



# Arm® CoreLink™ NI-710AE Network-on-Chip Interconnect

## Software Developer Errata Notice

Date of issue: December 04, 2023

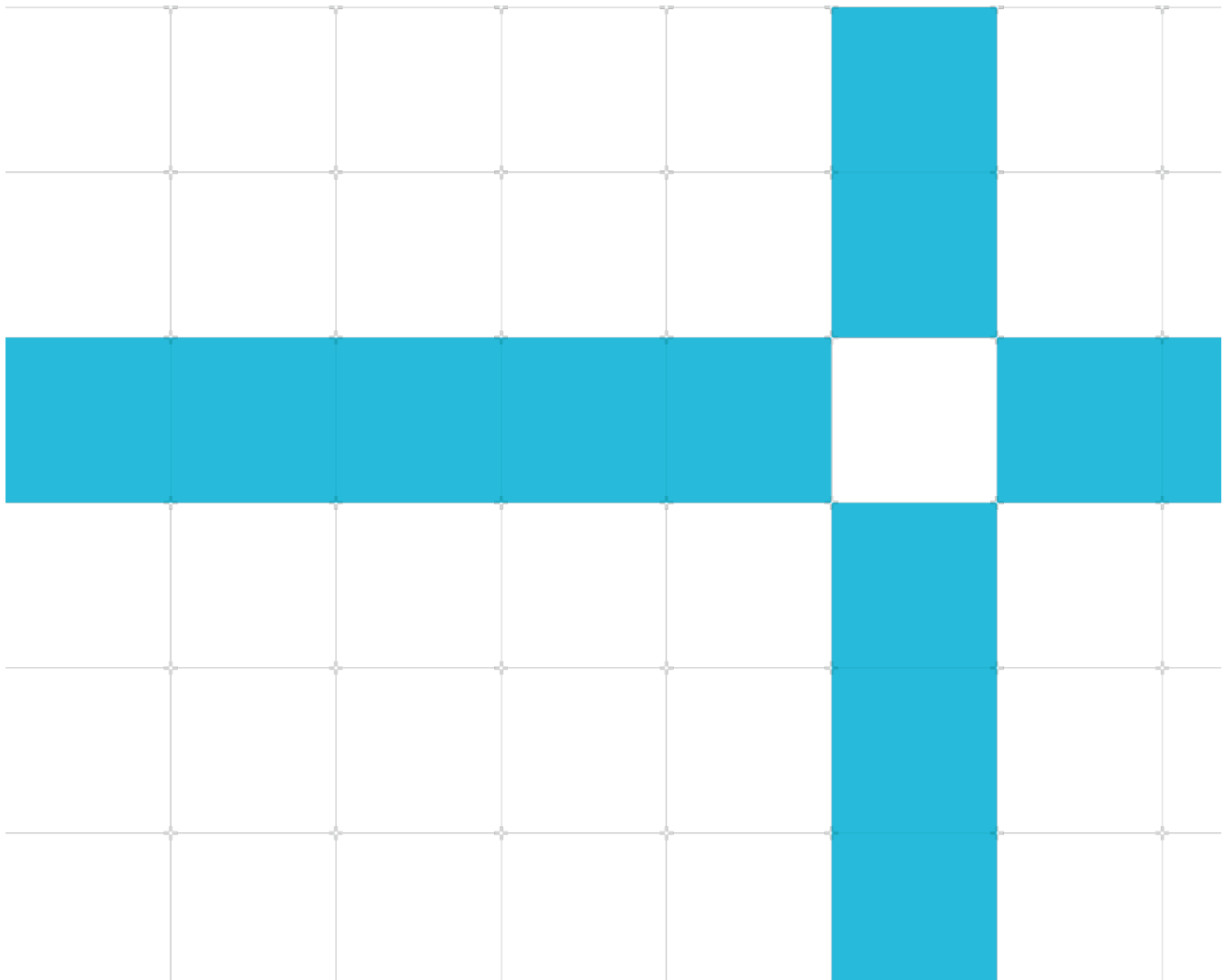
Non-Confidential

Document version: 3.0

Copyright © 2023 Arm® Limited (or its affiliates). All rights reserved.

