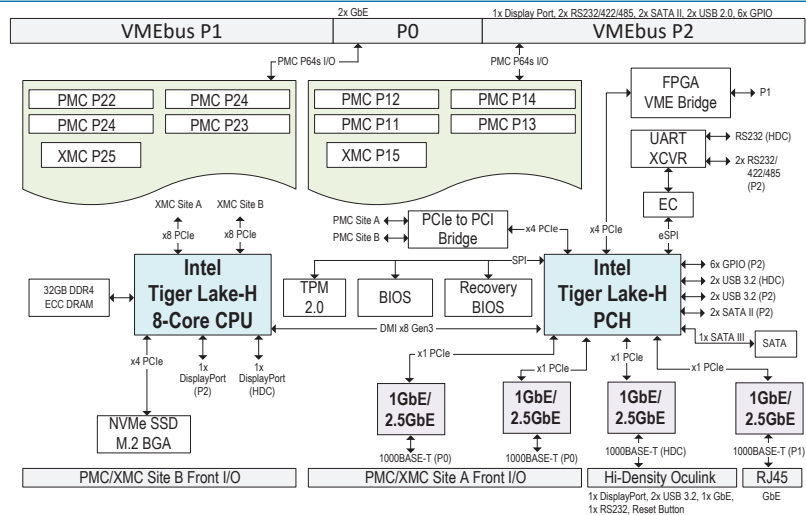


Single Board Computers

XVME-6800 6U VME Intel® Xeon™ W Air-Cooled Processor Boards



Intel® Tiger Lake-H Xeon W 8-core CPU ♦ Dual PMC/XMC sites ♦ Dual front-panel GbE ports

Description

This single board computer updates your legacy systems with the latest Intel processor that will deliver significant performance advancements and a long lifecycle. An FPGA-based VME to PCIe-bridge future-proofs the bus interface.

Cutting-edge technology features programmable power limits allowing the user to "dial-down" the maximum power consumption of the CPU in heat sensitive applications.

A wide variety of peripheral I/O are made available through the backplane and on the front panel. An RJ45 port and Oculink 8i connector provide convenient front panel access to various I/O. The quad gigabit Ethernet controller provides dual GbE ports on both the front panel and the backplane. Other interfaces provide USB, serial, video, audio, and storage devices.

Two mezzanine sites host PMC or XMC modules for additional signal processing capabilities. Both mezzanine sites provide front panel I/O access. PMC sites route 64 I/O signals to the backplane.

Board support packages (BSPs) are available for Windows, Linux, and VxWorks operating systems. These packages include utilities and example code to simplify full utilization of the hardware features on the board.

Intel 11th Generation Xeon W CPU

The Tiger Lake H platform posts significant performance gains over the previous generation. Achieve performance gains of up to 32%

in single-thread and 65% in multi-thread computing, plus up to 70% faster graphics. More PCIe 4.0 lanes on the CPU and programmable high speed I/O lanes on the PCH support extensive high-speed storage, accelerators, discrete graphics, cameras, and Ethernet controllers. Intel's UHD Graphics with up to 32 EUs can support 4x4K or 1x8K displays.

Support for hypervisors and Real Time Systems is integrated. Time Coordinated Computing (Intel® TCC) and Time Sensitive Networking (TSN) provide real-time computing support. AI and Deep Learning Boost (Intel® DL Boost) add further performance enhancements.

Acromag Experience

Acromag has developed VMEbus solutions since the mid-1980s. These solutions have been deployed around the world in defense, aerospace, laboratory, transportation, and advanced manufacturing applications. Our products are designed and manufactured in the USA for the highest quality, security, and reliability.

- Defense (air, ground, sea)
- Aerospace and aviation
- Scientific research laboratories
- Semiconductor production
- Industrial manufacturing
- Transportation

Key Features & Benefits

- 11th Generation Intel Tiger Lake-H CPU:
 - 8-core/16 threads Xeon W CPU (45W)
- Programmable CPU power for heat sensitive applications
- Intel Tiger Lake-H PCH chipset
- FPGA-based VME to PCIe bridge
- 32GB of high-speed DDR4 ECC DRAM
- NVMe 256GB SSD M.2 BGA
- Front panel High-Density I/O connector:
 - 2x USB 3.0 ports
 - DisplayPort
 - RS-232 port
 - 2.5G/1G BASE-T Ethernet port
- Front panel RJ45 connector:
 - 2.5G/1G BASE-T Ethernet port
- Backplane I/O includes:
 - 2x 2.5G/1G BASE-T Ethernet Ports
 - 2x SATA II ports
 - 2x USB 2.0 ports
 - 1x DisplayPort
 - RS-232/422/485
 - 6x GPIO
- Power-on self-test (POST) code LCD display
- OS support for Windows, Linux and VxWorks



Tel 844-878-2352 ■ solutions@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA

Single Board Computers

XVME-6800 6U VME Intel® Xeon™ W Air-Cooled Processor Boards

Performance Specifications

■ Processor and Memory

CPU

Intel® Xeon® W-11865MRE
(11th generation, codename Tiger Lake-H).
2.6GHz @TDP (4.7GHz Max Turbo Freq), 8 cores,
16 threads, 24Mb cache.

