XCalibur4702

Intel® Xeon® D-1700 Processor-Based Air-Cooled 6U CompactPCI Module with 48 GB of DDR4 and SecureCOTS™

- Supports Intel® Xeon® D-1700 series (formerly Ice Lake-D) processors

- Up to 10 Xeon®-class cores in a single, power-efficient SoC package

- SKUs available with native extended temperature support

- Designed with SecureCOTS™ technology to support enhanced security and trusted computing

- Microsemi® PolarFire™ FPGA with 128 MB SPI flash

- 6U CompactPCI module

- Complies with PICMG 2.0, 2.3, 2.9, 2.16

- Air cooling

- 48 GB of DDR4 ECC SDRAM in three channels

- 32 GB of SLC NAND flash

- One XMC/PMC site with x8 PCIe Gen3 interface and rear I/O support

- Seven 10/100/1000BASE-T Ethernet ports

- Three USB 2.0 ports

- Two RS-232/422/485 serial ports

- Wind River VxWorks BSP

- X-ES Enterprise Linux (XEL) BSP

- Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynuxWorks LynxOS BSPs, as well as Microsoft Windows drivers

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The XCalibur4702 is a high-performance 6U CompactPCI single board computer based on the Intel® Xeon® D-1700 series (formerly Ice Lake-D) of processors. Ideal for ruggedized systems requiring high-bandwidth processing and low power consumption, the XCalibur4702 delivers superior performance and efficiency for today's network information processing and high performance embedded computing applications.

The XCalibur4702 integrates SecureCOTS™ technology with a Microsemi® PolarFire™ FPGA for hosting custom functions to protect data from being modified or observed and provides an ideal solution when stringent security capabilities are required.

The XCalibur4702 provides up to 48 GB of DDR4 ECC SDRAM in three separate channels, one XMC/PrPMC slot, and up to 32 GB of SLC NAND flash. The XCalibur4702 also hosts numerous I/O ports, including 10/100/1000BASE-T Ethernet, USB 2.0, and RS-232/422/485 serial ports through the backplane connectors.

The XCalibur4702 does not support PCI connectivity or functionality. Wind River VxWorks and X-ES Enterprise Linux (XEL) Board Support Packages (BSPs) are available.

X-ES
Extreme Engineering Solutions

"Fast, Flexible, Customer-Focused Embedded Solutions"

Extreme Engineering Solutions
9901 Silicon Prairie Parkway • Verona, WI 53593
Phone: 608.833.1155 • Fax: 608.827.6171
sales@xes-inc.com • https://www.xes-inc.com

Processor

- Intel® Xeon® D-1700 series (formerly Ice Lake-D) processors
- Up to 10 Xeon®-class cores in a single, power-efficient SoC package
- SKUs available with native extended temperature support

Memory

- 48 GB of DDR4 ECC SDRAM in three channels
- 32 GB of SLC NAND flash
- 64 MB NOR boot flash
- 64 kB EEPROM

Security and Management

- Microsemi® PolarFire™ FPGA with 128 MB SPI flash
- Designed with SecureCOTS™ technology to support enhanced security and trusted computing
- System voltage monitor, power-on/reset control, non-volatile write-protection control
- Trusted Platform Module (TPM)

cPCI

- PICMG 2.3 (PMC I/O to P3 and P5)
- PICMG 2.9 (dedicated IPMI controller)
- PICMG 2.16 (two 10/100/1000BASE-T Ethernet ports)

XMC (VITA 42.3)

- x8 PCI Express Gen3-capable

Front Panel I/O

- Five 10/100/1000BASE-T Ethernet ports
- One USB 2.0 port
- General-purpose LEDs
- Two SFP+ cages

Rear Panel I/O

- Two 10/100/1000BASE-T Ethernet ports
- Two USB 2.0 ports
- Two RS-232/422/485 serial ports
- 3.3 V GPIO signals
- PMC I/O

