

XCalibur4730

Intel® Xeon® D-1700 Processor-Based 6U VME 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™ SoC FPGA with 256 MB SPI flash
- ▶ 6U VME module
- ▶ 48 GB of DDR4 ECC SDRAM in three channels
- ▶ 32 GB of SLC NAND flash
- ▶ Two XMC/PMC sites
- ▶ Three 10/100/1000BASE-T Ethernet ports
- ▶ Two USB 2.0 ports
- ▶ Two RS-232/422/485 serial ports
- ▶ Optional front-panel 10/100/1000BASE-T Ethernet ports and USB 2.0 ports available on some configurations
- ▶ Contact factory for SATA availability
- ▶ 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



XCalibur4730

The XCalibur4730 is a secure, high-performance, 6U VME, single board computer based on the Intel® Xeon® D-1700 series (formerly Ice Lake-D) of processors. The XCalibur4730 is an optimal choice for computationally heavy applications requiring maximum data protection.

The XCalibur4730 integrates SecureCOTS™ technology with a Microsemi® PolarFire™ System-on-Chip (SoC) FPGA for hosting custom functions to protect data from being modified or observed and provides an ideal solution when stringent security capabilities are required.

In addition to providing three 10/100/1000BASE-T Ethernet ports, the XCalibur4730 accommodates up to 48 GB of DDR4 ECC SDRAM in three channels and up to 32 GB of onboard SLC NAND flash. The XCalibur4730 provides additional expansion capabilities by including two integrated XMC/PMC sites. These sites each include a x8 PCI Express connection to the Intel® Xeon® D processor. Each mezzanine site offers a single PMC connector, providing an I/O connection to the VME backplane connectors in addition to the USB and RS-232/422/485 ports.

An optional front panel is available on some configurations, with two 10/100/1000BASE-T Ethernet ports, one USB 2.0 port, and an additional USB 2.0 port for USB-to-UART provided.

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

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Processor

- Intel® Xeon® D-1700 series (formerly Ice Lake-D) processor
- 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™ SoC FPGA with 256 MB SPI flash
- Designed with SecureCOTSTM technology to support enhanced security and trusted computing
- System voltage monitor, power-on/reset control, non-volatile write-protection control
- Trusted Platform Module (TPM)

VME

- VME64 (VITA 1-1994 R2002)
- VME64x (VITA 1.1-1997 R2003)
- 2eSST (VITA 1.5-2003)
- Ethernet on VME64x (VITA 31.1-2003)
- PMC I/O on VME (VITA 35-2000)

XMC

- x8 PCI Express Gen3-capable interface to J15 and J25

Front Panel I/O (Optional)

- Two 10/100/1000BASE-T Ethernet ports
- One USB 2.0 port
- One USB 2.0 port for USB-to-UART
- General-purpose LEDs

Rear Panel I/O

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

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 LynuxWorks LynxOS BSPs, as well as Microsoft Windows drivers

Physical Characteristics

- Contact factory for details

Environmental Requirements

Contact factory for appropriate board configuration based on environmental requirements

- Supported ruggedization levels (see chart below): 1, 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 5
Cooling Method	Standard Air-Cooled	Conduction-Cooled
Operating Temperature	0 to +55°C ambient †	-40 to +85°C (board rail surface)
Storage Temperature	-40 to +85°C ambient	-55 to +105°C (maximum)
Vibration	0.002 g ² /Hz (maximum), 5 to 2000 Hz	0.1 g ² /Hz (maximum), 5 to 2000 Hz
Shock	20 g, 11 ms sawtooth	40 g, 11 ms sawtooth
Humidity	Up to 95% non-condensing	Up to 95% non-condensing

† Contact factory for airflow rate details.

