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EFM32ZG222 Errata, Chip Rev. A

F32/F16/F8/F4

This document describes errata for the latest revision of EFM32ZG222 devices.

ARM ZERO TINY GECKO LEOPARD GIANT WONDER

SILICON LABS

1 Errata

This document contains information on the errata of the latest revision of this device. For errata on older revisions, please refer to the errata history for the device. The device data sheet explains how to identify chip revisions, either from package markings or electronically.

In addition to the errata noted below, the errata for the ARM Cortex-M0+ r0p1 (www.arm.com) also applies to this device.

1.1 Chip revision A

Table 1.1. Errata

ID	Title/Problem	Effect	Fix/Workaround
IDAC_E101	**IDAC output current degradation** The current output of the IDAC might degrade over time.	Due to an undefined shut-down state of the IDAC, powered devices that do not use the IDAC continuously might experience some degradation in the current output over the lifetime of the device. The degradation is very small when the device is used at room temperature, but the output current will fall well outside specs if the device is exposed to higher temperatures for longer periods of time.	If the IDAC output current stability is crucial to the application, the IDAC should never be completely disabled while the device is powered. Leaving the IDAC enabled in the lowest output code setting with duty-cycling enabled consumes ~50 nA extra current and eliminates the problem.
DI_E103	**Flash Page Size** The MEM_INFO_PAGE_SIZE value stored in Device Information (DI) Page is incorrect.	For devices with PROD_REV values of 23 or lower, the MEM_INFO_PAGE_SIZE register value in the Device Information Page is incorrect.	Use fixed flash page size of 1024 bytes.
PCNT_E102	**PCNT Pulse Width Filtering does not work**	The PCNT Pulse Width Filter does not work as intended.	Do not use the pulse width filter, i.e. ensure FILT = 0 in PCNTn_CTRL.
TIMER_E103	**Capture/compare output is unreliable with RSSCOIST enabled** The TIMER capture/compare output is unreliable when RSSCOIST is enabled and the clock is prescaled.	When RSSCOIST is set and PRESC > 0 in TIMERn_CTRL, the capture/compare output value is not reliable.	Do not use a prescaled clock, i.e. ensure PRESC = 0 in TIMERn_CTRL when RSSCOIST is enabled.
RMU_E101	**POR calibration initialization issue** Upon initial power-on, some devices may not be able to access flash memory above the 4 kB boundary, or some calibration registers on some devices	The list of affected devices can be found in the Knowledge Base (KB) article listed under Fix/Workaround. Some devices are sensitive to the power supply ramp during initial power-on. Specific ramp profiles on these devices can cause an intermittent issue resulting in one of two failure modes (A) or (B):	Additional information including a software workaround is available from the following KB article URL: http://community.silabs.com/t5/32-bit-MCU-Knowledge-Base/POR-calibration-initialization-issue/ta-p/154716

ID	Title/Problem	Effect	Fix/Workaround
	may not be set to their factory calibration values.	A. Flash memory above the 4 kB boundary is inaccessible. Reads of the flash will return zeros. Write attempts will return an “invalid address” error code in the MSC_STATUS register. Code execution will behave as though the memory above 4 kB was filled with zeros until the device resets itself. B. Some parts of the calibration initialization process do not complete successfully. On USB devices, the USB voltage regulator does not get calibrated. Specific peripheral registers that may not be calibrated are as follows (not all registers apply to all devices): ADC0_CAL, IDAC_CAL, DAC0_CAL, DAC0_BIASPROG, DAC0_OPACTRL, and DAC0_OPAOFFSET. A SYSRESETREQ reset will clear either failure mode, and the device will behave normally until the next power-on event.	
EMU_E109	**Potential Brown Out in EM2**	There is an error with the calibration algorithm for a voltage regulator that is active during EM2 mode. This error can, in rare instances, cause the device to brown out and reset while operating in EM2 mode.	The issue has been corrected with an updated and validated test program. Devices with a date code greater than or equal to 1626 have been tested with the corrected test program. Firmware can also work around this issue by writing the calibration value for the low current regulator active in EM2 to 0x6 after any reset or wakeup from EM4. More information on this firmware workaround including example code can be found at the following KB article URL: http://community.silabs.com/t5/32-bit-MCU-Knowledge-Base/EMU-E109-Potential-Brown-Out-in-EM2/ta-p/176459

1.2 Older Revisions

Errata for older revisions can be found at the Silicon Laboratories homepage:

www.silabs.com/32bit-errata

2 Revision History

2.1 Revision 0.30

August 12th, 2016

Added EMU_E109.

2.2 Revision 0.20

October 5th, 2015

Added DI_E103.

Added TIMER_E103.

Added PCNT_E102.

Added RMU_E101.

2.3 Revision 0.10

November 20th, 2013

Initial preliminary release.

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