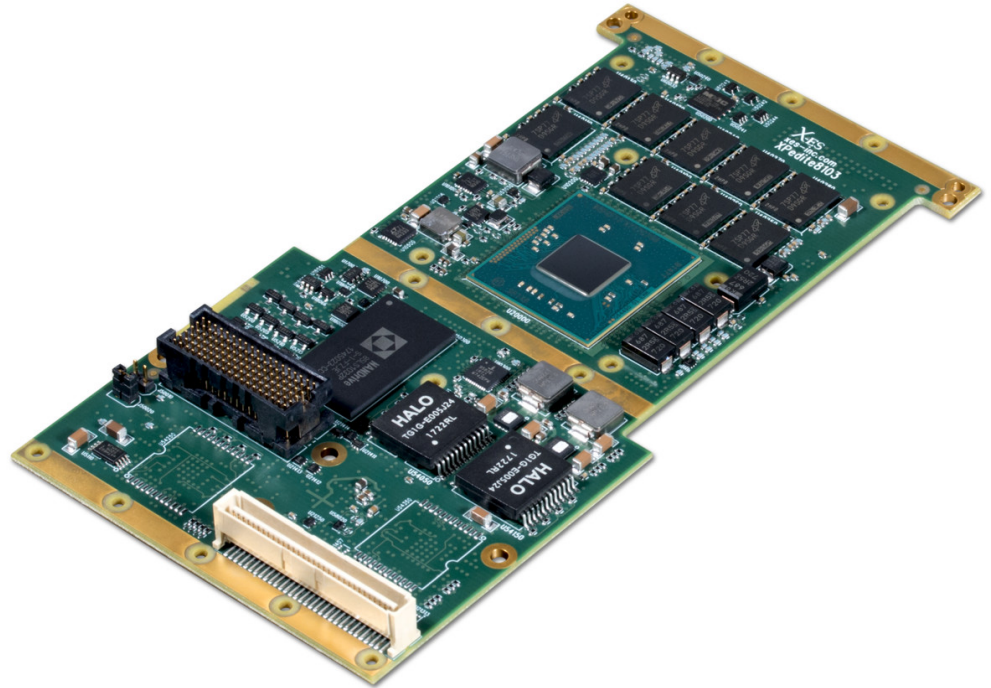


XPedite8103

Intel® Atom™ E3800 Series Processor-Based Conduction- or Air-Cooled XMC Module

- ▶ Intel® Atom™ E3800 family processors (formerly Bay Trail-I)
- ▶ XMC (VITA 42) module
- ▶ Conduction or air cooling
- ▶ Up to 8 GB of DDR3L-1333 ECC SDRAM
- ▶ Up to 32 GB of SLC NAND flash
- ▶ One x1 PCI Express Gen2-capable P15 XMC interface (optional)
- ▶ Up to four 10/100/1000BASE-T Gigabit Ethernet ports
- ▶ One USB 2.0 high-speed port (optional)
- ▶ Two RS-232/422/485 serial ports
- ▶ Intel® Platform Trust Technology (PTT) providing optional Trusted Platform Module (TPM) support
- ▶ coreboot bootloader, powered by Intel®'s Firmware Support Package (FSP)
- ▶ Wind River VxWorks BSP
- ▶ Linux BSP
- ▶ Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, Microsoft Windows, and LynuxWorks LynxOS BSPs



XPedite8103

The XPedite8103 is an Intel® Atom™ E3800-based XMC available in conduction- and air-cooled configurations. The Atom™ E3800 processors provide excellent computational performance and I/O functionality for their power profile and size. They are low-power system-on-chip (SoC) processors with integrated graphics and support for up to four cores operating at up to 1.91 GHz. Along with best-in-class performance-per-watt, the E3800 family supports extremely low operating temperatures, and its power-efficient 22 nm technology enables operation in the most demanding high-temperature environments.

The XPedite8103 supports up to 8 GB of DDR3 ECC SDRAM and up to 32 GB of SLC NAND flash. It supports up to four Gigabit Ethernet ports, two RS-232/422/485 serial ports, and one optional USB 2.0 port through the P14 connector.

The XPedite8103 supports the E3845 processor in standard configurations and can be built to support the E3827, E3826, E3825, E3815, and E3805. The E3800 series is the 4th generation Atom™ processor from Intel® and was formerly known as the Bay Trail-I platform and Valleyview processor.

Wind River VxWorks and Linux Board Support Packages are available for the XPedite8103. It also supports the open source coreboot bootloader, powered by Intel®'s Firmware Support Package (FSP), to enable ultra-fast boot times and drastically simplify system security.

X-ES

Extreme Engineering Solutions

...Always Fast

Extreme Engineering Solutions

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Processor

- Intel® Atom™ E3800 family processors (formerly Bay Trail-I)
- Standard configuration is E3845
- Up to four cores at up to 1.91 GHz

Memory

- Up to 8 GB of DDR3L-1333 ECC SDRAM

P14 PMC Interface

- One USB 2.0 port (optional)
- Two RS-232/422/485 serial ports
- Up to four 10/100/1000BASE-T Gigabit Ethernet ports
- Four 5 V GPI signals (optional)

P15 XMC Interface

- One x1 PCI Express Gen2-capable link per VITA 42.3 (optional)

Additional Features

- Non-volatile memory write protection
- IEEE 1588 support
- Intel® Platform Trust Technology (PTT) providing optional Trusted Platform Module (TPM) support

