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Find the *Acromag / Xembedded / Xycom ACEX-4610-DLS* at our website: *Click HERE*

ACEX-46xx-DLS

COM Express Type 6 Development System

USER'S MANUAL

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IMPORTANT SAFETY CONSIDERATIONS

It is very important for the user to consider the possible adverse effects of power, wiring, component, sensor, or software failures in designing any type of control or monitoring system. This is especially important where economic property loss or human life is involved. It is important that the user employ satisfactory overall system design. It is agreed between the Buyer and Acromag, that this is the Buyer's responsibility.

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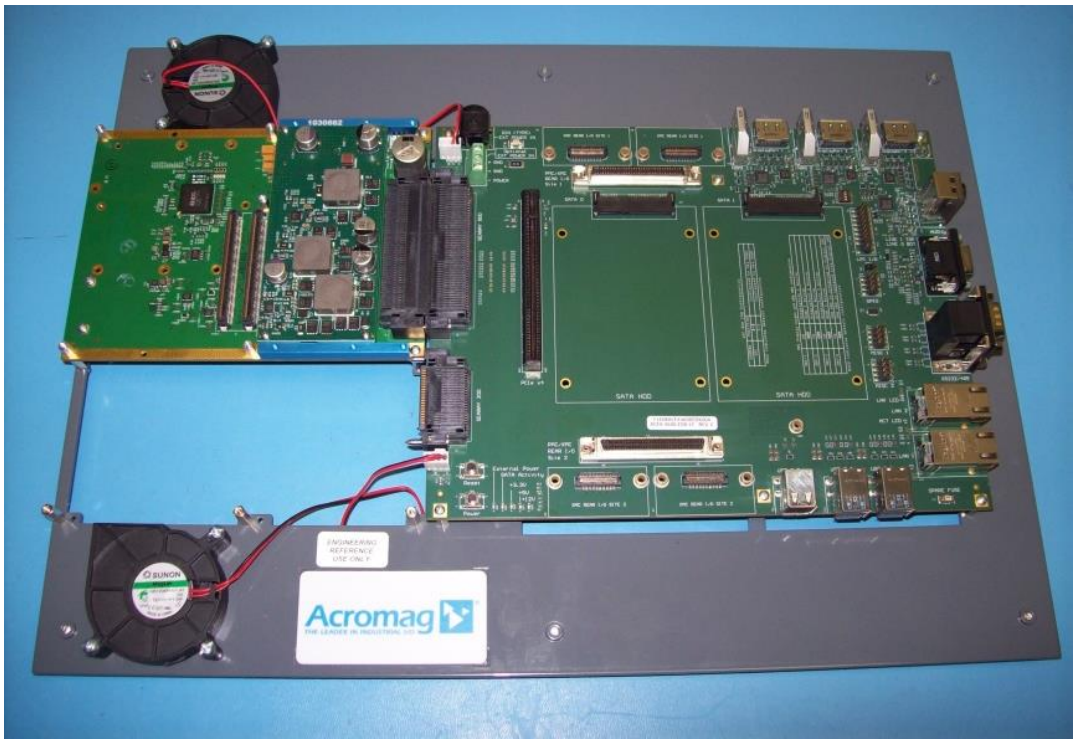
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General Information

The ACEX-46xx-DLS is a hardware mounting solution that includes an ACEX-4600-EDK (Engineering Development kit) board and a COM Express Carrier board mounted to a metal base plate with two fans to ensure proper air circulation. The ACEX-4620-DLS model includes the ACEX-4620 “double-wide” COM Express Carrier board where “double-wide” refers to the two available PMC/XMC sites. The ACEX-4610-DLS model includes the ACEX-4610 “single-wide” COM Express Carrier board with only one PMC/XMC site. With this hardware kit and the addition of a Type 6 COM Express CPU module, you will be able to build a complete lab bench workstation to begin your development.

What’s included?

