

Single Board Computers

XVME-6410 6U VME Intel® Core™ i7/i5 Air Cooled Processor Board



POWER MANAGEMENT



4th Generation Intel® i7 or i5 CPU

◆ Up to 16GB DDR3L ECC RAM

◆ Dual PMC/XMC Sites

Description

The XVME-6410 is a high performance 6U VME single board computer based on the 4th Generation Intel® Core™ i7 or i5 processor and utilizes the Intel 8-Series PCH chipset for extensive I/O support.

Intel 4th Generation

Whether you're looking for a tech refresh to update your legacy systems or starting a new application, Intel processors deliver significant performance advancements such as: enhanced microarchitecture, integrated graphics, and expanded memory performance with up to 16GB of high-bandwidth DDR3L memory and ECC memory controllers.

Cutting-edge technology features programmable power limits, allowing the user to "dial-down" the maximum power consumption of the CPU in systems where power is a concern.

The XVME-6410 also takes advantage of Intel Advanced Vector Extensions 2.0 for enhanced performance on floating point-intensive applications and Hyper-Threading Technology that enables each core to use two software threads for more efficient use of the CPU.

Expansion Capabilities

In addition to a comprehensive range of front panel and backplane I/O features, the XVME-6410 also offers increased expansion capabilities through two PMC/XMC sites available on the board.

In lieu of one PMC/XMC module, the optional XBRD-9060 expansion I/O carrier module may be installed. The XBRD-9060 allows for two SSD mSATA drives, as well as another Gigabit Ethernet port, RS-232 port, and two USB 2.0 ports.

The XVME-9640 rear transition module is also available for further storage, networking, and easy access to the P2 connector I/O.

Memory

Supports either one or two DDR3L ECC SODIMMs, for a total of up to 16GB removable memory. 8GB flash memory standard. The SODIMMs are firmly attached to the module with screws and surrounded by heat sink material to provide a mechanically and thermally robust mechanism.

System Integrity

Acromag Built-In Test (BIT) software provides exceptional test coverage through Power-On BIT (PBIT).

Operating System Software

The XVME-6410 is supported for use with Microsoft Windows® 7, Windows® 8, and Linux.

Extensive Support

With over 50 years experience, more than 35 of those years working with defense and military contracts, we are focused on providing embedded computing solutions for the best long term value in the industry.

Designed and manufactured in the USA, with a 2-year standard warranty.

Key Features & Benefits

- 4th Generation Intel Core:
 - Quad Core i7 CPU for high performance (47W) or
 - Dual Core i5 CPU for low power (25W)
- Programmable CPU power for heat sensitive applications
- Intel 8-Series QM87 PCH chipset
- Up to 16GB of high-speed DDR3L memory with SODIMM lock-down mechanism (permits user removal or upgrades)
- Front panel I/O includes:
 - dual USB 2.0 ports
 - VGA (switched w/ rear)
 - dual Gb Ethernet ports thru RJ Point 5 connector
 - RS-232 port
- Backplane I/O includes:
 - dual Gigabit Ethernet (on optional P0)
 - dual SATA ports & dual USB ports
 - DVI-D
 - RS-232/422/485
 - VGA (switched with front)
- XBRD-9060 expansion module adds:
 - dual USB 2.0 ports
 - Gigabit Ethernet port (switched with one of the rear ports)
 - RS-232 port
 - dual mSATA drives
- Power-On BIT (PBIT)

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Performance Specifications

Processor and Memory

Processor

Intel Core™ i7 or i5 processor.
(4th generation, codename Haswell). The CPU allows programming a lower power limit in the BIOS setup allowing use in applications where less power is available or heat removal is an issue.

i7-4700EQ: 2.4GHz, quad core, 6Mb cache, 47W.

i5-4402E: 1.6GHz, dual core, 3Mb cache, 25W.

Chipset

Intel 8-Series QM87 PCH chipset.

Intel DH82QM87 Platform Controller Hub.

Memory

Up to 8-16GB of 1600 DDR3L ECC memory.

Flash Memory

8GB standard with up to 32-GB available. Contact factory for more information.

