



**Avnet MicroZed 7020**  
**Revision G Errata**  
**V1.1**  
**02 March 2019**

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# 1 Introduction

Thank you for your interest in the Avnet MicroZed System-On-Modules. Although Avnet has made every effort to ensure the highest possible quality, these kits and associated software are subject to the limitations described in this errata notification.

Be aware that any of the optional workarounds requiring physical modifications to the board are done at the User's own risk, and Avnet is not liable for poorly performed rework.

# 2 Identifying Affected Modules

The modules affected by these errata can be identified by the Revision of the MicroZed System-On-Module. The revision of the MicroZed System-On-Module can be found on the bottom side of the PCB board. The affected PCB boards are the MicroZed Revision G, identified as PCB assembly number "BD-Z7MB-Z7020-G REV-G" or "BD-Z7MB-Z7020I-G REV-G" with an embedded "PCB-G" also visible in the board etching.



Figure 1 – Identifying MicroZed 7020 for this Errata

### 3 Errata

#### 3.1 PUDC\_B Pull-up Populated with 0-ohm instead of 1K-ohm

##### 3.1.1 Applications Affected

This issue will affect any MicroZed carrier board that makes use of signal JX1\_LVDS\_2\_P, which is connected to JX1 Pin 17. This pin will have a short to VCCO\_34 (JX1, Pins 78-80) once the MicroZed is plugged in.

Both the commercial and industrial temperature grade MicroZed 7020 Revision G models are affected by this issue. Note that this issue was corrected before any MicroZed 7010 Revision G models were built.

- AES-Z7MB-7Z020-SOM-G
- AES-Z7MB-7Z020-SOM-I-G

Since none of the Avnet MicroZed Carrier boards use this I/O for active functionality, those Carriers are not affected.

##### 3.1.2 Description

PUDC\_B is a signal on the Zynq-7000 device that stands for “Pull-Ups During Configuration,” and it is active low. Since pull-ups during configuration can adversely affect I/Os that are strapped low, Avnet typically disables PUDC by adding a pull-up to the PUDC\_B signal.

On MicroZed, the PUDC\_B signal is in Bank 34 of the Zynq-7000, Pin U13 on component U9C on Sheet 6 of the schematic document. This pin is tied to schematic signal JX1\_LVDS\_2\_P, which is also tied to resistor jumper JT4 and MicroHeader JX1 Pin 17.

Resistor jumper JT4 is a 3-pad component that allows an 0402 resistor to be placed either in the 1-2 position or the 2-3 position. By default, this was supposed to be populated with a 1K-ohm resistor in the 1-2 position. Unfortunately this was mistakenly populated with a 0-ohm resistor, thus shorting JX1\_LVDS\_2\_P to power supply VCCO\_34. This effectively disables PUDC, but it also makes this I/O unusable.

