

PCN# 20130912000

Change flux type

MityARM-335X Family System on Modules

Date: September 12, 2013
To: Purchasing Agents

Dear Customer,

This is an initial announcement of a change to a product that is currently offered by Critical Link. The details of this change are on the following pages.

For questions regarding this notice, contact the Production Manager, Bill Halpin (bill.halpin@criticallink.com).

Sincerely,

Critical Link, LLC
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PCN Number: 20130912000
PCN Date: September 12, 2013
Title: Change Flux Type
Contact: Neha Chopra
Phone: (315) 425-4045
Ship Date: 10/01/2013

Overview

One change to the MityARM-335x modules is identified in the following section.

Change 1 – Alter Flux type used in assembly

Description of Change

An assembly process change has been made that replaces replaces a water soluble solder / flux paste with a non-conductive no clean solder / flux paste.

Reason for Change

The wash / cleaning process used to remove the excess soluble flux during printed circuit board assembly was not always 100% effective. In particular, residue has been discovered underneath the leadless quad-flat-pack TPS65910 power management integrated circuit (PMIC) device on a small number of modules passing factory test.

The soluble flux residue can, over time and under certain environmental conditions (high humidity and a constant voltage potential), cause a high impedance connection to form between the PMIC PWR_ON pin (pin 33 of the TPS65910, pin 32 on the SOM card edge connector) and a nearby ground connection. By default, the PMIC will disable power after 8 seconds if this pin registers as logic low.

As a work-around, if an application does not require the PWR_ON pin feature (most do not, including the Critical Link Development Kit reference design), then this failure mode can be avoided by disabling the shutdown logic on the PMIC by programming register 0x40 with value 0x31. In the u-Boot application, this may be accomplished with the following commands:

```
i2c dev 2; i2c reset; i2c mw 2d 40 0x31
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By switching to a no clean solder / flux paste, the potential for issues due to conductive residue from the assembly process is removed.

Anticipated Impact on Form, Fit, Function (positive / negative)

None.

Anticipated Impact on Quality or Reliability (positive / negative)

Critical Link has observed the described failure mode due to flux residue build-up on a small number of units after several months of operation in very high humidity (possibly condensing) and constant voltage potential. It is anticipated that the potential for this failure mode will be eliminated with this change.

Products Affected:

Details regarding the full printed circuit assembly (PCA) revision history can be located in the MityARM-335X Revision History section on the Critical Link support site. All MityARM-335X modules with serial numbers greater than 136584 will be assembled using the updated process that includes the no clean solder paste.