



## Product Change Notification - SYST-08YWFH854

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**Date:**

11 May 2020

**Product Category:**

8-bit Microcontrollers

**Affected CPNs:**



**Notification subject:**

ERRATA - ATxmega128/64/32/16A4U Silicon Errata and Data Sheet Clarification

**Notification text:**

SYST-08YWFH854

Microchip has released a new Product Documents for the ATxmega128/64/32/16A4U Silicon Errata and Data Sheet Clarification of devices. If you are using one of these devices please read the document located at [ATxmega128/64/32/16A4U Silicon Errata and Data Sheet Clarification](#).

**Notification Status:** Final

**Description of Change:**

This revision includes the following updates to Data Sheet Clarifications:

- 1) Initial release of this document.
- 2) Content moved from the data sheet and restructured to the new document template
- 3) Updated the die revision list to reflect die revisions in production
- 4) Added silicon issue Hi-Res Extension Does Not Work for TC0/1 CCB and CCD

**Impacts to Data Sheet:** None

**Reason for Change:** To Improve Productivity

**Change Implementation Status:** Complete

**Date Document Changes Effective:** 11 May 2020

**NOTE:** Please be advised that this is a change to the document only the product has not been changed.

**Markings to Distinguish Revised from Unrevised Devices:** N/A

**Attachment(s):**

[ATxmega128/64/32/16A4U Silicon Errata and Data Sheet Clarification](#)

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Affected Catalog Part Numbers (CPN)

ATXMEGA128A4U-AU  
ATXMEGA128A4U-AUR  
ATXMEGA128A4U-CU  
ATXMEGA128A4U-CUR  
ATXMEGA128A4U-MH  
ATXMEGA128A4U-MHR  
ATXMEGA16A4U-AN  
ATXMEGA16A4U-ANR  
ATXMEGA16A4U-AU  
ATXMEGA16A4U-AUR  
ATXMEGA16A4U-CU  
ATXMEGA16A4U-CUR  
ATXMEGA16A4U-MH  
ATXMEGA16A4U-MHR  
ATXMEGA32A4U-AN  
ATXMEGA32A4U-ANR  
ATXMEGA32A4U-AU  
ATXMEGA32A4U-AUR  
ATXMEGA32A4U-CU  
ATXMEGA32A4U-CUA0  
ATXMEGA32A4U-CUR  
ATXMEGA32A4U-MH  
ATXMEGA32A4U-MHR  
ATXMEGA32A4U-MHR893  
ATXMEGA64A4U-AU  
ATXMEGA64A4U-AUR  
ATXMEGA64A4U-CU  
ATXMEGA64A4U-CUR  
ATXMEGA64A4U-MH  
ATXMEGA64A4U-MHR



# ATxmega128/64/32/16A4U

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## ATxmega128/64/32/16A4U Silicon Errata and Data Sheet Clarification

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### Introduction

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The ATxmega128/64/32/16A4U devices you have received conform functionally to the current device data sheet (<http://www.microchip.com/DS40002166>), except for the anomalies described in this document. The errata described in this document will likely be addressed in future revisions of the ATxmega128/64/32/16A4U devices.

**Note:**

- This document summarizes all the silicon errata issues from all revisions of silicon, previous as well as current.

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### 1. Silicon Issue Summary

#### Legend

- Erratum is not applicable.
- X Erratum is applicable.
- \* This silicon revision was never released to production.

Peripheral	Short Description	Valid for Silicon Revision							
		ATxmega16A4U		ATxmega32A4U		ATxmega64A4U			ATxmega128A4U
		Rev. A-D	Rev. E	Rev. A-D	Rev. E	Rev. A-B	Rev. C	Rev. D	Rev. A
ADC	ADC May Have Missing Codes in Single Ended Unsigned Mode at Low Temp and Low V <sub>CC</sub>	*	X	*	X	*	X	X	X
CRC	CRC Fails for Range CRC When End Address is the Last Word Address of a Flash Section	*	X	*	X	*	X	X	-
AWeX	AWeX Fault Protection Restore is Not Done Correctly in Pattern Generation Mode	*	X	*	X	*	X	-	-
Hi-Res	Hi-Res Extension Does Not Work for TC0/1 CCB and CCD	*	X	X	X	*	X	X	X

## 2. Silicon Errata Issues

### 2.1 Errata Details

- Erratum is not applicable.
- X** Erratum is applicable.
- \* This silicon revision was never released to production.