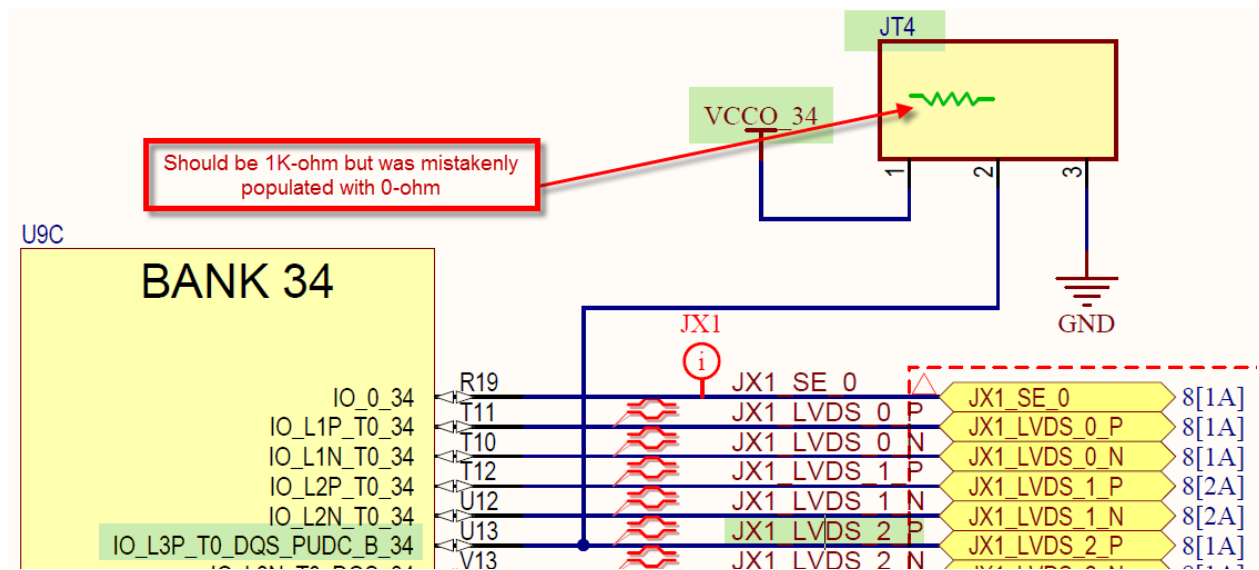


Figure 2 – JT4 Pull-up Connected to PUDC\_B, JX1\_LVDS\_2\_P, and JX1-Pin17

### 3.1.3 Workaround

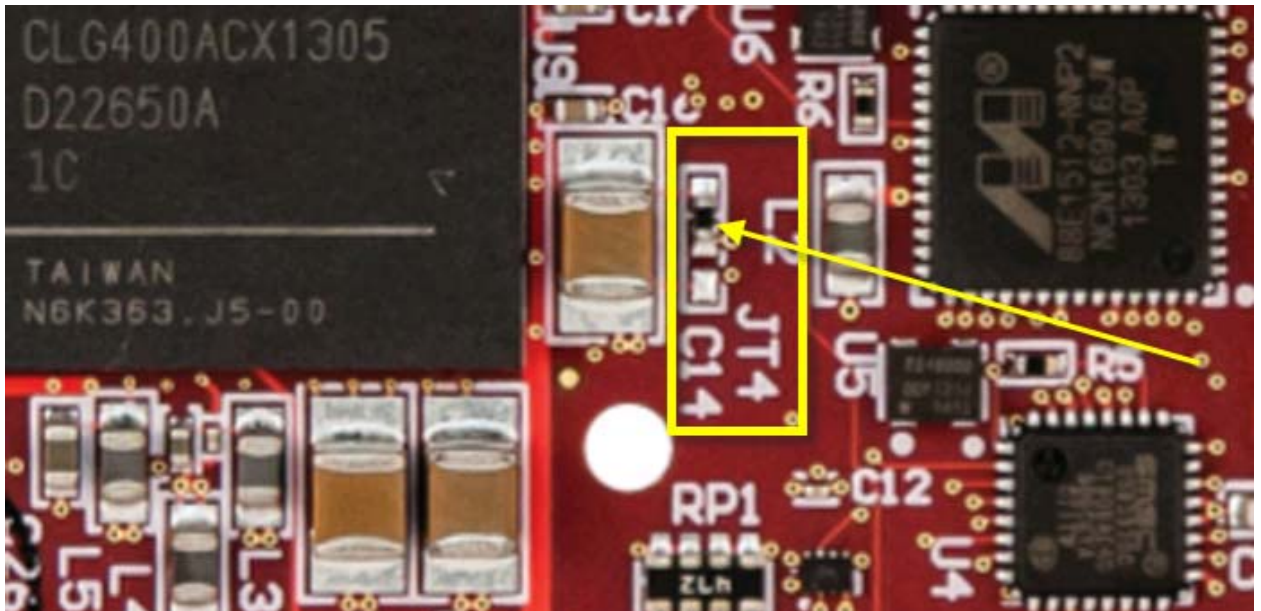
If you are capable of completing the rework on your own, please contact [customize@avnet.com](mailto:customize@avnet.com) to obtain a waiver before completing the work to avoid invalidating your warranty.

