

MCIMX51LCD Panel Potential Electrical Short Issue

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This Engineering Bulletin explains an issue that has been observed with the MCIMX51LCD assembly involving the risk of electrical shorts caused by the LCD panel. This document also explains the necessary workarounds. Immediate action is needed to eliminate the risk of the electrical shorts.

1 Issue

There is a potential risk for electrical shorts to occur on the MCIMX51LCD assembly. Due to inadequate spacing between the LCD and the PCB, it is possible for conductive areas and circuitry on the LCD panel to come in contact with electrical circuitry on the PCB. These electrical shorts may cause damage to either the MCIMX51EVKJ system or to the LCD assembly.

1.1 Analysis

Two MCIMX51LCD assemblies have been found that can cause electrical damage to a connected MCIMX51EVKJ when power is applied to the system. Analysis of the LCD assemblies shows that an electrical short exists between the LCD board 5 V supply and GND. This short does not exist when the LCD panel is forced apart from the PCB. It has been determined that the 5 V to GND short could occur when PCB component C18 is in contact with a conductive area on the back of the LCD panel. Numerous other potential shorting locations have been identified in the LCD layout.

1.2 How to Identify Affected LCD Boards

The LCD boards at risk were manufactured and shipped prior to January 8, 2010. All the necessary corrections have been implemented for any LCD purchased after this date. LCD assemblies that use LCD part number CLAA070VC01 are most at-risk for this issue. There is a lesser risk that LCD part number CLAA070LC0ACW is also affected. The LCD part number can be viewed from the underside of the LCD assembly as shown in [Figure 1](#).

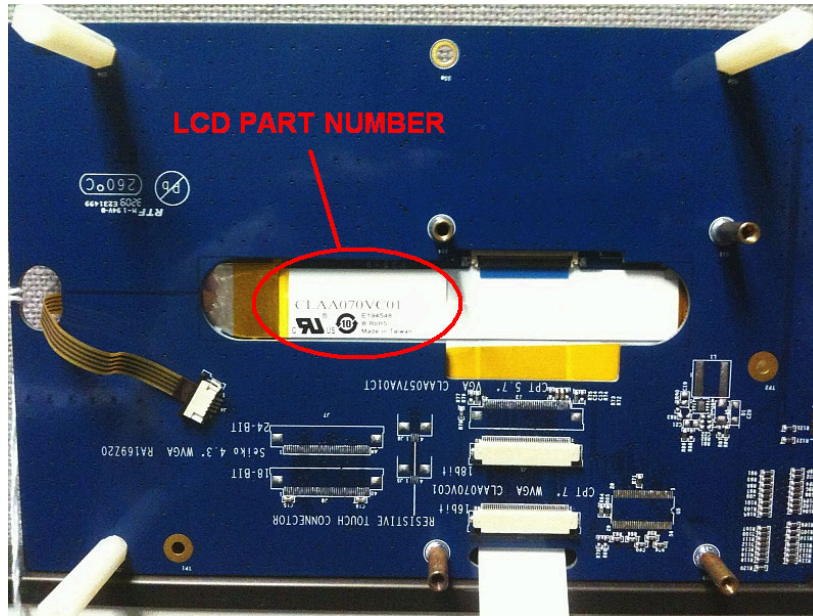


Figure 1. LCD Part Number

2 Workarounds

There are two workarounds for this issue as described in the following sections.

2.1 Obtain Replacement LCD

Affected MCIMX51LCD boards can be exchanged by following the instructions at the **Dev Tool Returns Support** link found on the web site listed for web support on the last page of this document. If it is not desired to return the LCD, then the workaround in [Section 2.2, “Increase Spacing Between LCD and PCB,”](#) should be implemented.

2.2 Increase Spacing Between LCD and PCB

By increasing the separation between the LCD panel and the PCB, the electrical shorts can be prevented. Glue nonconductive spacers in six or more locations around the perimeter of the LCD as indicated in [Figure 2](#). This prevents the possibility of shorts and does not require removal of the LCD panel.