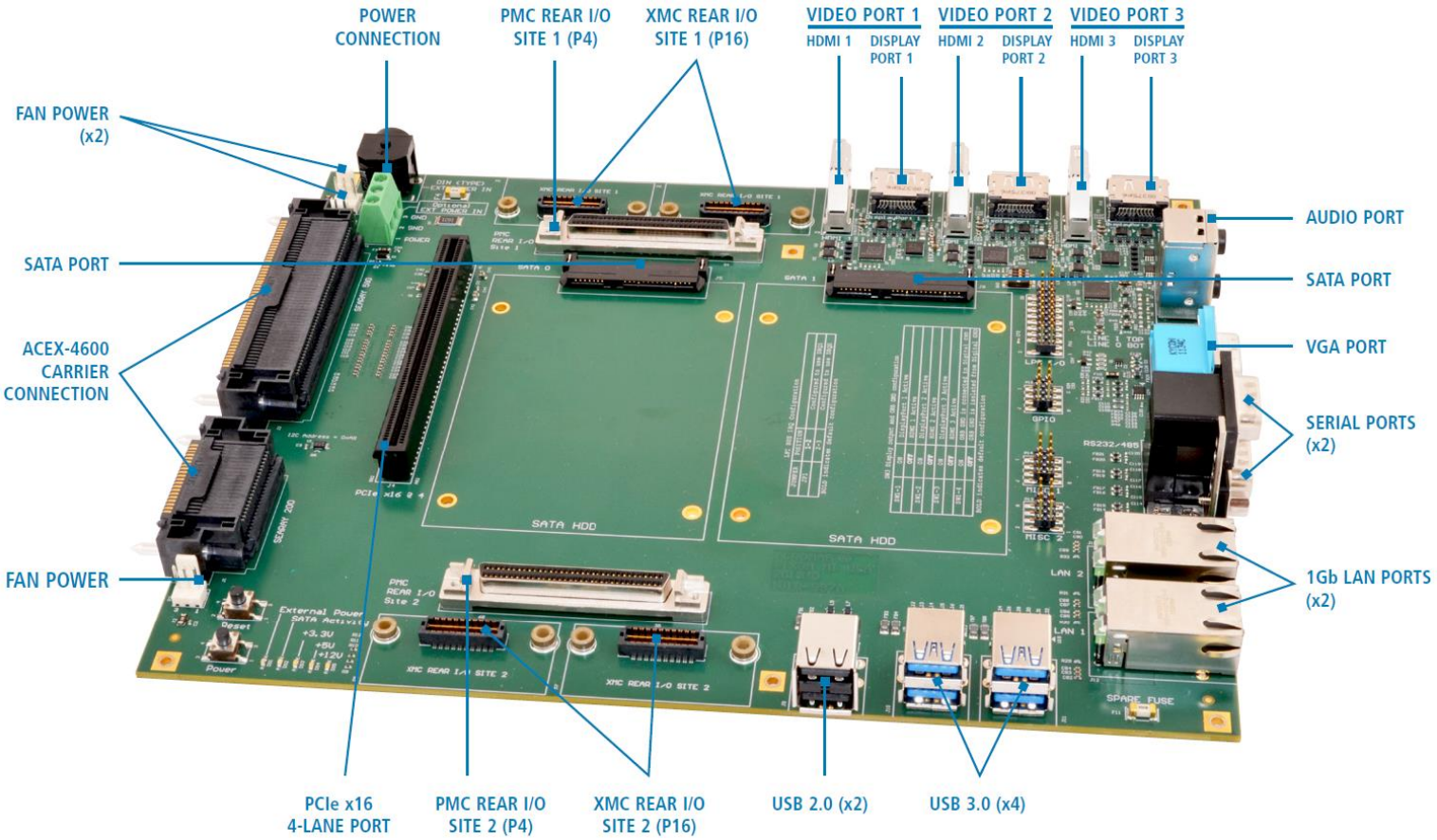
- ACEX-4600-EDK (I/O connector breakout board)
- ACEX-46xx COM Express Carrier Board
- Base mounting plate with cooling fans
- 160W Power Supply Brick



ACEX-4610-DLS (Power Supply not shown)

