This document details the known silicon and firmware anomalies for the USB2640/USB2641/USB2649 with Firmware Revision 2.03. The USB2640/USB2641/USB2649 conforms functionally to the current Device Data Sheet, except for the anomalies described in this document.

The Functional Revision and Mask ROM ID values for the USB2640/USB2641/USB2649 are shown in Table 1. The silicon and firmware issues are summarized in Table 2 and Table 3, respectively.

### TABLE 1: AFFECTED SILICON/FIRMWARE REVISIONS

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Functional Revision</th>
<th>Mask ROM ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB2640</td>
<td>B</td>
<td>225</td>
</tr>
<tr>
<td>USB2641</td>
<td>B</td>
<td>225</td>
</tr>
<tr>
<td>USB2649</td>
<td>B</td>
<td>225</td>
</tr>
</tbody>
</table>

### TABLE 2: SILICON ISSUE SUMMARY

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Silicon Issue Summary</th>
<th>Functional Revision B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>bcdDevice field (DID) has invalid characters</td>
<td>X</td>
</tr>
<tr>
<td>2.</td>
<td>Selective Suspend command is ignored by the hub</td>
<td>X</td>
</tr>
</tbody>
</table>

### TABLE 3: FIRMWARE ISSUE SUMMARY

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Firmware Issue Summary</th>
<th>Firmware Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Firmware errantly enters simulation mode</td>
<td>176</td>
</tr>
<tr>
<td>4.</td>
<td>Cannot pass “SCSI Compliance Test” in WHQL</td>
<td>176</td>
</tr>
</tbody>
</table>
Silicon Errata Issues

Module 1: bcdDevice field (DID) has invalid characters

Description of Issue:
According to the USB2.0 specification, the bcdDevice field is specified to be binary-coded-decimal, which means only decimal characters are allowed. The hexadecimal digits A-F are not allowed.

End User Impacts:
The presence of non-BCD characters will cause failures in some Command Verifier (CV) and Windows Hardware Certification tests, such as:
- USB (USBDEX) Verifier Test
- USB Device Connection S3 + S4
- USB Driver Level Re-Enumeration Test
- USB Enumeration Stress
- USB Serial Number

No end user functional impact.

Solution:
This will not be addressed in a future version of the device. This bcdDevice field can be changed through the configuration options by programming the EEPROM via the SMBus or I²C interface. Also, a Microsoft Contingency number 323 can be used to waive the five Windows Hardware Certification tests mentioned above.

Module 2: Selective Suspend command is ignored by the hub

Description of Issue:
If a SET_FEATURE (PORT_SUSPEND) command is sent right after the SOF command (microframe 0), the hub will not disabled the port.

End User Impacts:
The port will not suspend when a command is sent by the host. This will cause more current draw than if the port was suspended (~10mA).

Solution:
This will not be addressed in a future version of the device. It is recommended to use the Global Suspend function to put the entire hub into suspend to conserve power.
Firmware Errata Issues

Module 3: Firmware errantly enters simulation mode

Description of Issue:
During media initialization, the device firmware checks for "0xBEEF" in the XDATA space addresses 0x4000-0x4001, which enables simulation mode. In this mode, firmware sets the timer for any responds from 100ms to 1ms.

End User Impacts:
During initialization, "0xBEEF" is randomly locked into addresses 0x4000-0x4001, causing some slow SD cards to remain uninitialized and non-functional.

Solution:
No external firmware is available.

Module 4: Cannot pass “SCSI Compliance Test” in WHQL

Description of Issue:
This issue appears whenever the Windows Hardware Certification SCSI Compliance test evaluates the inquiry command with the EVDP bit set to 0 and the page code set to a non-zero value. In this case, the device sends back data when it should have failed the command.

End User Impacts:
This issue only affects WHQL testing. Microsoft has provided a contingency number 1107 to waive the failure.

Solution:
No external firmware is available.
APPENDIX A: DOCUMENT REVISION HISTORY

<table>
<thead>
<tr>
<th>Revision Level &amp; Date</th>
<th>Section/Figure/Entry</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS80000644A (02-19-15)</td>
<td>Initial release</td>
<td></td>
</tr>
</tbody>
</table>
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