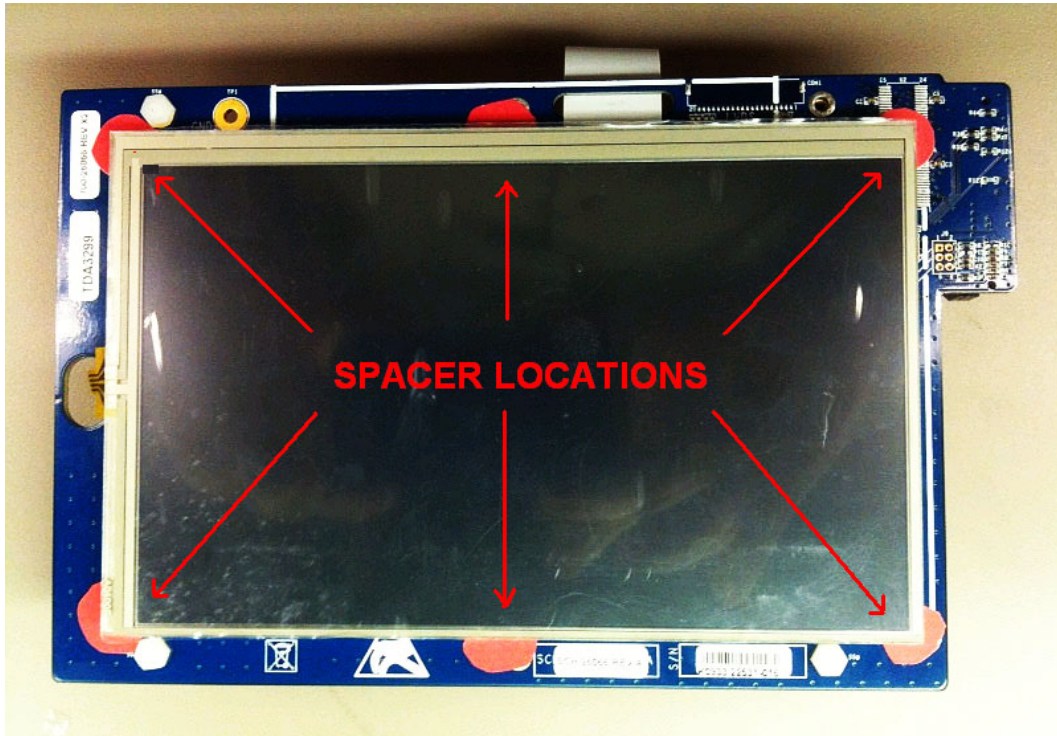


Figure 2. Spacer Locations

Workarounds

The spacers should be approximately 2.5 mm thick. Jumper shunts or plastic washers are two example items that may be used as spacers. [Figure 3](#) and [Figure 4](#) illustrate the use of jumper shunts as spacers.

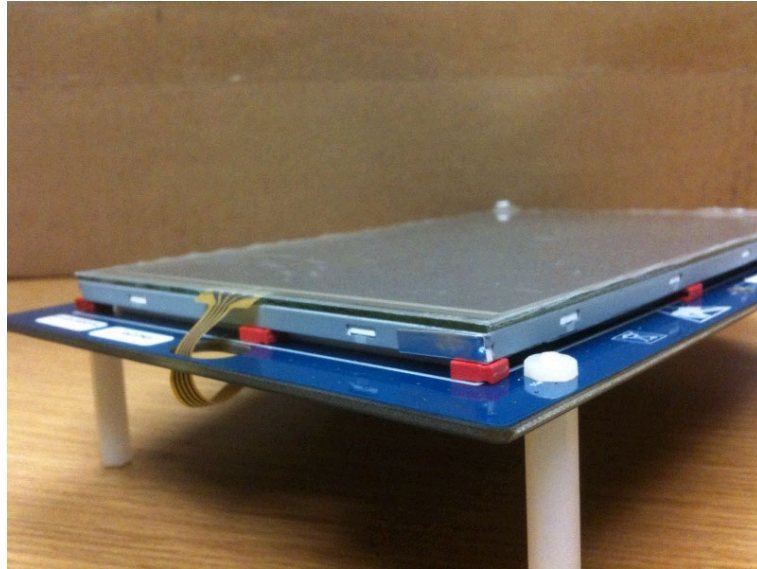


Figure 3. Jumper Shunts as Spacers



Figure 4. Gluing the Spacers

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