Key Features

- Provides access to peripherals of Type 6 COM Express CPU through standard connectors.
  - 3 HDMI ports
  - 3 DisplayPort connectors (multiplexed with HDMI)
  - 1 VGA connector
  - Audio (One Line in and One Line out)
  - 2 RS-232/485 Serial Communication ports
  - 1 Gigabit Ethernet LAN port from CPU
  - 1 Gigabit Ethernet LAN port from carrier
  - PCIe x4 connection through x16 connector
  - 4 USB 3.0 ports
  - 2 USB 2.0 ports. Note: Currently, these USB 2.0 ports only support a keyboard or mouse.
- Supports the use of two 2.5” SATA drives.
- Provides connections to Rear I/O signals from PMC/XMC expansion cards located on the ACEX-46xx carrier using standard high-speed connectors.
- Allows the system to be powered by a lab bench power supply or an external power adapter.



1.0 Ordering Information

ACEX-46XX-DLS	
XX = 20	Engineering Lab System which includes EDK board, Double-wide ACEX-4620 carrier board, power supply, and mounting plate with cooling fans.
XX = 10	Engineering Lab System which includes EDK board, Single-wide ACEX-4610 carrier board, power supply, and mounting plate with cooling fans.

Minimum Items required for a Development System (not included in the DLS kit)

- XCOM-6400 (Type 6 Com Express CPU)
- XHSA-6400 (Active Heat sink Assembly XCOM-6400 w/FAN)
- USB Keyboard
- USB Mouse
- Computer Monitor (VGA,HDMI or DisplayPort supported)
- 2.5 inch SATA Hard Disk drive (SSD recommended)

Depending on your application additional Items may also be required.

1.1 References

The following resources regarding COM Express modules, the XCOM-4600 EDK board, and the Haswell© family of Intel® core processors are available for download on Acromag's website or by contacting your sales representative.

- XCOM-6400 COM Express CPU Module User's Manual http://www.acromag.com
- APTIO™ Core BIOS Manual (for Acromag® Products featuring the Intel® 4th Generation "Haswell" Core Processor Family) http://www.acromag.com
- ACEX-4610/4620 COM Express Carrier Board User's Manual http://www.acromag.com
- ACEX-FP-0X COM Express Front Panel Board User's Manual http://www.acromag.com
- XCOM-4600-EDK Engineering Design Kit Board http://www.acromag.com
- Intel® document No. 328901, "Mobile 4th Generation Intel® Core™ Processor Family Datasheet – Volume 1 of 2", Rev: 002; September, 2013. http://intel.com/content/www/us/en/processors/core/CoreTechnicalResources.html
- COM Express Module Base Specification Rev. 2.1 http://www.picmg.org

2.0 Preparation for use

Unpacking and Inspecting



WARNING: This board utilizes static sensitive components and should only be handled at a static-safe workstation.

Upon receipt of this product, inspect the shipping carton for evidence of mishandling during transit. If the shipping carton is badly damaged or water stained, request that the carrier's agent be present when the carton is opened. If the carrier's agent is absent when the carton is opened and the contents of the carton are damaged, keep the carton and packing material for the agent's inspection.

For repairs to a product damaged in shipment, refer to the Acromag Service Policy to obtain return instructions. It is suggested that salvageable shipping cartons and packing material be saved for future use in the event the product must be shipped.

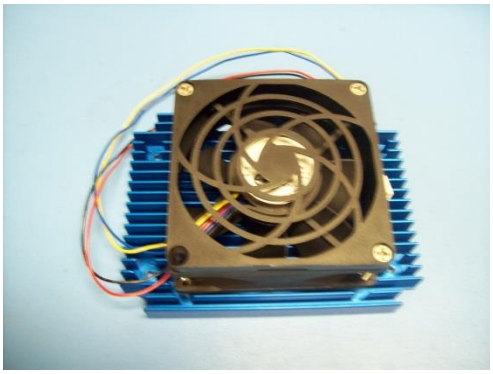
This board is physically protected with packing material and electrically protected with an anti-static bag during shipment. However, it is recommended that the board be visually inspected for evidence of mishandling prior to applying power.