Software Support

- coreboot bootloader, powered by Intel®'s FSP
- Wind River VxWorks BSP
- Linux BSP
- Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, Microsoft Windows, and LynuxWorks LynxOS BSPs

Physical Characteristics

- XMC form factor
- Dimensions: 149 mm x 74 mm, 10 mm stacking height

Environmental Requirements

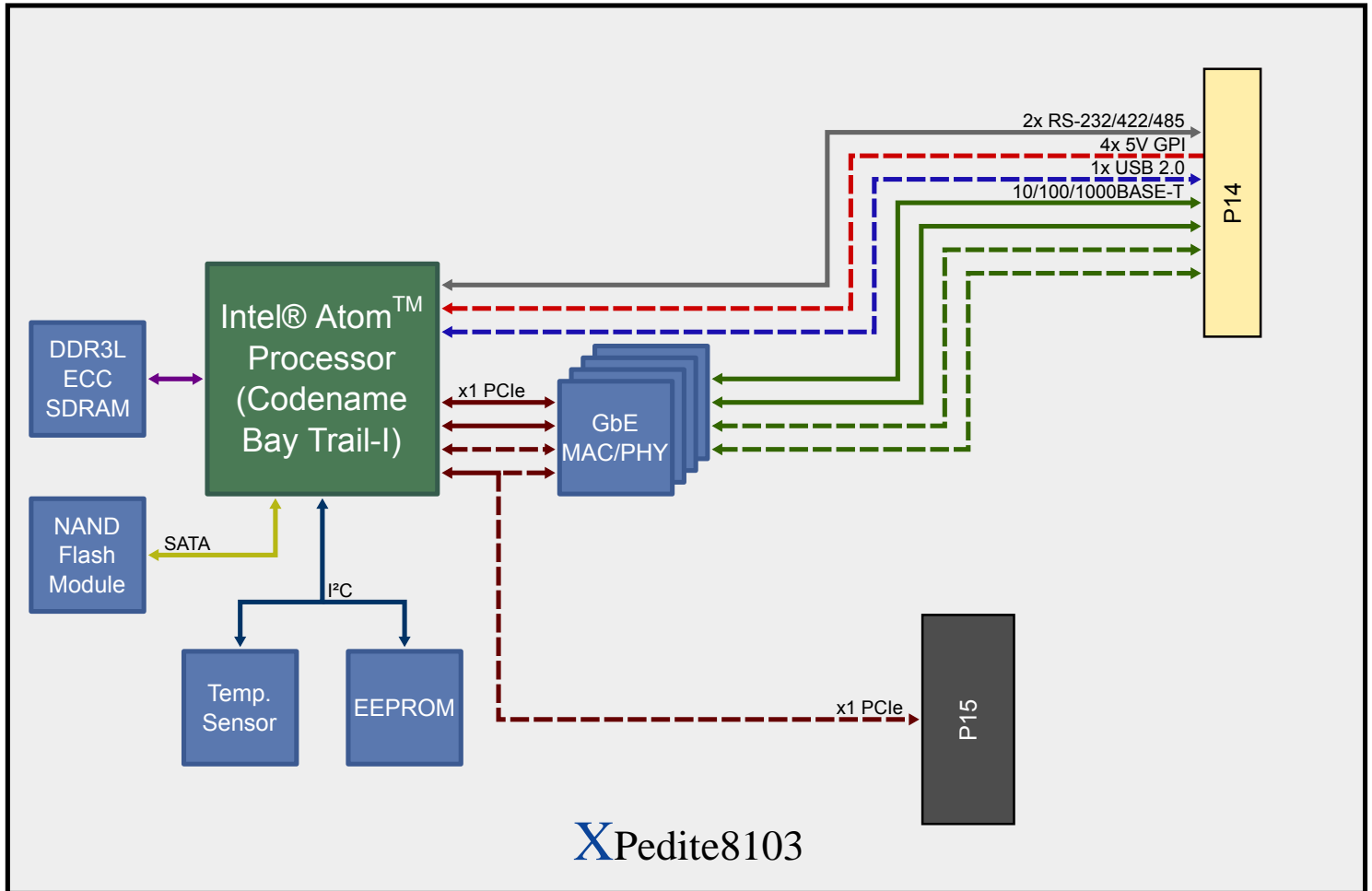
Contact factory for appropriate board configuration based on environmental requirements.

- Supported ruggedization levels (see chart below): 3, 5
- Conformal coating available as an ordering option
- Thermal performance will vary based on CPU frequency and application

Power Requirements

- Power will vary based on configuration and usage. Please consult factory.

Ruggedization Level	Level 1	Level 3	Level 5
Cooling Method	Standard Air-Cooled	Rugged Air-Cooled	Conduction-Cooled
Operating Temperature	0 to +55°C ambient (300 LFM)	-40 to +70°C (600 LFM)	-40 to +85°C (board rail surface)
Storage Temperature	-40 to +85°C ambient	-55 to +105°C ambient	-55 to +105°C (maximum)
Vibration	0.002 g ² /Hz (maximum), 5 to 2000 Hz	0.04 g ² /Hz (maximum), 5 to 2000 Hz	0.1 g ² /Hz (maximum), 5 to 2000 Hz
Shock	20 g, 11 ms sawtooth	30 g, 11 ms sawtooth	40 g, 11 ms sawtooth
Humidity	0% to 95% non-condensing	0% to 95% non-condensing	0% to 95% non-condensing



* Dashed lines indicate configuration-specific functionality. Please contact X-ES Sales to determine the appropriate configuration to support desired functionality.