OMAP-L138 SOM-M1 Errata
Hardware Documentation

Logic PD // Products
Published: April 2010
Last revised: June 2014

Abstract

This document contains errata information for the OMAP-L138 SOM-M1 and TMS320C6748 SOM-M1.

Revision History

DATE	EDITOR	DESCRIPTION	APPROVAL
04/01/10	NJK	-Initial release for Errata ID E0004, E0011–E0019	NJK
09/30/10	JCA	-Marked Errata ID E0004, E0011-E0019 as FIXED	JCA
05/22/12	SO	-Released Errata ID E0045	NJK
06/06/14	SO	-Throughout: Updated template and links for new support site; -Removed C6748 assemblies from Errata ID E0045; -Released Errata ID E0054 for C6748 assemblies removed from Errata ID E0045; marked Errata ID E0054 as FIXED; -Released Errata ID E0055; -Released Errata ID E0056 and marked it as FIXED	BSB, JMC, NJK

1 Introduction

The errata information within this document explains issues pertaining to the OMAP-L138 SOM-M1 and TMS320C6748 SOM-M1.
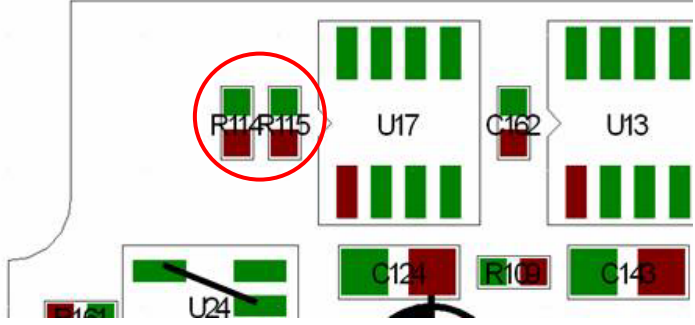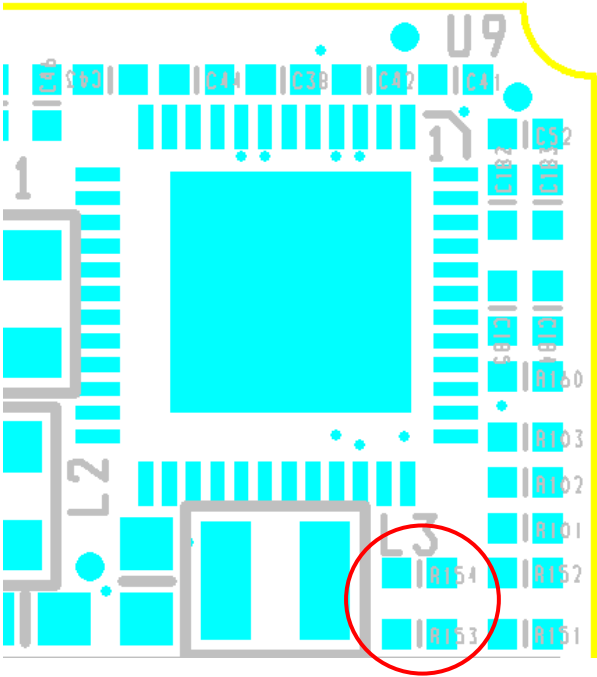
1.1 Relationship with PCN

This errata document works in conjunction with the _OMAP-L138 SOM-M1 PCN_[1] to describe all known issues and changes to the OMAP-L138 SOM-M1 family of modules. Whereas the PCN only describes changes that have occurred to the product between model revisions, this errata document provides information about known issues that have not yet been resolved through new hardware.
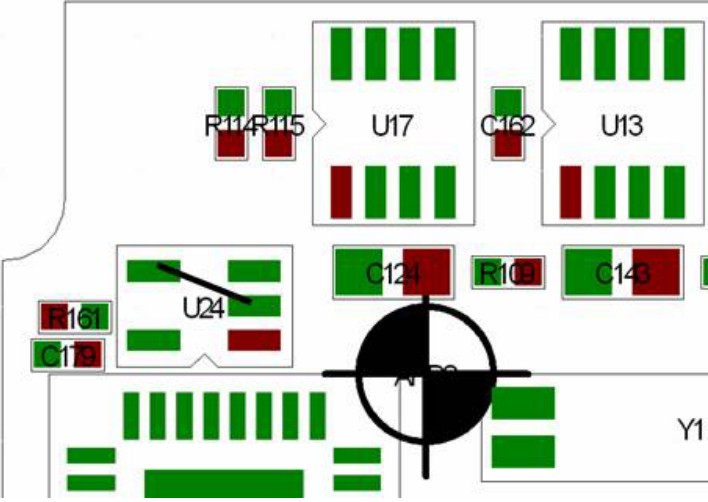
2 Errata