If you would like to return these boards to Avnet to complete this rework on affected boards that you already own, please contact us at [customize@avnet.com](mailto:customize@avnet.com).

If your application requires this specific IO for future MicroZed purchases, please contact [customize@avnet.com](mailto:customize@avnet.com) to ensure any future product purchased will have the necessary changes.

To perform the rework yourself, perform the following steps:

1. Remove the resistor at position 1-2 of JT4.



**Figure 3 – JT4 on MicroZed**

2. Solder a new, 0402 1K-ohm resistor to position 1-2 of JT4. A few suggestions are listed below.
  - a. Panasonic Electronic Components ERJ-2RKF1001X
  - b. Yageo AC0402FR-071KL
  - c. Yageo RC0402FR-071KL

### 3.1.4 Identifying Repaired or New Boards

A repaired Revision G board that has this workaround in place will be identified with a blue mark on the bar code label as shown below:

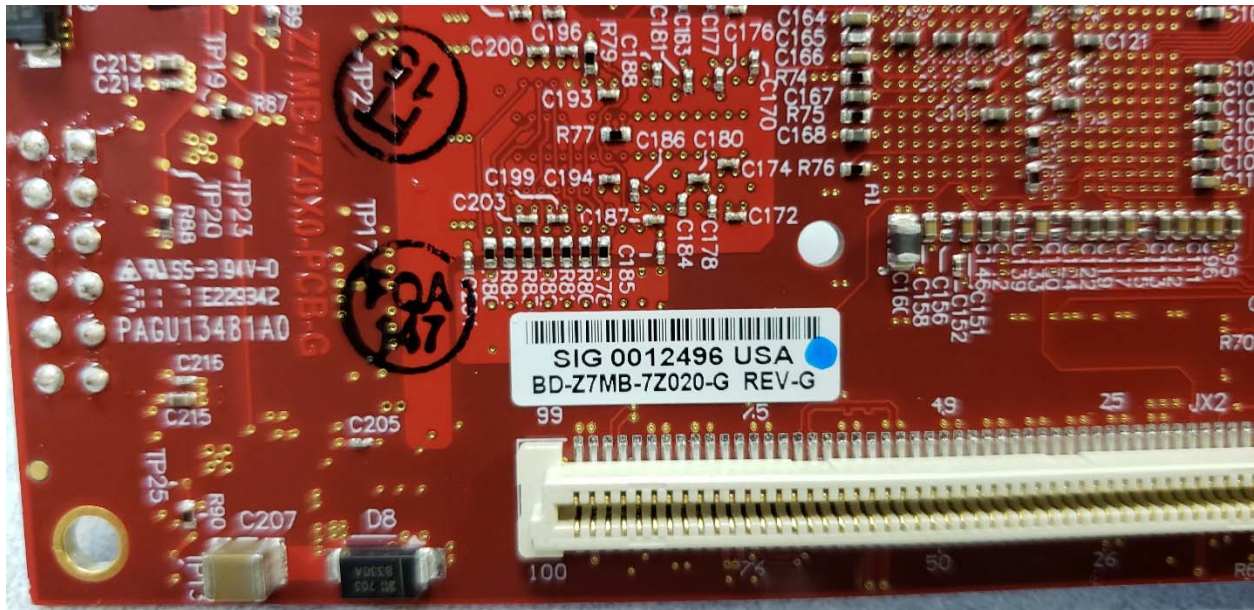


Figure 4 – Repaired MicroZed Rev G Board

New Revision G boards with Revision Code G-03-03 or later will have a 2D bar code label similar to the one shown below. These boards do not have the issue.