3.0 ACEX-4620-DLS Setup (Double-wide Carrier)

Preparing the XCOM-6400 CPU module

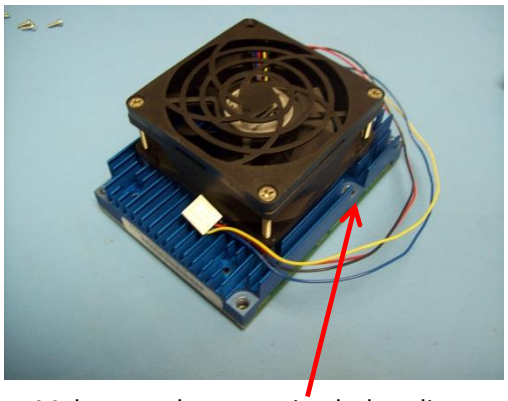


XCOM-6400 CPU



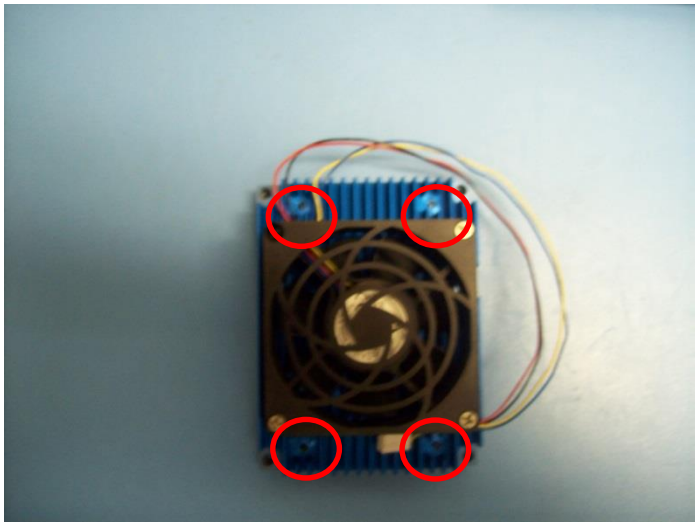
XHSA-6400 (Active Heat sink Assembly)

1. Place the XHSA-4600 heat sink on top of the XCOM-6400 CPU.



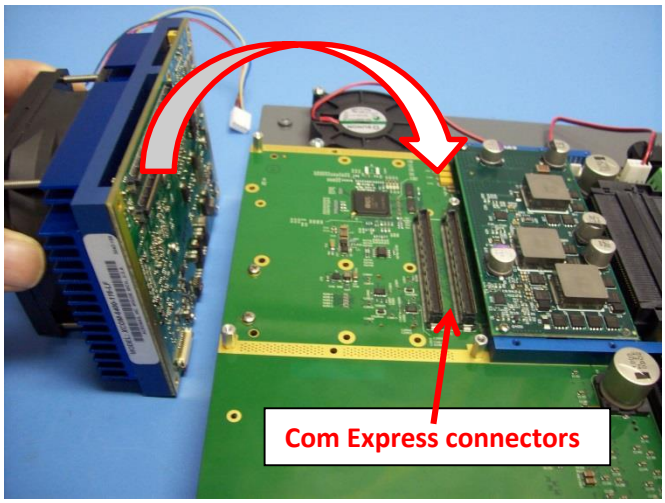
Make sure the mounting holes align.