Errata ID	Summary	Details
E0004 **FIXED**	**Title:** Operating temperatures **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** Due to a lack of thermal vias for some ICs and reduced efficiency for the power management device LDO outputs, some ICs on the OMAP-L138 SOM-M1 will run warmer than expected. However, there should be no impact on usage of the SOM. Because of the potential for higher temperatures on these pre-production SOMs, they should not be used for testing anticipated thermal conditions in end-products. **Work Around:** No work around is available. **Fix Plan/Status:** This issue has been resolved as of PCN 450.
E0011 **FIXED**	**Title:** TPS65070 interrupt only accessible to the C674x DSP **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** The interrupt for the TPS65070 is connected to the OMAP-L138 NMIn signal which is only accessible to the C674x DSP interrupt controller. This interrupt signal is not accessible from the ARM core of the OMAP-L138. **Work Around:** No work around is available. **Fix Plan/Status:** This issue has been resolved as of PCN 450.
E0012 **FIXED**	**Title:** Ethernet LED signals swapped **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** The ETHER_LINK_ACT_LEDn and ETHER_SPEED_LED signals are swapped on the J2 connector so they illuminate the opposite LED on the baseboard's Ethernet port. **Work Around:** No work around necessary. **Fix Plan/Status:** This issue has been resolved as of PCN 450.

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[1] http://support.logicpd.com/DesktopModules/Bring2mind/DMX/Download.aspx?portalid=0&EntryId=751

Errata ID	Summary	Details
E0013 **FIXED**	**Title:** INA219 pull-up resistors too strong **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** Communication with the INA219 may not function properly because the 1k ohm resistors are too strong. **Work Around:** Replace resistors R114 and R115 with 4.7k ohm resistors. See image below for resistor location. **IMPORTANT NOTE:** Any modification of the SOM voids warranty. **Fix Plan/Status:** This issue has been resolved as of PCN 450.
E0014 **FIXED**	**Title:** USB data line pull-down resistors **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** External resistors were added to the USB data line that duplicate internal resistors. USB use is not impacted by this issue, but the addition of external resistors does not follow the USB specification. **Work Around:** Remove resistors R153 and R154. See image below for resistor location. **IMPORTANT NOTE:** Any modification of the SOM voids warranty.

Errata ID	Summary	Details
		Fix Plan/Status: This issue has been resolved as of PCN 450.
E0015 **FIXED**	**Title:** Incorrect clock VCC/VSS decoupling **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** The clock VCC/VSS decoupling circuit is incorrect. This has no impact on SOM usage. **Work Around:** No work around is necessary. **Fix Plan/Status:** This issue has been resolved as of PCN 450.
E0016 **FIXED**	**Title:** uP_RESETOUTn missing pull-up **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** There is a missing pull-up on the uP_RESETOUTn signal. This signal is an open-drain output from the processor and should have a pull-up resistor. This has no impact on SOM usage. **Work Around:** No work around is necessary. **Fix Plan/Status:** This issue has been resolved as of PCN 450.
E0017 **FIXED**	**Title:** LCD PWM control **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** The LCD PWM control is shared with the uP_SPI1_SCSn0 signal, which is the chip select for the boot flash. This may cause the LCD to illuminate momentarily each time the boot flash is accessed. The LCD PWM control needs to be moved to another signal. **Work Around:** No work around is necessary. **Fix Plan/Status:** This issue has been resolved as of PCN 450.
E0018 **FIXED**	**Title:** Reset on U20 may affect SATA functionality **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** The reset on U20 is not properly level shifted. It needs to operate at 3.3V. SOM operation at 3.3V will see no issues; SOM operation at 1.8V may result in non-functional SATA. **Work Around:** No work around is recommended. **Fix Plan/Status:** This issue has been resolved as of PCN 450.

