



MAX32672 ERRATA SHEET

Revision A1 Errata

The errata listed below describe situations where components of this revision perform differently than expected or differently than described in the data sheet. Analog Devices may, at its own discretion, take future steps to correct these errata when the opportunity to redesign the product presents itself. Prior to that, Analog Devices has determined the following potential workarounds that customers may want to consider when addressing one of the situations described below.

This errata sheet only applies to components of this revision. These components are branded on the top side of the package with a six-digit code in the form yywwRR, where yy and ww are two-digit numbers representing the year and work week of manufacture, respectively, and RR is the revision of the component. To obtain an errata sheet on other die revisions, visit the product webpage at www.analog.com/MAX32672.

1) STANDARD DMA OPERATIONS INVOLVING ECC-ENABLED SYSTEM RAM INSTANCES MAY TRANSFER INCORRECT DATA

Description:

Incorrect data may be transferred if operations are performed on system RAM instances with their ECC enabled. (21206)

Workaround:

Use a secondary DMA channel in conjunction with a primary DMA channel to perform DMA operations to and from ECC-enabled memory.

Considerations:

- The secondary DMA channel must be enabled before the primary DMA channel.
- The value of DMA_CHn_CNT.cnt for the secondary channel must be:

$$(4 \times \text{number_of_primary_bursts}) + 1$$

For example, if both DMA_CHn_CNT.cnt = 2048 and DMA_CHn_CTRL.burst_size = 32 for the primary channel, then 64 bursts are required. DMA_CHn_CNT.cnt for the secondary channel is therefore $(4 \times 64) + 1 = 257$.

Use the following steps to configure both the secondary and primary DMA channels:

1. Configure a secondary DMA channel for a dummy transfer of data. The destination is an unused location in the memory map, so this use of the secondary channel does not affect any usable memory.
 - a) Set DMA_CHn_SRC.addr to 0x4000 0000.
 - b) Set DMA_CHn_DST.addr to 0x4000 0200.
 - c) Clear DMA_CHn_CTRL.srcinc to 0 to disable the source automatic incrementing.
 - d) Clear DMA_CHn_CTRL.dstinc to 0 to disable the destination automatic incrementing.
 - e) Set DMA_CHn_CTRL.srcwd to 0b10.
 - f) Set DMA_CHn_CTRL.dstwd to 0b10.

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- g) Set DMA_CHn_CTRL.burst_size to 0b00011.
 - h) Configure DMA_CHn_CTRL.pri of the secondary DMA channel to the same value as DMA_CHn_CTRL.pri of the primary DMA channel.
 - i) Configure DMA_CHn_CNT.cnt to the value calculated above.
2. Configure the primary DMA channel based on the transfer width. The source and destination address of the primary DMA channel must be aligned to a 32-bit boundary.
- For a transfer width of 4 bytes:
 - a) DMA_CHn_CNT.cnt must be a multiple of 4.
 - b) DMA_CHn_CTRL.burst_size must be a multiple of 4 bytes.
 - For a transfer width of 2 bytes:
 - a) DMA_CHn_CNT.cnt must be a multiple of 8.
 - b) DMA_CHn_CTRL.burst_size must be a multiple of 8 bytes.
 - c) Set GCR_MEMCTRL.ramws_en to 1 to enable SRAM wait states.
 - For a transfer width of 1 byte:
 - a) DMA_CHn_CNT.cnt must be a multiple of 4.
 - b) DMA_CHn_CTRL.burst_size must be a multiple of 4 bytes.
 - c) Set GCR_MEMCTRL.ramws_en to 1 to enable SRAM wait states.

2) CRYPTOGRAPHIC DMA OPERATIONS INVOLVING ECC-ENABLED SYSTEM RAM INSTANCES MAY TRANSFER INCORRECT DATA

Description:

Incorrect data may be transferred if operations are performed on system RAM instances with their ECC enabled. (21207)

Workaround:

Do not use the cryptographic DMA on system RAM instances with their ECC enabled.

3) WHEN ECC IS ENABLED ON SYSRAM0, SECURE BOOT HANGS

Description:

The secure boot process runs after every reset and after exiting low power modes, except SLEEP and DEEPSLEEP. The device will not exit the secure boot after these events. (21204)

Workaround:

Do not enable ECC on SYSRAM0. A POR recovers the device if this issue is encountered.

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Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	9/22	Initial release	—

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