2. Secure the XHSA 6400 heat sink to the XCOM-6400 CPU with 4 screws (M2.5 x 8mm) in the location shown

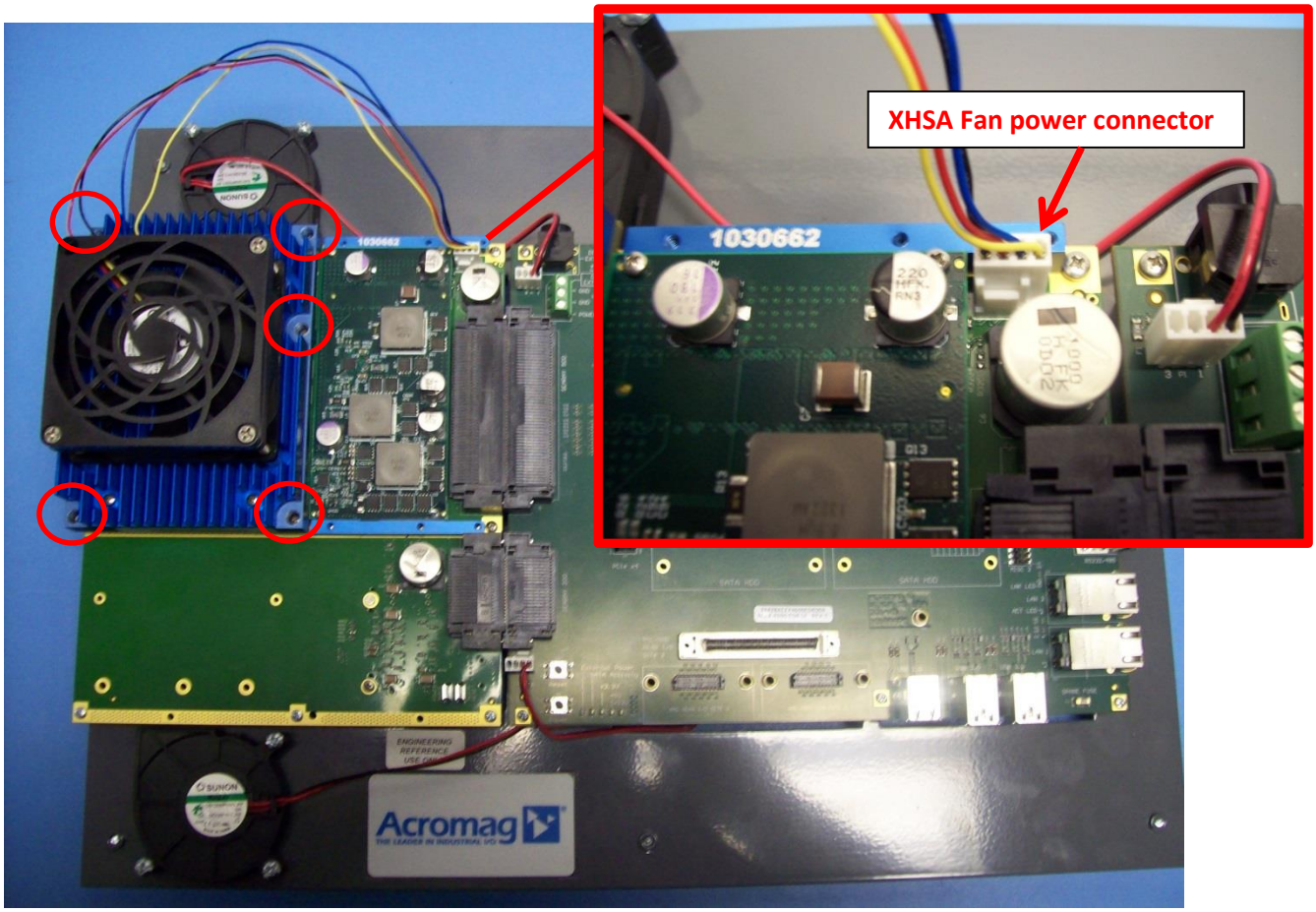


Installing the XCOM-6400 CPU module

1. Carefully align the COM Express connectors on the CPU and the Carrier



2. Secure the XCOM-6400 to the ACEX-4620 Carrier with 5 screws (M2.5 x 8mm) and plug in the XHSA-6400 fan power connector into the header on the Carrier.



ACEX-4620-DLS setup with ACEX-4620 carrier and CPU is complete



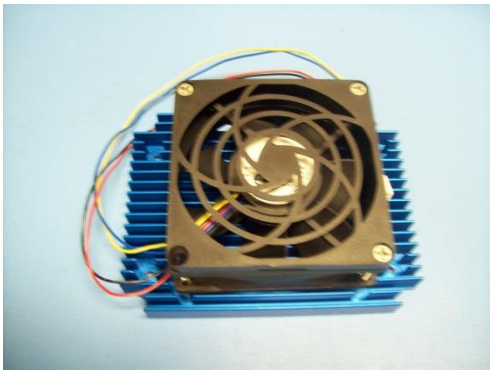
At this point your development system is ready to be configured by adding power supply, hard drive, USB keyboard, USB mouse, computer monitor and any other peripheral devices required by your application.