### 2.2 ADC - Analog to Digital Converter

#### 2.2.1 ADC May Have Missing Codes in Single Ended (SE) Unsigned Mode at Low Temp. and Low V<sub>CC</sub>

The ADC may have missing codes in SE unsigned mode below 0°C when V<sub>CC</sub> is below 1.8V.

##### Workaround

Use the ADC in SE signed mode.

##### Affected Silicon Revisions

ATxmega16A4U		
Rev. A - D	Rev. E	
*	X	

  

ATxmega32A4U	
Rev. A - D	Rev. E
*	X

  

ATxmega64A4U		
Rev. A-B	Rev. C	Rev. D
*	X	X

  

ATxmega128A4U
Rev. A
X

### 2.3 CRC - Cyclic Redundancy Check

#### 2.3.1 CRC Fails for Range CRC When End Address is the Last Word Address of a Flash Section

If the boot read lock is enabled, the range CRC cannot end on the last address of the application section. If the application table read lock is enabled, the range CRC cannot end on the last address before the application table.

##### Workaround

Ensure that the end address used in Range CRC does not end at the last address before a section with read lock is enabled. Instead, use the dedicated CRC commands for complete application sections.

### Affected Silicon Revisions

ATxmega16A4U		
Rev. A - D	Rev. E	
*	X	

  

ATxmega32A4U	
Rev. A - D	Rev. E
*	X

  

ATxmega64A4U		
Rev. A-B	Rev. C	Rev. D
*	X	X

  

ATxmega128A4U	
Rev. A	
-	

## 2.4 AWeX - Advanced Waveform eXtension

### 2.4.1 AWeX Fault Protection Restore is Not Done Correctly in Pattern Generation Mode

When a fault is detected, the OUTOVEN register is cleared, and when the fault condition is cleared, OUTOVEN is restored according to the corresponding enabled DTI channels. For Common Waveform Channel Mode (CWCM), this has no effect as the OUTOVEN is correct after restoring from fault. For Pattern Generation Mode (PGM), OUTOVEN should instead have been restored according to the DTLSEBUF register.

#### Workaround

For CWCM, no workaround is required.

For PGM in latched mode, disable the DTI channels before returning from the fault condition. Then, set the correct OUTOVEN value and enable the DTI channels, before the direction (DIR) register is written to enable the correct outputs again.

### Affected Silicon Revisions

ATxmega16A4U		
Rev. A - D	Rev. E	
*	X	

  

ATxmega32A4U	
Rev. A - D	Rev. E
*	X

  

ATxmega64A4U		
Rev. A-B	Rev. C	Rev. D
*	X	-

ATxmega128A4U	
Rev. A	
-	

## 2.5 Hi-Res - High-Resolution Extension

### 2.5.1 Hi-Res Extension Does Not Work for TC0/1 CCB and CCD

Enabling TC0/1 CCB or CCD with the Hi-res extension will cause incorrect values on belonging channel output in any of the waveform generation modes.

#### Workaround

None.

#### Affected Silicon Revisions

ATxmega16A4U	
Rev. A - D	Rev. E
*	X

ATxmega32A4U	
Rev. A - D	Rev. E
*	X

ATxmega64A4U		
Rev. A-B	Rev. C	Rev. D
*	X	X

ATxmega128A4U	
Rev. A	
X	



### 3. Data Sheet Clarifications

The following typographic corrections and clarifications are to be noted for the latest version of the device data sheet (<http://microchip.com/DS40002166>).

**Note:** Corrections are shown in **bold**. Where possible, the original bold text formatting has been removed for clarity.

#### 3.1 None

There are no known data sheet clarifications as of this publication date.

## 4. Document Revision History

**Note:** The data sheet clarification document revision is independent of the die revision and the device variant (last letter of the ordering number).

### 4.1 Revision History

Doc. Rev.	Date	Comments
A	04/2020	Initial release of this document. <ul style="list-style-type: none"><li>• Content moved from the data sheet and restructured to the new document template</li><li>• Updated the die revision list to reflect die revisions in production</li><li>• Added silicon issue <i>Hi-Res Extension Does Not Work for TC0/1 CCB and CCD</i></li></ul>

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