Software Support

Microsoft Windows® 7, 8, and Linux

Bus Compliance

VMEbus Interface

- P1 and P2 connectors are compatible with VME64x
- VME Master/Slave using IDT/Tundra Tsi 148 device
- A32/A24/A16/D64/D32/D16/D8, MBLT64, 2eVME/2eSST
- VMEbus specification VME-2gSST, 64X, 320X

Dual PMC/XMC Sites

- 32/64-bit, 33/66/133MHz sites (IEEE P1386/P1386.1)
- Front panel I/O bezel and P4 module user I/O on optional P0 rear connector and P2 connector. (XMC module P16 connector I/O optionally available on P0 connector, please consult the factory).
- XMCs are PCIe x8
- Option to replace PMC/XMC #2 with the XBRD-9060

Form Factor

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

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 manual for details

Storage temperature

-40 to 85°C

Relative humidity

5% to 95% at 60°C non-condensing

Shock

50g peak-to-peak, 11ms duration,
MIL-STD-202G Method 213B.

Vibration

11.96 grms, 50-20,000 Hz, each axis,
MIL-STD-202G Method 214A.

Power Inputs from backplane:

Quad Core i7

5V (5V only backplane): 89W maximum, 53W typical

5V (5V +3.3V backplane): 86W maximum, 50W typical

3.3V (optional): 3W

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

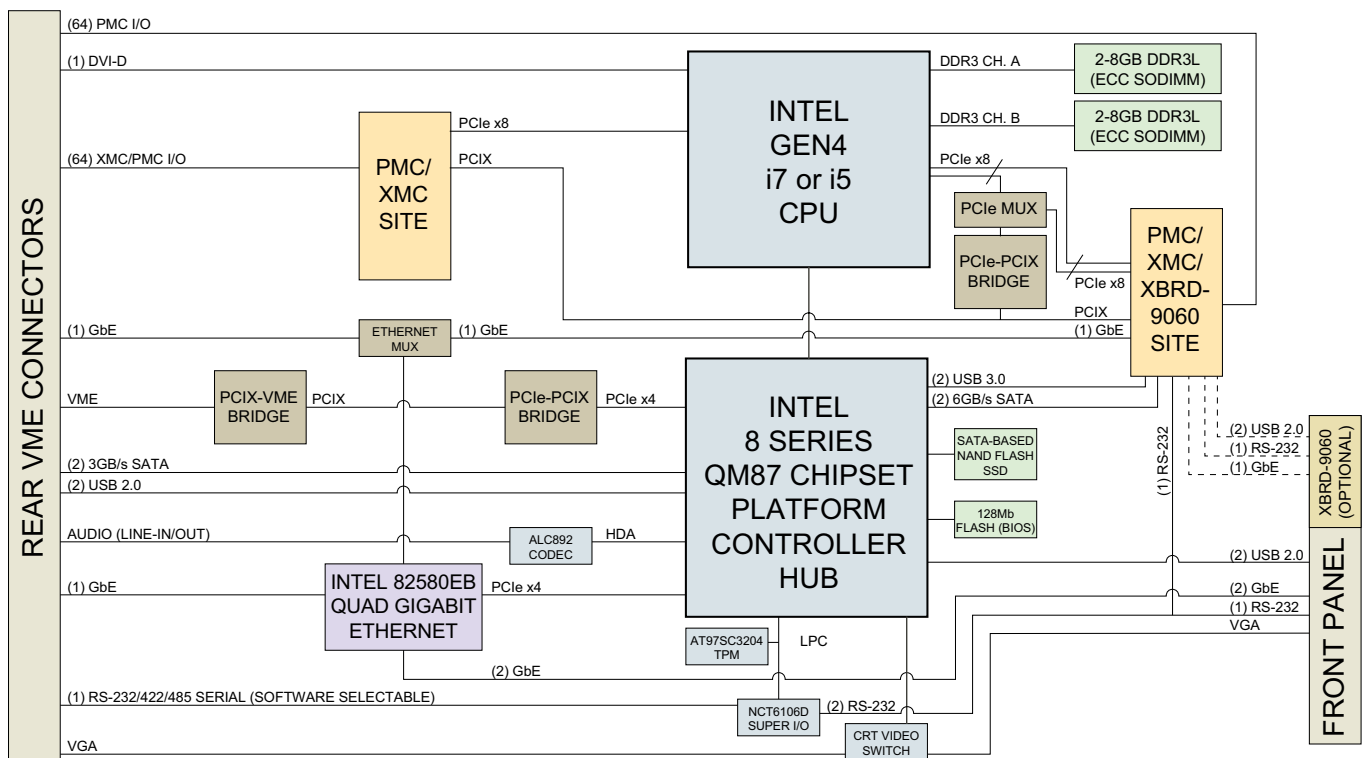
Dual Core i5

5V (5V only backplane): 61W maximum, 38W typical

5V (5V +3.3V backplane): 58W maximum, 35W typical

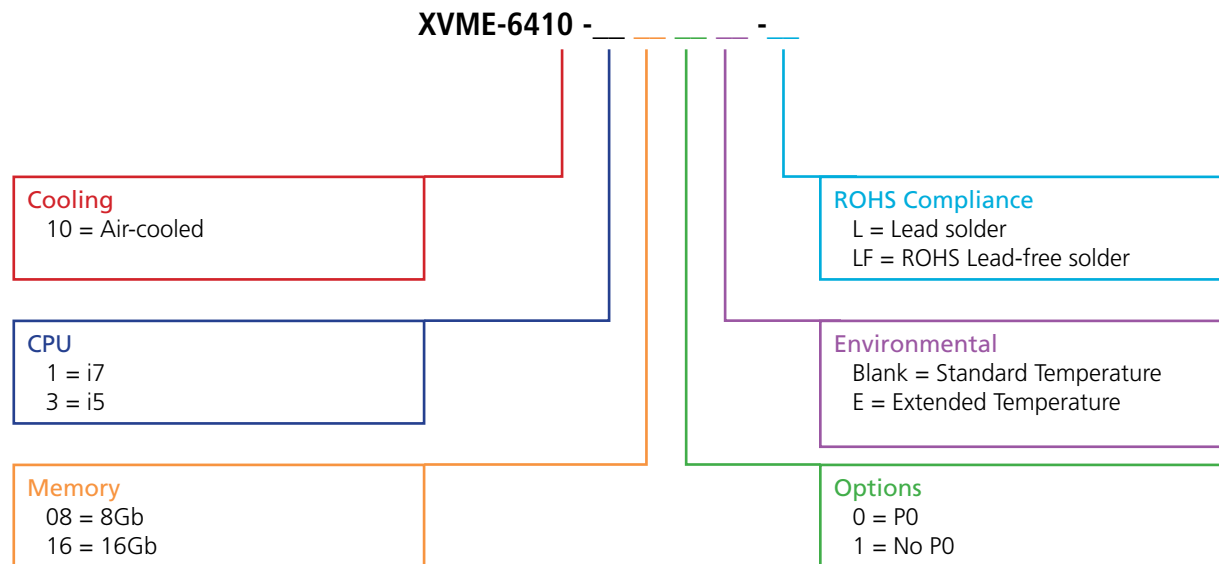
3.3V (optional): 3W

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



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Ordering Information

Build your model number from the diagram above.

Note: Please contact factory for lead solder options

Accessories

For more information, see www.acromag.com.

XBRD-9060-LF

Expansion I/O Carrier Module for XVME-4610

XVME-9640-1-LF

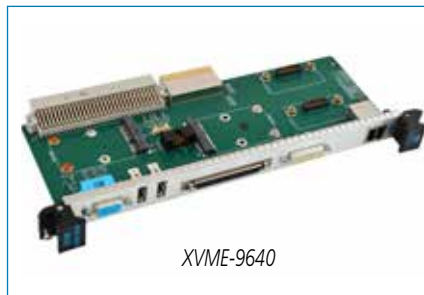
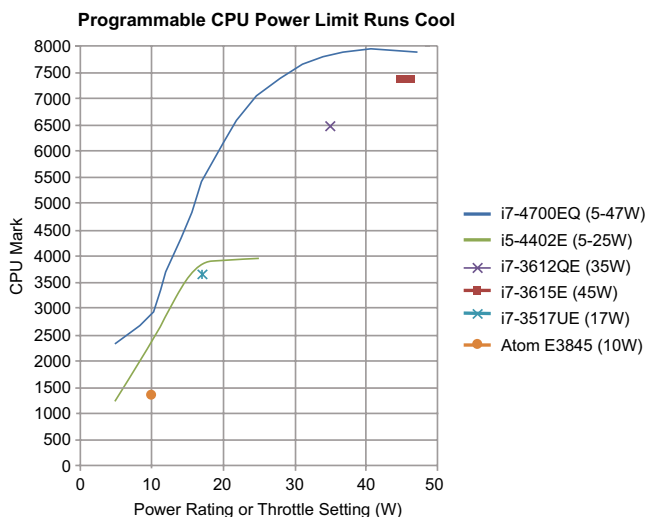
6U VMEbus Rear Transition Module with P0 connector

XVME-9640-2-LF

6U VMEbus Rear Transition Module without P0 connector

Software Development Tools

See www.acromag.com for more information



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