4.0 ACEX-4610-DLS Setup (Single-wide Carrier)

Preparing the XCOM-6400 CPU module

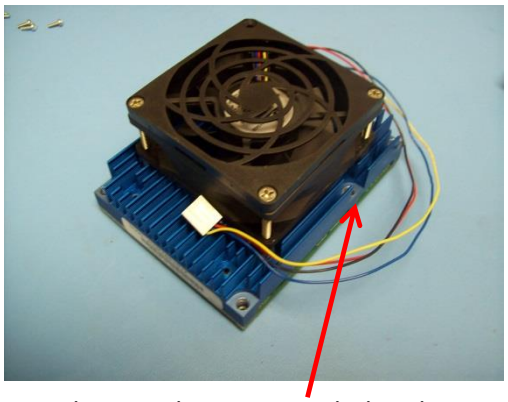


XCOM-6400 CPU



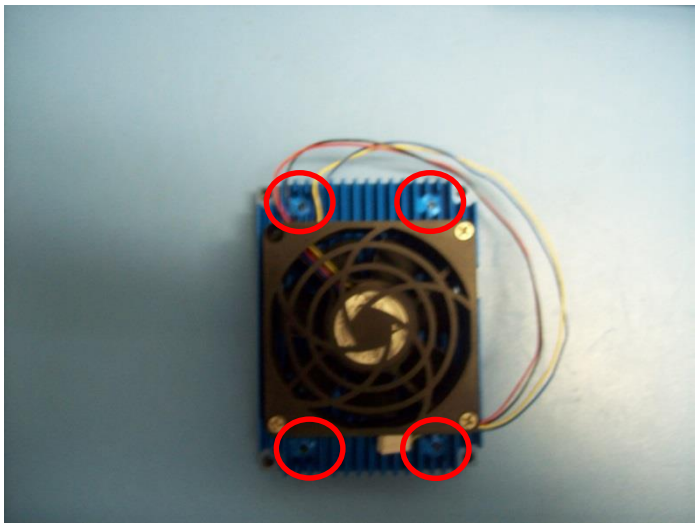
XHSA-6400 (Active Heat sink Assembly)

1. Place the XHSA-4600 heat sink on top of the XCOM-6400 CPU.



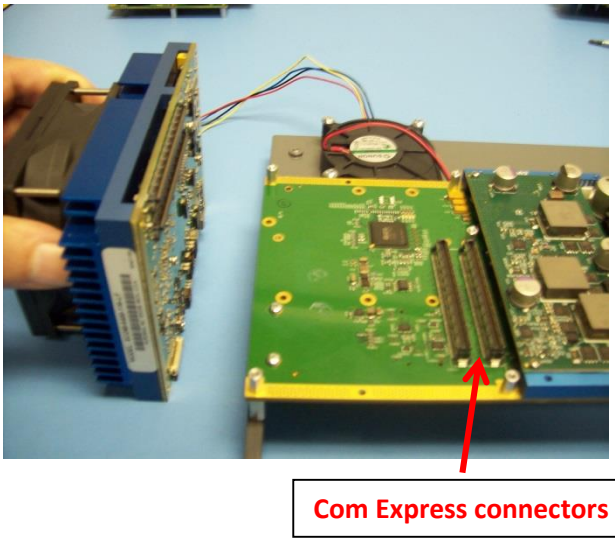
Make sure the mounting holes align.