Additional Features

- Non-volatile memory write protection
- Optional Trusted Platform Module (TPM)
- IEEE 1588 support

Software Support

- UEFI firmware
- Wind River VxWorks BSP
- X-ES Enterprise Linux (XEL) BSP
- Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynxWorks LynxOS BSPs, as well as Microsoft Window drivers

Physical Characteristics

- 6U CompactPCI air-cooled form factor
- Dimensions: 233 mm x 160 mm

Environmental Requirements

Contact factory for appropriate board configuration based on environmental requirements.
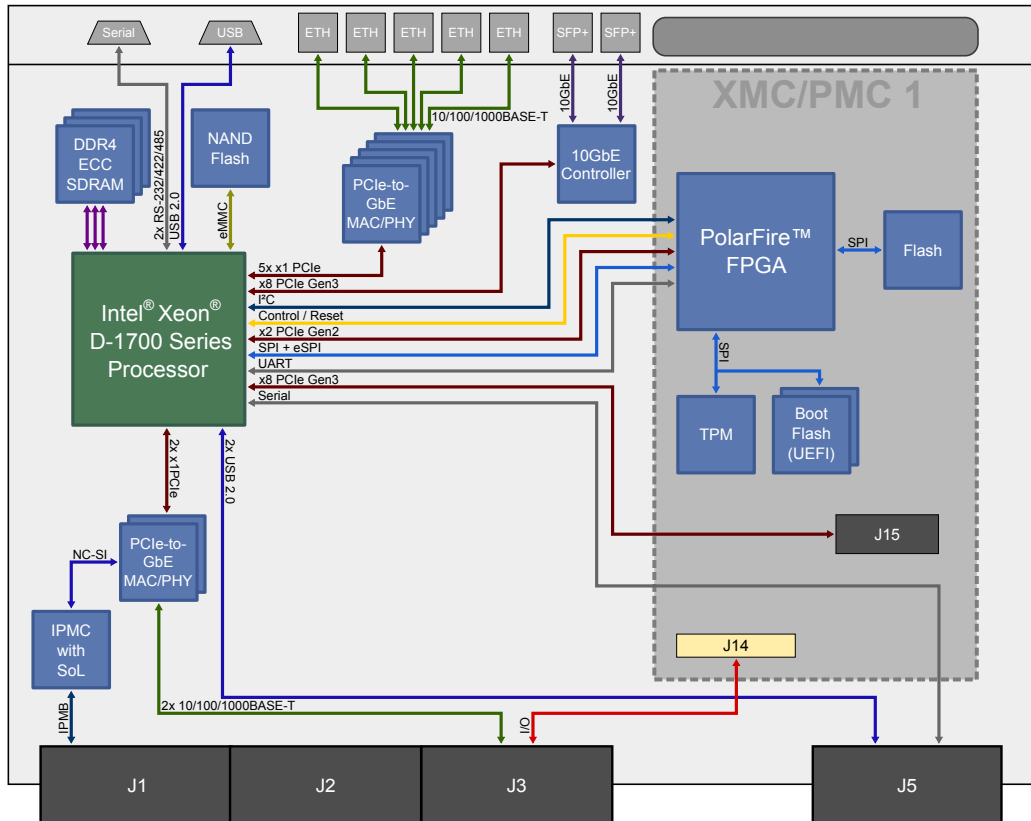
- Supported ruggedization levels (see chart below): 1
- Conformal coating available as an ordering option
- Thermal performance will vary based on CPU frequency and application

Power Requirements

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

Ruggedization Level	Level 1
Cooling Method	Standard Air-Cooled
Operating Temperature	0 to +55°C ambient [†]
Storage Temperature	-40 to +85°C ambient
Vibration	0.002 g²/Hz (maximum), 5 to 2000 Hz
Shock	20 g, 11 ms sawtooth
Humidity	Up to 95% non-condensing

[†] Contact factory for airflow rate details.

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