Document ID: SDEN-2859927

This document contains all known errata since the r0p1 release of the product.



## Non-confidential proprietary notice

This document is protected by copyright and other related rights and the practice or implementation of the information contained in this document may be protected by one or more patents or pending patent applications. No part of this document may be reproduced in any form by any means without the express prior written permission of Arm. No license, express or implied, by estoppel or otherwise to any intellectual property rights is granted by this document unless specifically stated.

Your access to the information in this document is conditional upon your acceptance that you will not use or permit others to use the information for the purposes of determining whether implementations infringe any third party patents.

THIS DOCUMENT IS PROVIDED "AS IS". ARM PROVIDES NO REPRESENTATIONS AND NO WARRANTIES, EXPRESS, IMPLIED OR STATUTORY, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, SATISFACTORY QUALITY, NON-INFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE DOCUMENT. For the avoidance of doubt, Arm makes no representation with respect to, and has undertaken no analysis to identify or understand the scope and content of, third party patents, copyrights, trade secrets, or other rights.

This document may include technical inaccuracies or typographical errors.

TO THE EXTENT NOT PROHIBITED BY LAW, IN NO EVENT WILL ARM BE LIABLE FOR ANY DAMAGES, INCLUDING WITHOUT LIMITATION ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES, HOWEVER CAUSED AND REGARDLESS OF THE THEORY OF LIABILITY, ARISING OUT OF ANY USE OF THIS DOCUMENT, EVEN IF ARM HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

This document consists solely of commercial items. You shall be responsible for ensuring that any use, duplication or disclosure of this document complies fully with any relevant export laws and regulations to assure that this document or any portion thereof is not exported, directly or indirectly, in violation of such export laws. Use of the word "partner" in reference to Arm's customers is not intended to create or refer to any partnership relationship with any other company. Arm may make changes to this document at any time and without notice.

If any of the provisions contained in these terms conflict with any of the provisions of any click through or signed written agreement covering this document with Arm, then the click through or signed written agreement prevails over and supersedes the conflicting provisions of these terms. This document may be translated into other languages for convenience, and you agree that if there is any conflict between the English version of this document and any translation, the terms of the English version of the Agreement shall prevail.

The Arm corporate logo and words marked with ® or ™ are registered trademarks or trademarks of Arm Limited (or its subsidiaries) in the US and/or elsewhere. All rights reserved. Other brands and names mentioned in this document may be the trademarks of their respective owners. Please follow Arm's trademark usage guidelines at <https://www.arm.com/company/policies/trademarks>.

Copyright © 2023 Arm® Limited (or its affiliates). All rights reserved.

Arm Limited. Company 02557590 registered in England.

110 Fulbourn Road, Cambridge, England CB1 9NJ.

(LES-PRE-20349)

## Confidentiality status

This document is Non-Confidential. The right to use, copy and disclose this document may be subject to license restrictions in accordance with the terms of the agreement entered into by Arm and the party that Arm delivered this document to.

Unrestricted Access is an Arm internal classification.

## Feedback

Arm welcomes feedback on this product and its documentation. To provide feedback on Arm® CoreLink™ NI-710AE Network-on-Chip Interconnect, create a ticket on <https://support.developer.arm.com>.

To provide feedback on the document, fill the following survey: <https://developer.arm.com/documentation-feedback-survey>.

## Inclusive language commitment

Arm values inclusive communities. Arm recognizes that we and our industry have used language that can be offensive. Arm strives to lead the industry and create change.

If you find offensive language in this document, please email [terms@arm.com](mailto:terms@arm.com).