Errata ID	Summary	Details
E0019 **FIXED**	**Title:** Communication issues with I2C interface on PMIC **Affected Part Number(s):** 1014650, 1014651, 1014652, 1014613 **Release Date:** 04/01/10 **Resolution Date:** 09/29/10	**Description:** The I2C interface on TPS65070 may experience communication issues because buffer U24 only allows unidirectional communication. **Work Around:** If you are experiencing communication issues with the PMIC I2C interface and this communication is essential to your development efforts, the following rework instructions may be used. **IMPORTANT NOTE:** Any modification of the SOM voids warranty. Remove U24 Remove R161 Jumper U24.2 to U24.4 using a bare piece of 30 AWG wire (as shown below) **Fix Plan/Status:** This issue has been resolved as of PCN 450.
E0045	**Title:** Real-time clock low drop out voltage regulator draws higher current than may be expected **Affected Part Number(s):** 1014613, 1014650, 1014652, 1015517, 1016515, 1016639, 1016648, 1016653, 1016805, 1016841, 1017855, 1017861, 1017894, 1017898, 1017899 **Release Date:** 05/22/12	**Description:** The real-time clock (RTC) low drop out (LDO) voltage regulator has a quiescent current of 40 uA, which may be higher than users expect. This may limit the amount of time the RTC battery can keep the RTC running on a custom baseboard when the system is in an off state. **Work Around:** No work around is recommended. **Fix Plan/Status:** This issue will be resolved in a future board spin.

Errata ID	Summary	Details
E0054 **FIXED**	**Title:** Real-time clock low drop out voltage regulator draws higher current than may be expected **Affected Part Number(s):** 1014651, 1016643, 1017192, 1017856, 1017903 **Release Date:** 05/22/12 **Resolution Date:** 06/06/14	**Description:** The real-time clock (RTC) low drop out (LDO) voltage regulator has a quiescent current of 40 uA, which may be higher than users expect. This may limit the amount of time the RTC battery can keep the RTC running on a custom baseboard when the system is in an off state. **Work Around:** No work around is recommended. **Fix Plan/Status:** This issue has been resolved as of PCN 586.
E0055	**Title:** System-level ESD sensitivity **Affected Part Numbers:** 1014613, 1014650, 1014652, 1015517, 1016515, 1016639, 1016648, 1016653, 1016805, 1016841, 1017855, 1017861, 1017894, 1017898, 1017899, **Release Date:** 06/06/14	**Description:** "Section 2.1.4" of the Texas Instruments (TI) *OMAP-L138 C6000 DSP+ARM Processor Silicon Errata*[2] identifies an erratum related to the ESD sensitivity of the OMAP-L138 processor system clock. Systems that implement this processor using the clock oscillator internal to the processor can be more susceptible to soft device failures due to ESD noise coupling on the system clock (OSCIN). **Work Around:** The affected part numbers to the left use the internal processor oscillator for system clock; therefore, no work around is available. **Fix Plan/Status:** This issue will be resolved in a future board spin.
E0056 **FIXED**	**Title:** System-level ESD sensitivity **Affected Part Numbers:** 1014651, 1016643, 1017192, 1017856, 1017903 **Release Date:** 06/06/14 **Resolution Date:** 06/06/14	**Description:** "Section 2.1.4" of the Texas Instruments (TI) *TMS320C6748 Fixed-and Floating-Point DSP Silicon Errata*[3] identifies an erratum related to the ESD sensitivity of the TMS320C6748 processor system clock. Systems that implement this processor using the clock oscillator internal to the processor can be more susceptible to soft device failures due to ESD noise coupling on the system clock (OSCIN). **Work Around:** The affected part numbers to the left use the internal processor oscillator for system clock; therefore, no work around is available. **Fix Plan/Status:** This issue has been resolved as of PCN 586.

3   Contact Information

For additional information, please post a question to the Logic PD Technical Discussion Group (TDG) forum.[4]

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[2] http://www.ti.com/product/omap-l138
[3] http://www.ti.com/product/TMS320C6748
[4] http://support.logicpd.com/TDGForum.aspx