MitySOM-C10GX System On Module (SOM)

Revision History and Errata

1 Introduction

This document describes the revision history and any known design issues or exceptions to the form, fit or functional specifications for the MitySOM-C10G family of System On Modules (SOMs) developed by Critical Link LLC.

Details regarding the modules may be accessed at https://www.criticallink.com/product/mitysom-c10g/, and additional support information may be located at https://support.criticallink.com/redmine/projects/mitysom_c10gx/wiki.

This document is subject to change without notification. However, the most recent version of this document will be made available at the website https://support.criticallink.com/redmine/projects/mitysom_c10gx/wiki/Errata_and_Module_Product_Change_Notifications. The website supports email notification (via the "watch option") for changes to documents published.

2 Product Marking

The module model number and serial number may be visually read from a label affixed to the backside of the module. The same label also includes a Data Matrix code that includes the Printed Circuit Assembly (PCA) number, serial number, and model number. The Printed Circuit Board (PCB) revision is etched in copper, also visible on the side of the module.

The model number begins with "C10G".

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

The PCB revision begins with a "90-".

The PCA part number begins with "80-" and is stored in the Data Matrix code. The PCA number can also be determined by the serial number, if necessary. Please contact Critical Link for details.

3 PCA Product History

The PCA product history for all MitySOM-C10G modules is listed below. Details for Product Change Notifications (PCNs) may be downloaded from the link below.

https://support.criticallink.com/redmine/projects/mitysom_c10gx/wiki/Errata_and_Module_Product_Change_Notifications

Table 1 highlights the PCA product history for all MitySOM-C10G modules.

Table 1 Revision History

Model Number[1]	PCA Number[1]	Applicable Design Exceptions	PCNs
C10G-6T-4XA-RI C10G-6R-4XA-RI	80-001585RI-2 RevA 80-001776RI-2 RevA	4.1 ADC reference voltage instability 4.2 U2 (DDR) is too close to U1 (FPGA) and does not allow for the installation of a fansink	20250813000
C10G-6T-4XA-RI C10G-6R-4XA-RI	80-001585RI-3 RevC 80-001776RI-3 RevC	4.2 U2 (DDR) is too close to U1 (FPGA) and does not allow for the installation of a fansink 4.3 Power Supply Change	20250818000
C10G-6T-4XA-RI C10G-6R-4XA-RI	80-001585RI-4 RevA 80-001776RI-4 RevA	No known design exceptions	

Notes:
1- Red indicates obsolete models.

4 Known Design Exceptions and Usage Notes

This section outlines the design exceptions to the baseline module specification for the MitySOM-C10G family of SOMs.

4.1 ADC reference voltage sequencing

The ADC reference voltage was being sequenced before the I/O voltage banks on the Cyclone 10 SoC. This was causing instability and inconsistent ADC results in testing. Now, with the ADC reference voltage being sequenced after the I/O voltage banks, the ADC readings are consistent across measurements and boot cycles.

PCN 20250813000 addresses this issue.

4.2 Making room for a snap-on fansink

Without adequate airflow, the MitySOM-C10G module was overheating while running with the devkit reference image. To address this issue, the layout of the module was adjusted to allow room for a FJ29 Fansink to attach to U1. For more information on the heat dissipation and performance of the MitySOM-C10G module, see the power supply and heat dissipation wiki page: https://support.criticallink.com/redmine/projects/mitysom_c10gx/wiki/Power_Supply_and_Heat_Dissipation.

PCN 20250818000 addresses this issue.

4.3 Power Supply Change

Going from revision -3 to -4: U5, U13, U14 were changed from AP63357QZV-7 to TLV62130ARGTR due to high production fallout. Due to the nature of Critical Link's production test for the MitySOM-C10G, the units with assembly issues were identified and were not issued to customers without being fixed and re-tested. The power supply change does not affect the way the device operates and was strictly done to increase the manufacturing yield.

PCN 20250818000 addresses this issue.

5 REVISION HISTORY

Date	Change Description
18-AUG-2025	Initial release for Production -4 configuration.