

PCN# 20110711001

Migration from 16-Bit to 8-Bit NAND on
L138-1808-1810 Family of System On Modules

Date: July 11,2011
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 PCN Manager, Larry Bossert (larry.bossert@criticallink.com).

Sincerely,

PCN Team,
Critical Link, LLC
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PCN Number: 20110711001
PCN Date: July 11, 2011
Title: Migration from 16-Bit NAND to 8-Bit NAND
Contact: Larry Bossert
Phone: (315) 425-4045
Ship Date: 7/01/2011

Description of Change

The onboard 256 MB 16-bit NAND device (MT29F2G16AADWP:D) will be replaced with 256 MB 8-bit NAND devices (MT29F2G08ABAEAWP:E) of equivalent temperature grade.

Reason of Change

As part of a die-shrink, Micron has made the MT29F2G16AADWP:D obsolete. The MT29F2G16AADWP:D requires a minimum of 1-bit of ECC per 512 bytes. The replacement 16-bit part (MT29F2G16ABAEAWP:E) recommended by Micron requires 4 bits of ECC per 512 bytes, or the use of special interface software not supported by common flash based file system drivers including JFFS2. The OMAP-L138/AM-1808 provides a hardware ECC engine for 1-bit calculations for 16-bit NAND devices. It does not include a 4-bit hardware ECC engine for 16-bit data bus access.

The OMAP-L138/AM-1808/AM-1810 does provide a hardware 4-bit ECC engine for 8-bit NAND data bus access. In order to leverage the available hardware ECC engine and avoid significant CPU performance penalties incurred by using software ECC computations, an 8-bit NAND device was selected of equivalent size (MT29F2G08ABAEAWP:E).

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

The maximum throughput of the NAND bus interface will be reduced by approximately 50%. Customers may need to upgrade their boot loader software (u-Boot) as well as their base kernel configurations in order to properly detect which device is installed and configure the NAND bus interface appropriately. Latest copies of the u-Boot application and Kernel software are available from the Critical Link Support Site at the following web address:

<http://support.criticallink.com/redmine/projects/arm9-platforms/wiki>.

Anticipated Impact on Quality or Reliability (positive / negative)

No change in quality or reliability is anticipated with this change.

Products Affected:

Module Model Number
1808-FG-225-RC
1808-FX-225-RC
1810-DG-225-RC
1810-DX-225-RC
L138-FX-225-RC
L138-FG-225-RC
L138-FI-225-RC
L138-CG-225-RC
L138-CX-225-RC
L138-CI-225-RC