

XCalibur4531

5th Generation Intel® Core™ i7 Broadwell-H Processor-Based Conduction- or Air-Cooled 6U VME Module

- › Supports 5th generation Intel® Core™ i7 (Broadwell-H) processors (available Q4 2015)
- › Supports 4th generation Intel® Core™ i7 (Haswell) processors
- › 6U VME module
- › Conduction or air cooling
- › Up to 16 GB of DDR3L-1600 ECC SDRAM in two channels
- › Up to 64 GB of NAND flash
- › Four Gigabit Ethernet ports
- › Two XMC/PMC interfaces
- › Two HDMI/DVI-D or Dual-Mode DisplayPort interfaces
- › Three USB 2.0 ports
- › One SATA port
- › Two RS-232/422/485 serial ports
- › Intel® vPro™/AMT support
- › Wind River VxWorks BSP
- › Linux BSP
- › Microsoft Windows drivers
- › Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynuxWorks BSPs



XCalibur4531

The XCalibur4531 is a high-performance 6U VME single board computer that is ideal for ruggedized systems requiring high-bandwidth processing and low power consumption. With the 5th generation Intel® Core™ i7 Broadwell-H processor, the XCalibur4531 delivers enhanced performance and efficiency for today's network information processing and embedded computing applications. The XCalibur4531 leverages Intel® Iris™ Pro graphics for graphics-intensive tasks and serves as a general purpose GPU for demanding data processing applications.

The XCalibur4531 provides up to 16 GB DDR3L-1600 ECC SDRAM in two separate channels, two XMC/PrPMC slots, and up to 64 GB of NAND flash. The XCalibur4531 also hosts numerous I/O ports, including Gigabit Ethernet, USB, SATA, graphics, mezzanine I/O, and RS-232/422/485 through the backplane connectors.

The XCalibur4531 is a powerful, feature-rich solution for the next generation of compute-intensive embedded applications. Wind River VxWorks and Linux Board Support Packages (BSPs) are available, as well as Microsoft Windows drivers.

X-ES

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...Always Fast

Extreme Engineering Solutions

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Processor

- 5th generation Intel® Core™ i7 (Broadwell-H)
- 4th generation Intel® Core™ i7 (Haswell)
- Integrated high-performance 3D graphics controller
- Up to Intel® Iris™ Pro Graphics 6200

Memory

- Up to 16 GB of DDR3L-1600 ECC SDRAM in two channels
- Up to 64 GB of NAND flash
- 64 MB NOR boot flash
- 64 kB EEPROM

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/PrPMC

- PCI-X (64/32-bit, 100/66 MHz)
- PCI (64/32-bit, 66/33 MHz)
- x8 PCI Express Gen3-capable port

Front Panel I/O (Optional)

- Dual-Mode DisplayPort interface
- One 10/100/1000BASE-T Ethernet port
- One USB 2.0 port
- General-purpose LEDs

Rear Panel I/O

- Three 10/100/1000BASE-T Ethernet ports
- One SATA port
- Two USB 2.0 ports
- HDMI/DVI-D or Dual-Mode DisplayPort interface
- Two RS-232/422/485 serial ports
- PMC I/O

Additional Features

- Non-volatile memory write protection
- Optional Trusted Platform Module (TPM)
- Optional VITA 38-2003 IPMI Controller (IPMC)
- IEEE 1588 support on three Gigabit Ethernet ports
- Intel® Active Management Technology (AMT) supported by Intel® vPro™ Technology

Physical Characteristics

- 6U VME conduction- or air-cooled form factor
- Dimensions: 233 mm x 160 mm

Software Support

- Wind River VxWorks BSP
- Linux BSP
- Microsoft Windows drivers
- Contact factory for availability of Green Hills INTEGRITY, QNX Neutrino, and LynuxWorks LynxOS BSPs

Environmental Requirements

- Contact factory for appropriate board configuration based on environmental requirements.
- Supported ruggedization levels (see chart below): 1, 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 ambient
Vibration	0.002 g ² /Hz, 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

