Toradex
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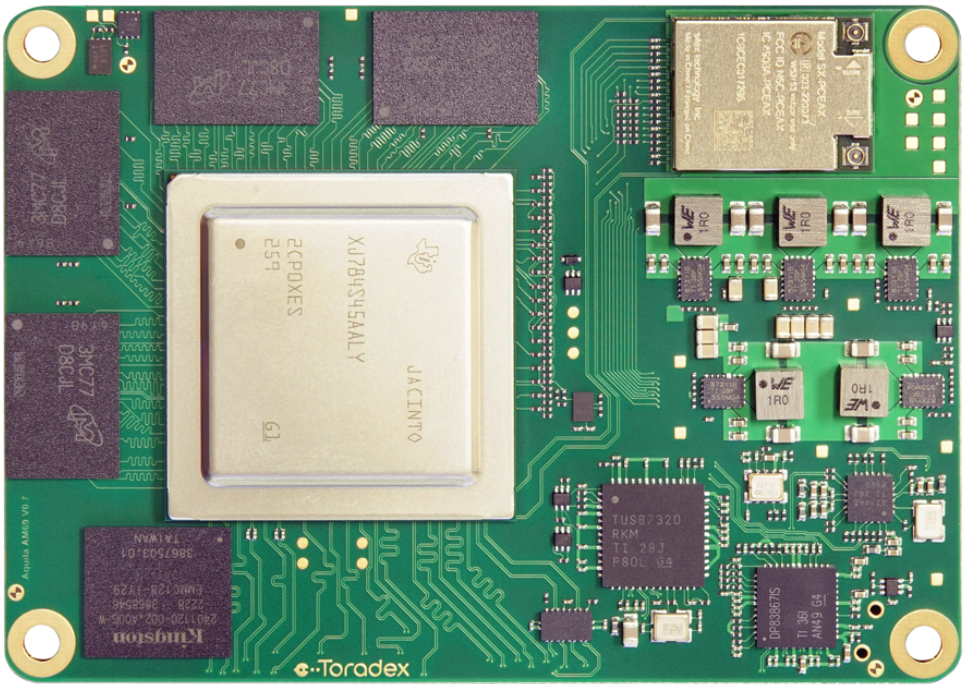
Aquila AM69

HW Errata



Revision History

Document Revisions

Date	Doc. Revision	Product Version	Changes
28-Nov-2024	Rev. 0.1	V1.0	Initial documentation Section 1:Added HAR-11637 Section 2:Added HAR-11135 Section 3:Added HAR-10963

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1 Errata #1: HAR-11637 – The 25MHz clock jitter is too high to pass the Ethernet Compliance

Affected version:

Aquila AM69 V1.0

Fixed in:

Aquila AM69 V1.1

1.1 Customer Impact

The onboard Ethernet interface currently does not meet Ethernet compliance due to high jitter from the 25MHz clock. This issue will be resolved in the next module revision

1.2 Description

The Ethernet interface on the module uses the 25MHz clock directly from the SoC. The jitter introduced by the clock is too high to pass Ethernet Compliance.

1.3 Workaround

None

2 Errata #2: HAR-11135 – USB_2_EN signal needs to be inverted (by default it's active low output from the bridge)

Affected version:

Aquila AM69 V1.0

Fixed in:

Aquila AM69 V1.1

2.1 Customer Impact

Customers cannot use the USB_2 interface with BSP 6-based software, including the Toradex Easy Installer. The interface functions properly with operating systems based on BSP 7

2.2 Description

The USB_2_EN# pin is designed to be active low but is currently active high. In the current revision, this requires an additional transistor or inverter on the carrier board. A software fix addressing this issue has been implemented in BSP 7.

2.3 Workaround

Use VNC (Virtual Network Computing) to access Toradex Easy installer and install an operating system based on BSP 7.

3 Errata #3: HAR-10963 – The series capacitors are missing on the USB_2_SS_TX lines

Affected version:

Aquila AM69 V1.0

Fixed in:

Aquila AM69 V1.1

3.1 Customer Impact

The USB_2 interface lacks serial capacitors on the USB_2_SS_TX lines. This does not affect usage with the Aquila Development Board V1.2, as it includes the necessary capacitors. However, when designing custom carrier boards for the AM69 V1.0 revision, customers must account for this limitation by adding serial capacitors. The next module revision will address this issue.

3.2 Description

The USB_2_SS_TX lines lack the required 100nF serial capacitors. The Aquila Development Board V1.2 addresses this by replacing the R461 and R462 resistors with capacitors. Customers should account for this limitation when designing custom carrier boards for the AM69 revision.

3.3 Workaround

When designing custom carrier boards for the AM69 V1.0 revision, customers must include 100nF serial capacitors on the USB_2_SS_TX lines. These capacitors can later be replaced with 0R resistors to ensure compatibility with future AM69 module revisions.