Mali-C55 (IV021)

Software Developer Errata Notice

Date of issue: 04-Aug-2022
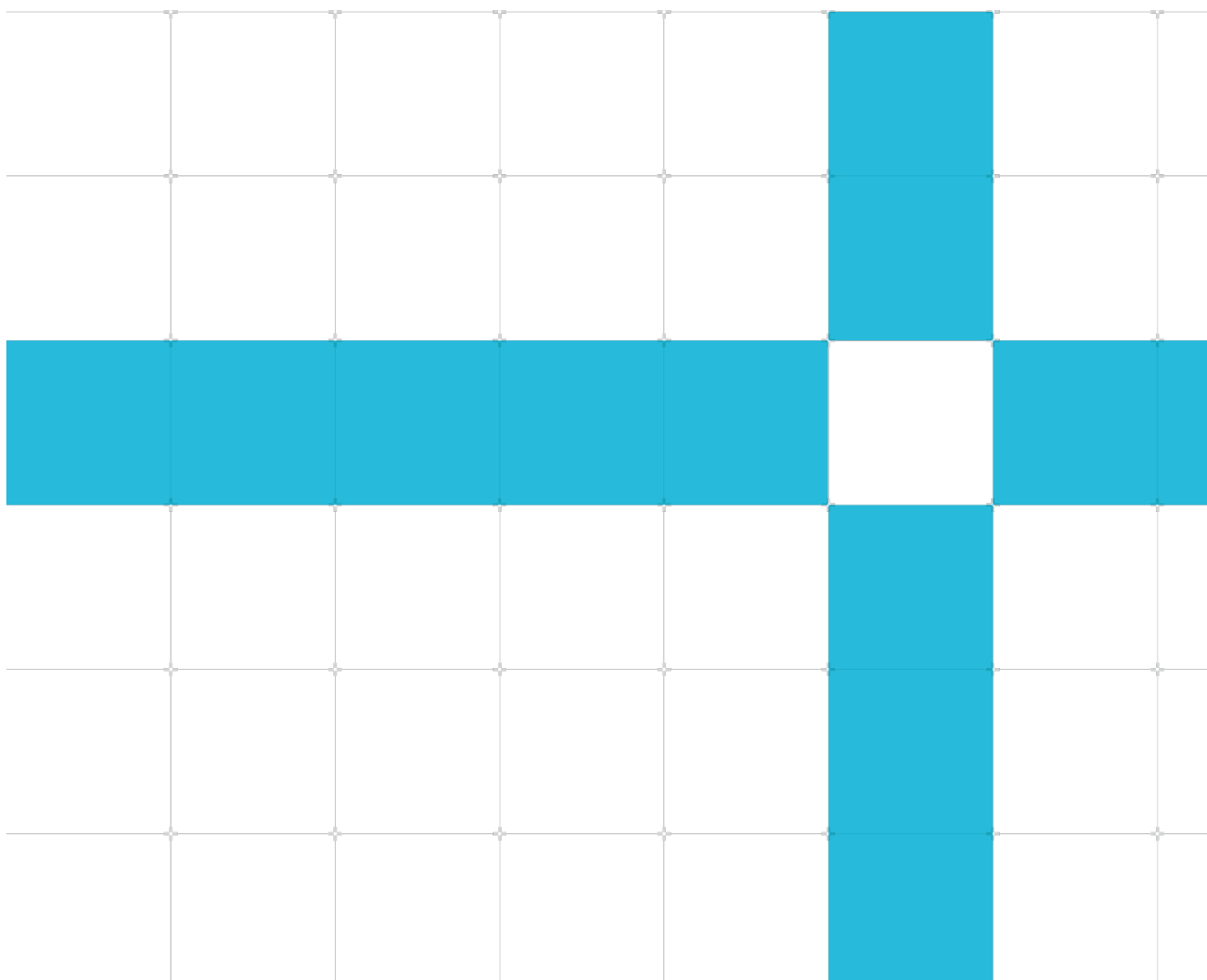
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Document version: v2.0

Document ID: SDEN-2613610

This document contains all known errata since the r0p0 release of the product.

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Contents

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:

Category A	A critical error. No workaround is available or workarounds are impactful. The error is likely to be common for many systems and applications.
Category A (Rare)	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.
Category B	A significant error or a critical error with an acceptable workaround. The error is likely to be common for many systems and applications.
Category B (Rare)	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.
Category C	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.

04-Aug-2022: Changes in document version v2.0

ID	Status	Area	Category	Summary
2621026	New	Programmer	Category B (rare)	End of ISP processing is signalled earlier than expected when conversion to YUV420 is enabled in the color space conversion block

28-Mar-2022: 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
2621026	Programmer	Category B (rare)	End of ISP processing is signalled earlier than expected when conversion to YUV420 is enabled in the color space conversion block	ISPSMITH.EAC	ISPSMITH.REL

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.

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Category B (rare)

2621026
End of ISP processing is signalled earlier than expected when conversion to YUV420 is enabled in the color space conversion block

Description

End of ISP processing is calculated in the ISP and used to:

- Generate isp_busyout
- Unlock the active configuration space
- isp_done interrupt

When generating YUV420 outputs, an extra line of delay is required to carry out vertical down sampling of the chroma samples. This extra line has been omitted from the calculation, which means that the UV_DMA writer is still waiting for end of frame when the end of ISP processing is signalled.

If the UV_DMA writer does not receive the end of frame, it ignores input data until an end of frame is received.

The color space conversion block fails to generate an end of frame to the UV_DMA writer if it is configured to another output format before the processing is complete.

Configuration update can be due to config swap from PING to PONG or PONG to PING on frame start or on the software configuration based on the isp_done interrupt.

Configurations / Use-case affected

YUV420 output use-cases

Condition and Implications

UV_DMA writer might ignore input data until an end of frame is received.

Workaround

Ensure there is minimum vertical blanking between input frames as specified in the Configuration and Integration Manual. The minimum vertical blanking specified is sufficient to ensure that the processing is complete in the color space conversion block.

If the current frame is configured for YUV420 output, wait for the isp_done and uv_dma_write done interrupts before configuring the last active configuration space being used by the ISP.

Category C

There are no errata in this category.