EFM32

... the world's most energy friendly microcontrollers

EFM32TG225 Errata, Chip rev. C

F32/F16/F8

This document describes errata for the latest revision of EFM32TG225 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 datasheet explains how to identify chip revision, either from package marking or electronically.

In addition to the errata noted below, the errata for the ARM Cortex-M3 r2p1 (www.arm.com) also applies to this device.

1.1 Chip revision C

Table 1.1. Erratas

ID	Title/Problem	Effect	Fix/Workaround
AES_E101	**BYTEORDER does not work in combination with DATASTART/XORSTART** When the BYTEORDER bit in AES_CTRL is set, an encryption or decryption should not be started through DATASTART or XORSTART.	If BYTEORDER is used in combination with DATASTART or XORSTART, the AES data and key are interpreted in the wrong order.	Do not use BYTEORDER in combination with DATASTART or XORSTART.
AES_E102	**AES_STATUS_RUNNING set one cycle late with BYTEORDER set** When the BYTEORDER bit in AES_CTRL is set, AES_STATUS_RUNNING is set one cycle late.	If BYTEORDER is used, it will take one cycle for the AES_STATUS_RUNNING flag to be set. This means that polling this status flag should be postponed at least one cycle after starting encryption/decryption.	If polling the AES_STATUS_RUNNING is preferred, insert a No Operation assembly instruction (NOP()) before starting to poll the status flag.
DMA_E101	**EM2 with WFE and DMA** WFE does not work for the DMA in EM2.	In EM2, when sleeping with WFE (Wait for Event), an interrupt from the DMA will not wake up the system.	Use WFI (Wait for Interrupt) or EM1 instead.
PRS_E101	**Edge detect on GPIO/ACMP** Edge detect on peripherals with asynchronous edges might be missed.	When using edge detect in PRS on signals from ACMP, GPIO, RTC, LETIMER, LESENSE, VCMP and BURTC edges can be missed.	Do not use edge detect on ACMP, GPIO, RTC, LETIMER, LESENSE, VCMP and BURTC.
TIMER_E102	**Timer capture and debugger** Timer capture triggered when timer is halted by debugger.	When DEBUGRUN is disabled, and the capture input is HIGH it is possible to wrongly trigger a capture event by halting the MCU and starting it again (for instance by setting a breakpoint).	Enable DEBUGRUN when using a debugger.

ID	Title/Problem	Effect	Fix/Workaround
USART_E112	**USART AUTOTX continues to transmit even with full RX buffer** USART AUTOTX continues to transmit even with full RX buffer.	When AUTOTX in USARTn_CTRL or AUTOTXEN in USARTn_TRIGCTRL is set, the USART will continue to transmit data even after the RX buffer is full. This may cause the RX buffer to overflow if the data is not read out in time.	No known workaround.
WDOG_E103	**WDOG EM2 detection with LFXO digital/sine input** The WDOG will mistake EM2 for EM3 if using LFXO with digital or sine input.	When the WDOG is using LFXO with digital or sine input as a clock source, it will mistake EM2 for EM3. The EM2RUN and EM3RUN bits of WDOG_CTRL will behave accordingly.	When using LFXO with digital/sine input, EM3RUN must be set to keep the WDOG running in EM2.

1.2 Older Revisions

Erratas for older revisions can be found at the Silicon Laboratories Norway AS homepage:

www.energymicro.com/downloads/errata-archive

2 Revision History

2.1 Revision 1.0

August 21st, 2013

Added AES_E102.

Updated disclaimer, trademark and contact information.

2.2 Revision 0.90

July 30th, 2013

Added DMA_E101.

Updated errata naming convention.

2.3 Revision 0.80

November 26th, 2012

Removed erratas no longer present for chip revision C: CMU1, CMU2, EMU1, GPIO1, LES1, LES2 and LES3.

Added AES1.

Added TIMER1.

2.4 Revision 0.70

August 22nd, 2012

Initial verison.

A Disclaimer and Trademarks

A.1 Disclaimer

Silicon Laboratories intends to provide customers with the latest, accurate, and in-depth documentation of all peripherals and modules available for system and software implementers using or intending to use the Silicon Laboratories products. Characterization data, available modules and peripherals, memory sizes and memory addresses refer to each specific device, and "Typical" parameters provided can and do vary in different applications. Application examples described herein are for illustrative purposes only. Silicon Laboratories reserves the right to make changes without further notice and limitation to product information, specifications, and descriptions herein, and does not give warranties as to the accuracy or completeness of the included information. Silicon Laboratories shall have no liability for the consequences of use of the information supplied herein. This document does not imply or express copyright licenses granted hereunder to design or fabricate any integrated circuits. The products must not be used within any Life Support System without the specific written consent of Silicon Laboratories. A "Life Support System" is any product or system intended to support or sustain life and/or health, which, if it fails, can be reasonably expected to result in significant personal injury or death. Silicon Laboratories products are generally not intended for military applications. Silicon Laboratories products shall under no circumstances be used in weapons of mass destruction including (but not limited to) nuclear, biological or chemical weapons, or missiles capable of delivering such weapons.

A.2 Trademark Information

Silicon Laboratories Inc., Silicon Laboratories, the Silicon Labs logo, Energy Micro, EFM, EFM32, EFR, logo and combinations thereof, and others are the registered trademarks or trademarks of Silicon Laboratories Inc. ARM, CORTEX, Cortex-M3 and THUMB are trademarks or registered trademarks of ARM Holdings. Keil is a registered trademark of ARM Limited. All other products or brand names mentioned herein are trademarks of their respective holders.

B Contact Information

Silicon Laboratories Inc.
400 West Cesar Chavez
Austin, TX 78701

Please visit the Silicon Labs Technical Support web page:
http://www.silabs.com/support/pages/contacttechnicalsupport.aspx
and register to submit a technical support request.

Table of Contents

List of Tables

silabs.com


ZERO
ARM Cortex-M0+
TINY
ARM Cortex-M3
GECKO
ARM Cortex-M3
LEOPARD
ARM Cortex-M3
GIANT
ARM Cortex-M3
WONDER
ARM Cortex-M4