# Contents

<b>Introduction</b>	<b>5</b>
Scope	5
Categorization of errata	5
<b>Change Control</b>	<b>6</b>
<b>Errata summary table</b>	<b>7</b>
<b>Errata descriptions</b>	<b>8</b>
Category A	8
Category A (rare)	8
Category B	8
Category B (rare)	8
Category C	9
2982194   Overflow reported for single destination ID checker error events on GT and AUB	9

# Introduction

## Scope

This document describes errata categorized by level of severity. Each description includes:

- The current status of the erratum.
- Where the implementation deviates from the specification and the conditions required for erroneous behavior to occur.
- The implications of the erratum with respect to typical applications.
- The application and limitations of a workaround where possible.

## Categorization of errata

Errata are split into three levels of severity and further qualified as common or rare:

<b>Category A</b>	A critical error. No workaround is available or workarounds are impactful. The error is likely to be common for many systems and applications.
<b>Category A (Rare)</b>	A critical error. No workaround is available or workarounds are impactful. The error is likely to be rare for most systems and applications. Rare is determined by analysis, verification and usage.
<b>Category B</b>	A significant error or a critical error with an acceptable workaround. The error is likely to be common for many systems and applications.
<b>Category B (Rare)</b>	A significant error or a critical error with an acceptable workaround. The error is likely to be rare for most systems and applications. Rare is determined by analysis, verification and usage.
<b>Category C</b>	A minor error.

# Change Control

Errata are listed in this section if they are new to the document, or marked as "updated" if there has been any change to the erratum text. Fixed errata are not shown as updated unless the erratum text has changed. The [errata summary table](#) identifies errata that have been fixed in each product revision.

## December 04, 2023: Changes in document version v3.0

No new or updated errata in this document version.

## June 30, 2023: Changes in document version v2.0

ID	Status	Area	Category	Summary
<a href="#">2982194</a>	New	Programmer	Category C	Overflow reported for single destination ID checker error events on GT and AUB

## February 24, 2023: Changes in document version v1.0

No errata in this document version.

# Errata summary table

The errata associated with this product affect the product versions described in the following table.

ID	Area	Category	Summary	Found in versions	Fixed in version
<a href="#">2982194</a>	Programmer	Category C	Overflow reported for single destination ID checker error events on GT and AUB	r0p1	Open

# Errata descriptions

## Category A

There are no errata in this category.

## Category A (rare)

There are no errata in this category.

## Category B

There are no errata in this category.

## Category B (rare)

There are no errata in this category.



## Category C

2982194

### Overflow reported for single destination ID checker error events on GT and AUB

#### Status

Affects: PL627

Fault Type: CAT C - Programmer

Fault Status: Present in: r0p1. Fixed in: Open

#### Description

A single DESTID error in a NI-710AE configuration may be reported for multiple cycles, causing a false error overflow indication in the FMU (Fault Management Unit). This may occur on the GT and AUB networks (SM 15 and 16).

#### Configurations Affected

This issue happens in configurations where all the following conditions are true:

- NI-710AE has DESTID checking enabled though internal network protection.

#### Conditions

The following conditions are required to hit this issue:

- A GT/AUB packet is sent to an endpoint with a corrupted TGTID
- A GT/AUB packet is incorrectly routed to the wrong endpoint

#### Implications

When a DESTID error is encountered, the error may be reported for several cycles and cause an overflow to be falsely indicated in the FMU\_ERR\_STATUS.OF field.

Error handling software may use the OF indicator to count the number of errors to distinguish between transient faults and permanent faults. The action taken for a transient fault may be to reset the device, whereas the action taken for a permanent fault may be to disable the device.

#### Workaround

The error overflow field may be incorrect when a DESTID (SM 15 and 16) error is encountered. The overflow field is accurate as long as there is not a destination ID error present. For SM 15 and 16, FuSa software should ignore the OF bit, and instead use a software counter to determine the frequency and severity of events.