Figure 5 – Example 2D Bar Code for Future Rev G MicroZed Boards  
(Note: this is only an example bar code, not from MicroZed)

## 3.2 User LED D3 Will Not Light When Driven

### 3.2.1 Applications Affected

The issue only affect a specific set of boards that were built at Contract Manufacturer MSC, with serial numbers starting with “MSC” and in the range shown in the table below

MicroZed Part Number	Starting Serial Number	Ending Serial Number
AES-Z7MB-7Z010-G	1740000	1740459
AES-Z7MB-7Z010I-G	1750000	1750079
AES-Z7MB-7Z020-G	1760000	1760399
AES-Z7MB-7Z020I-G	1770000	1770079

Applications that control User LED D3 using PS MIO47 on pin B14 will not be able to light the LED.

### 3.2.2 Description

LED D3 was placed backwards during assembly and will therefore not operate properly. Once the LED is resoldered in reverse position, it will operate correctly.

### 3.2.3 Workaround

If you are capable of completing the rework on your own, please contact [customize@avnet.com](mailto:customize@avnet.com) to obtain a waiver before completing the work to avoid invalidating your warranty.

If you would like to return these boards to Avnet to complete this rework on affected boards that you already own, please contact us at [customize@avnet.com](mailto:customize@avnet.com).

### 3.2.4 Identifying Repaired or New Boards

A repaired Revision G board that has this workaround in place will be identified with a green mark on the bar code label as shown below. See 3.1 for an explanation regarding the blue mark on the right side.



**Figure 6 – Repaired MicroZed Rev G Board**

Any Revision G boards outside the ranges given in 3.2.1 will not exhibit the problem.

### 3.3 Custom Carrier Won't Power On, PG\_1V8 / VCCIO\_EN Voh-Min Is 1.2V

#### 3.3.1 Applications Affected

Custom carriers that use a comparator expecting PG\_1V8 / VCCIO\_EN  $\geq$  1.4V (as was the case on Revisions F-05 and prior) will be affected as the PG\_1V8 / VCCIO\_EN Voh-Min on Revision G was modified to have a Voh-Min  $\geq$  1.2V, which is consistent with MicroZed Rev F-06 and PicoZed.

None of Avnet's MicroZed Carriers exhibit this problem.

#### 3.3.2 Description

MicroZed carriers are required to monitor the PG\_1V8 / VCCIO\_EN (JX2.pin10) to properly sequence the bring-up of various power supplies, such as the I/O power supplies. This signal is driven on the MicroZed from U15.pin4 and is also affected by voltage divider R35 / R91.

On MicroZed Revisions F-05 and earlier, an issue was identified where this signal was affected by backfeed from the VTT regulator. Resistor R35 was changed from 1.0K to 1.5K on Revision F-06 to accommodate this other issue. Revision G maintained this 1.5K resistor for consistency.

The VTT backfeed problem was corrected on Revision G, so R35 could be replaced with 1.0K-ohm without issue.

#### 3.3.3 Workaround

It is recommended that users modify their comparator circuits to allow voltages as low as 1.2V to trigger an enable.

Users may also choose to modify R35 to 1.0K-ohm. It is possible for Avnet to build MicroZed Rev G with R35 at 1.0K-ohm as a custom part number with an MOQ. Please contact us at [customize@avnet.com](mailto:customize@avnet.com).



## 4 New Erratum

Any new erratum found will be posted to the MicroZed website forum:

<https://www.element14.com/community/community/designcenter/zedboardcommunity/zedboard-forums/microzed-hardware-design-forum>

## 5 Additional Support

For additional support, please review the discussions and post your questions to the MicroZed Forums at:

<https://www.element14.com/community/community/designcenter/zedboardcommunity/zedboard-forums/microzed-hardware-design-forum>

You can also contact your local Avnet FAE.

## 6 Revision History

Date	Version	Revision
26 Jun 2018	1.0	Added Item 3.1 PUDC_B Pull-up Populated with 0-ohm instead of 1K-ohm
02 Mar 2019	1.1	Added Item 3.2 User LED D3 Will Not Light When Driven. Added Item 3.3 Custom Carrier Won't Power On, PG_1V8 / VCCIO_EN Voh-Min Is 1.2V