

# MitySOM-A5E System-On-Module (SOM)

## Revision History and Errata

## 1 Introduction

This document describes the production revision history and any known design issues or exceptions to the functional specifications for the MitySOM-A5E Module developed by Critical Link, LLC. For the purposes of this document, reference to the “module” implies MitySOM-A5E System-On-Module.

Details regarding the board may be accessed at <https://www.criticallink.com/product/mitysom-a5e/>, and additional support information is located at the following URL: [https://support.criticallink.com/redmine/projects/mitysom\\_a5/wiki](https://support.criticallink.com/redmine/projects/mitysom_a5/wiki). This document is subject to change without notification. However, the most recent version of this document will be made available at the website mentioned above. The website supports email notification (via the “watch option”) for changes to published documents.

## 2 Product Marking

The board’s PCA number and serial number may be visually read from a label affixed to the bottom of the module. The Printed Circuit Board (PCB) part number and revision is etched in copper, also visible on the bottom.

The PCA number begins with “80-”. The PCA number can also be determined by the serial number, if necessary. Contact Critical Link for details.

The serial number is of the format “S/NXXXXXX”, where XXXXXX is the serial number.

The PCB part number begins with “90-”.

## 3 PCA Product History

The PCA product history for all MitySOM-A5E SOMs is listed in Table 1. Details for Product Change Notifications (PCNs) may be downloaded from the link below. Table 1 highlights the PCA product history for the MitySOM-A5E module.

[https://support.criticallink.com/redmine/projects/mitysom\\_a5/wiki/Errata and Module Product Change Notifications](https://support.criticallink.com/redmine/projects/mitysom_a5/wiki/Errata_and_Module_Product_Change_Notifications)

**Table 1 Revision History**

<b>Model Number</b>	<b>PCA Number</b>	<b>Errata</b>	<b>PCN</b>
A5ED-B9-XXF-RI-X	80-001748RI-1	4.1.1 Early Silicon Agilex 5 Device 4.2.1 Insertion / Removal Force too high for production modules 4.2.2 No provision for chip attached heat sinks	
A5ED-B9-XXF-RI-X	80-001748RI-2	4.1.1 Early Silicon Agilex 5 Device	PCN20240909000

## 4 Known Design Exceptions and Usage Notes

This section outlines the design exceptions to MitySOM-A5E module.

### 4.1 Agilex 5

#### 4.1.1 Early Silicon Agilex 5 Device

##### Issue Description

The Altera Agilex 5 used on the initial MitySOM-A5E modules is an Early Silicon (ES) device. To easily identify the modules with ES silicon parts, the PCB only includes 2 mounting holes instead of 4 mounting holes.

##### Design Impact

The errata Altera has identified with the ES devices will exist for these initial modules. Please refer to Altera's documentation for further details:

<https://www.intel.com/content/www/us/en/docs/programmable/825514/current/specific-errata-for-the-es-devices.html>

##### Planned Resolution

Production devices will be used on future modules. The modules with production parts on them will include 4 mounting holes instead of 2.

### 4.2 Mechanical Interfaces

#### 4.2.1 Insertion / Removal Force too high for production modules

##### Issue Description

The initial MitySOM-A5E modules used a 400 contact Samtec LP Array™ series LPAF-50-03.5-L-08-2-K-TR board to board connector. This connector presents too high of an insertion and removal force for typical use.

##### Design Impact

Care must be used to install a SOM into a new carrier board to ensure that neither the SOM or Carrier card are damaged due to board flex. External tooling is needed to remove a SOM without the potential of damaging the interface connector.

##### Planned Resolution

Production SOMs will be provided using a Samtec SEARAY™ series SEAF-50-05.0-S-08-2-A-K-TR connector, which provides a lower insertion force.

This is addressed by PCN 20240909000.

## 4.2.2 No provision for chip attached heat sinks

### Issue Description

The initial MitySOM-A5E modules included components placed very close to the FPGA device on the board. The placement of the parts precluded the use of off the shelf chip attached heat sinks, a desirable option for designs using a relatively low amount of power from the FPGA device.

### Design Impact

On the preproduction devices, customers will need to use a custom heat spreading solution or an off-the-shelf heatsink with some sort of thermal epoxy or other bonding agent to attach to the FPGA if thermal management is required.

### Planned Resolution

Production SOMs will arrange the components on the board such that there is enough clearance around the FPGA to support use of the Advanced Thermal Solutions (ATS) superGRIP™ Heat Sink Attachment Hardware or similar style attachment devices.

This is addressed by PCN 20240909000.

## 5 REVISION HISTORY

Date	Version	Change Description
09-Sept-2024	1.0	Initial Release