2. Secure the XHSA 6400 heat sink to the XCOM-6400 CPU with 4 screws (M2.5 x 8mm) in the location shown

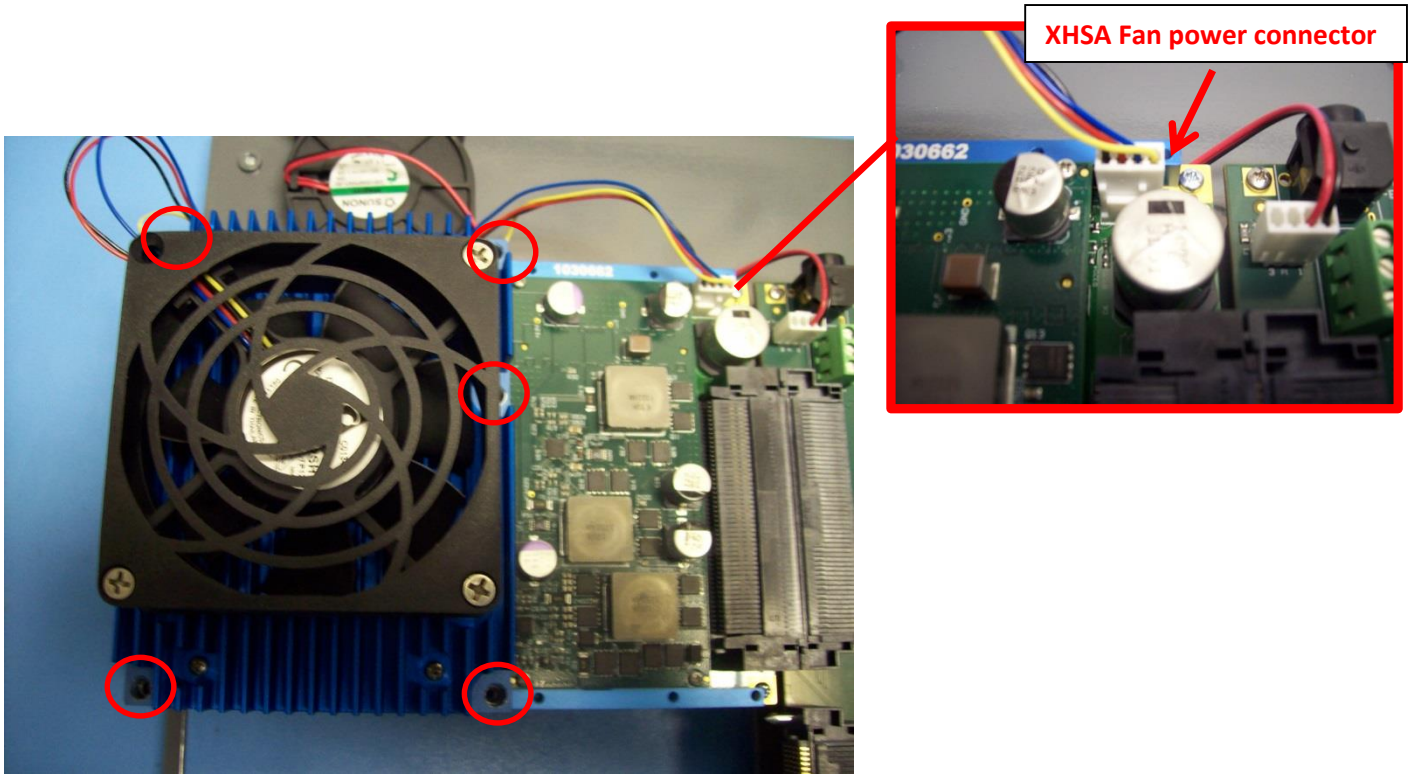


Installing the XCOM-6400 CPU module

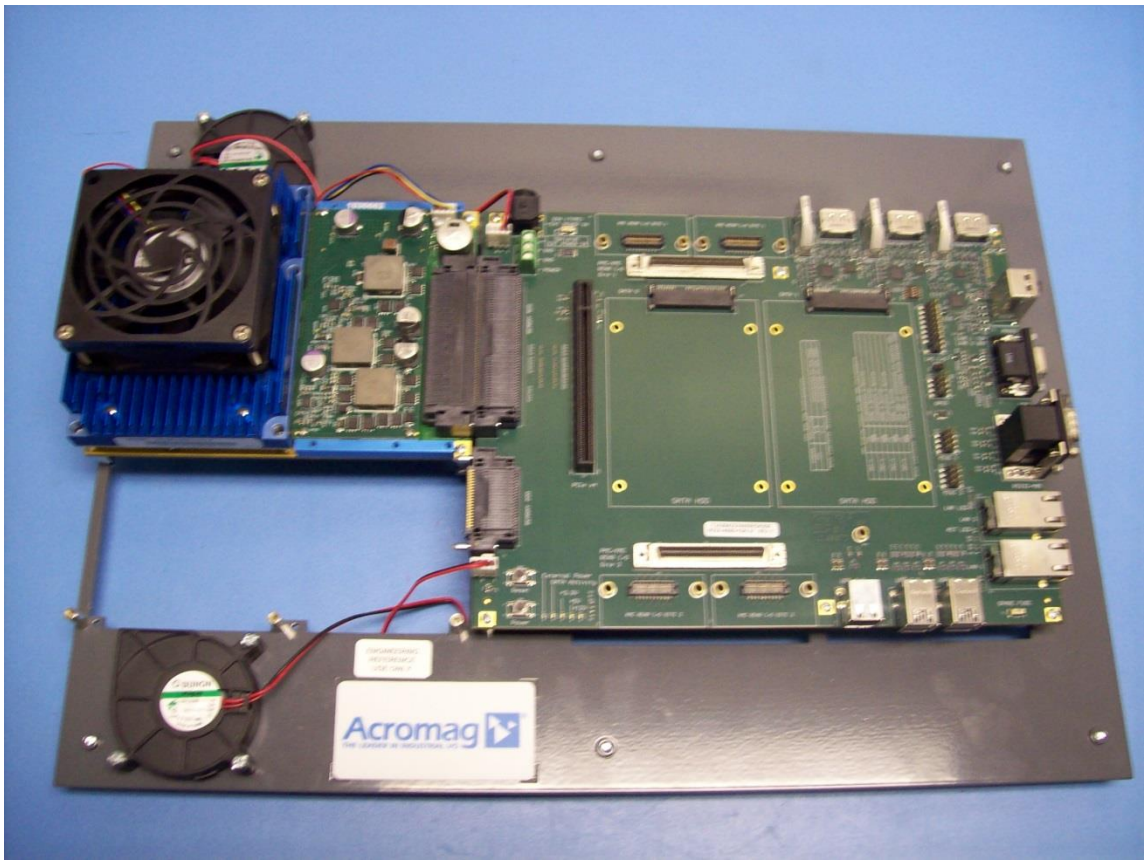
3. Carefully align the COM Express connectors on the CPU and the Carrier.



4. Secure the XCOM-6400 to the ACEX-4620 Carrier with 5 screws (M2.5 x 8mm) and plug in the XHSA-6400 fan power connector into the header on the Carrier.



DLS setup with ACEX-4610 carrier and CPU is complete



At this point your development system is ready to be configured by adding power supply, hard drive, USB keyboard, USB mouse, computer monitor and any other peripheral devices required by your application.

5.0 Service and Repair

Surface-Mounted Technology (SMT) boards are generally difficult to repair. It is highly recommended that a non-functioning board be returned to Acromag for repair. The board can be easily damaged unless special SMT repair and service tools are used. Further, Acromag has automated test equipment that thoroughly checks the performance of each board. When a board is first produced and when any repair is made, it is tested before shipment.

Service and Repair Assistance

Please refer to Acromag's Service Policy Bulletin or contact Acromag for complete details on how to obtain parts and repair.

Preliminary Service Procedure

CAUTION: POWER MUST BE TURNED OFF BEFORE REMOVING OR INSERTING BOARDS

Before beginning repair, be sure that all of the procedures in the "Preparation for Use" section have been followed. Also, refer to the documentation of your board to verify that it is correctly configured. Replacement of the board with one that is known to work correctly is a good technique to isolate a faulty board.

Where to Get Help

If you continue to have problems, your next step should be to visit the Acromag worldwide web site at http://www.acromag.com. Our web site contains the most up-to-date product and software information.

Acromag's application engineers can also be contacted directly for technical assistance via email, telephone, or FAX through the contact information listed at the bottom of this page. When needed, complete repair services are also available.

Revision History

The following table shows the revision history for this document:

Release Date	Version	EGR/DOC	Description of Revision
10/21/2014	A	PDG/ARP	Initial Acromag release.
01/07/2015	B	MDW/ARP	Updated to reflect reorganization of Engineering Development Kit.
25 MAR 2018	C	DAG/ARP	Added note about USB 2.0.

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