TDP/cTDP Down

45W/35W.

Platform Controller Hub

Intel 500-Series RM590 chipset.

Memory

32GB of DDR4 ECC DRAM.

Flash Memory

64GB NVMe SSD M.2 BGA.

Software Support

VxWorks, Linux and Windows.

■ Bus Compliance

Form Factor

6U VMEbus 9.2" (233mm) x 6.3" (160mm).

VMEbus Interface

P1 and P2 connectors are compatible with VME64x.

VME Client/Server using FPGA-based VME to PCIe bridge.

A32/A24/A16/D32/D16/D8, MBLT64, 2eVME/2eSST.

Dual PMC/XMC Sites

32/64-bit, 33/66/133MHz sites (IEEE P1386/P1386.1).

Front panel I/O bezel and Pn4 module user I/O on optional P0 rear connector and P2 connector.

XMCs are PCIe Gen4 x8

■ System Integrity

A two-digit LED display is available for power-on self test (POST) codes for problems during the boot operation. It can then be used for application software user codes to aid in software debugging.

■ Environmental

Operating Temperature

Standard temperature models: 0 to 70°C*.

Extended temperature models: -40 to 75°C*.

* w/ 300 lfm airflow; depends on application.

See user manual for details.

Storage Temperature

-55 to 85°C.

Relative Humidity

5% to 95% at 60°C non-condensing.

Power Inputs from Backplane

5V (5V only backplane): 90W max., 55W typical.

5V (5V +3.3V backplane): 85W max., 50W typical.

3.3V (optional): 5W.

+/-12V: Used only for PMC/XMC.

Shock

Meets VITA 47 Class OS1.

Vibration

Meets VITA 47 Class V1.

Ordering Information

■ Single Board Computers

[Go to on-line ordering page >](#)

XVME-6800-42-01-20

XVME-6800-42-01-20-HS

6U VME SBC, Xeon W-11856MRE CPU, VITA 42
XMC slot, no P0, 32GB DDR4, 256GB SSD,
standard temperature
-HS adds HumiSeal 1B31 conformal coating

XVME-6800-42-11-20

XVME-6800-42-11-20-HS

6U VME SBC, Xeon W-11856MRE CPU, VITA 42
XMC slot, with P0, 32GB DDR4, 256GB SSD,
standard temperature
-HS adds HumiSeal 1B31 conformal coating

XVME-6800-42-01-30

XVME-6800-42-01-30-HS

6U VME SBC, Xeon W-11856MRE CPU, VITA 42
XMC slot, no P0, 32GB DDR4, 256GB SSD,
extended temperature
-HS adds HumiSeal 1B31 conformal coating

XVME-6800-42-11-30

XVME-6800-42-11-30-HS

6U VME SBC, Xeon W-11856MRE CPU, VITA 42
XMC slot, with P0, 32GB DDR4, 256GB SSD,
extended temperature
-HS adds HumiSeal 1B31 conformal coating

■ Accessories

XVME-6800-FTM

Front connector signal transition module
(Includes OCuLink cable)

XVME-6800-RTM-0

Rear transition module, no P0

XVME-6800-RTM-1

Rear transition module, with P0

■ Software Development Tools

XVME-6800-BSP-LNX

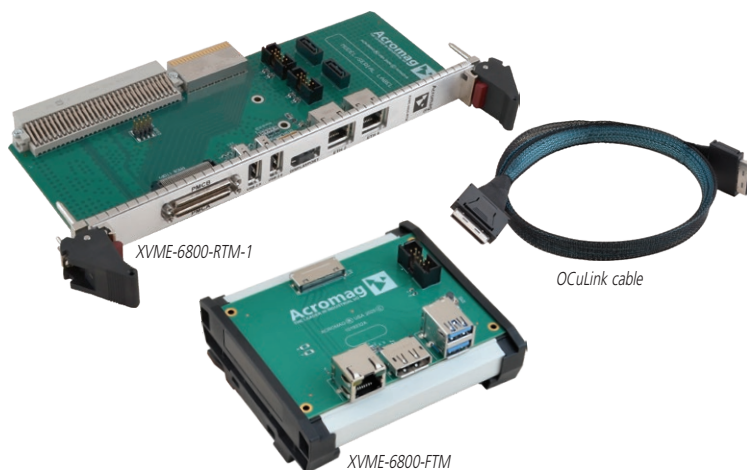
Linux board support package

XVME-6800-BSP-VXW

VxWorks board support package

XVME-6800-BSP-WIN

Windows board support package



ISO9001
AS9100 
MADE IN USA

Tel 844-878-2352 ■ solutions@acromag.com ■ www.acromag.com ■ 30765 Wixom Rd, Wixom, MI 48393 USA