

PCN# 20121031000

Address OMAP-L138 Advisory 2.1.23 on
L138-1808-1810 Family of System On Modules

Date: October 31,2012
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 Date: October 31, 2012
Title: Address OMAP-L138 Advisory 2.1.23
Contact: Bill Halpin
Phone: (315) 425-4045
Ship Date: 01/01/2013

Description of Change

The on-board pull-up or pull-down resistors used to configure the BOOT mode pins during reset are being changed from 4.7K ohms to 2.0 K ohms.

Reason of Change

Texas Instruments Errata Advisory number 2.1.23 for the OMAP-L138 and AM-1808 processors indicates that there is a possibility for contention between the processor internal pull-up or pull-down resistors and external pull-up or pull-down resistors (in this case, on the SOM) used to configure the BOOT mode pins during reset. The OMAP-L138 processor internal pull-up or pull-down resistors are specified to be disabled after a power on / reset condition, but the Advisory indicates that TI has observed some instances, categorized as “intermittent”, where the internal resistors were enabled.

In order to ensure that the desired strapped pin value is correctly latched on the boot pins, external pull-up or pull-down resistors must be strong enough (i.e., low enough in resistance value) to overcome the internal resistors. TI recommends a maximum value of 2.03 K ohms to ensure proper leveling across all operating conditions.

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

No impact on form or fit is anticipated with this change. With the change of resistor values from 4.7K to 2.03 K, an increase of approximately 7.5mW of module power dissipation is expected.

Anticipated Impact on Quality or Reliability (positive / negative)

The failure mode described by the processor advisory has not been observed or produced on any module at Critical Link, nor has Critical Link received any RMA units with this advisory being the root cause for the failed material. However, it is prudent to apply this fix in order to remain compliant with the design guidance from the processor manufacturer. It is expected, therefore, that this modification may improve reliability of operation through a power up condition. The level of improvement, however, cannot be quantified as we have no reported failures.

Products Affected:

Details regarding the full printed circuit assembly (PCA) revision history can be located in the MityDSP-L138 Errata on the Critical Link support site.

Model Number	Current PCA	New PCA
1808-FX-225-RC	80-000307RC-4 RevA, B	80-000307RC-4 RevC
1808-DX-225-RI	80-000414RI-3 RevA	Not currently in production
1810-DX-225-RC	80-000318RC-3 RevA, B	80-000318RC-3 RevC
1810-DX-225-RI	80-000415RI-3 RevA	Not currently in production
L138-FX-225-RC	80-000325RC-3 RevA, B	80-000325RC-3 RevC
L138-DX-225-RI	80-000416RI-3 RevB	80-000416RI-3 RevC
1808-FG-225-RC	80-000304RC-4 RevA, A2	80-000304RC-4 RevB
1808-DG-225-RI	80-000417RI-3 RevA	80-000417RI-3 RevB
1810-DG-225-RC	80-000308RC-3 RevA, A2	80-000308RC-3 RevB
1810-DG-225-RI	80-000418RI-3 RevA	80-000418RI-3 RevB
L138-DI-225-RI	80-000419RI-3 RevA, A2	80-000419RI-3 RevB
L138-DG-225-RI	80-000316RI-3 RevA, A2	80-000316RI-3 RevB
L138-FG-225-RC	80-000333RC-3 RevA, A2	80-000333RC-3 RevB
L138-FI-225-RC	80-000354RC-3 RevA, A2	80-000354RC-3 RevB
L138-FI-236-RC	80-000393RC-3 RevA	80-000393RC-3 RevB
L138-FI-236-RL	80-000381RL-3 RevA, A2	80-000381RL-3 RevB