



TouchXpress™ Family

CPT112S Errata

This document contains information on the CPT112S errata. The latest available revision of this device is revision A02.

For errata on older revisions, refer to the errata history section for the device. The revision information is typically specified in or near the trace code on the device. Refer to the package marking information in the data sheet for more information.

Errata effective date: May 18th, 2021.

1. Active Errata Summary

These tables list all known errata for the CPT112S and all unresolved errata in revision A02 of the CPT112S.

Table 1.1. Errata History Overview

Designator	Title/Problem	Exists on Revision:	
		A01	A02
CPT_E101	Current Consumption	X	—
CPT_E102	Maximum Slider Position	X	X

Table 1.2. Active Errata Status Summary

Errata #	Designator	Title/Problem	Workaround Exists	Affected Revision	Resolution
1	CPT_E102	Maximum Slider Position	Yes	A01	—

2. Detailed Errata Descriptions

2.1 CPT_E102 – Maximum Slider Position

Description of Errata
<p>The revision 0.2 data sheet description of the slider range is as follows:</p> <p><i>The range of possible reported slider active positions can be 0 to the maximum value of the slider as defined in the configuration profile, which can be any value between 40 and 65534. The 65535 (0xFFFF) value is reserved for a slider untouched event.</i></p> <p>This is incorrect, and using this guidance may cause overflows in the slider position algorithm.</p> <p>The allowable slider range is correctly described by the following equation:</p> $\text{Maximum Touch Delta} \times (\text{Maximum Slider Position})^2 \times \left(\frac{\sum_{n=1}^S S_n}{S} - 1 \right) \leq 0xFFFFFFFF$ <p>where Maximum Touch Delta is the maximum touch delta across all of the slider channels, S is the number of slider channels, and S_n is the slider channel number.</p> <p>For example, if the Maximum Touch Delta is 704, the Maximum Slider Position is 1000, and the slider is made up of 4 sensors, the equation is:</p> $704 \times (1000)^2 \times \left(\frac{1+2+3+4}{4} - 1 \right) = 0x29F63000$ <p>Since the result is less than 0xFFFFFFFF, the settings are valid.</p> <p>This guidance will be added to the next revision of the data sheet and has already been incorporated into the latest version of Xpress Configurator in Simplicity Studio (www.silabs.com/simplicity).</p>
Affected Conditions / Impacts
<p>Systems attempting to use the maximum slider position described in the revision 0.2 data sheet may see overflow errors in the slider position calculation algorithm.</p>
Workaround
<p>Use the latest version of Xpress Configurator in Simplicity Studio to ensure there are no errors with the Maximum Touch Delta and Maximum Slider Position settings.</p>
Resolution
<p>This issue will be resolved in the next version of the data sheet. The latest version of Xpress Configurator in Simplicity Studio already includes this guidance.</p>

3. Errata History

This section contains the errata history for CPT112S devices.

For errata on the latest revision, refer to the beginning of this document. The device data sheet explains how to identify chip revision, either from package marking or electronically.

3.1 Errata Summary

This table lists all errata for the CPT112S.

Table 3.1. Errata History Status Summary

Errata #	Designator	Title/Problem	Workaround	Affected	Resolution
			Exists	Revision	
1	CPT_E101	Current Consumption	No	A01	A02

3.2 Detailed Errata Descriptions

3.2.1 CPT_E101 – Current Consumption

Description of Errata		
<p>Devices spend more time than intended in Active and Optimized Active modes when performing Sleep mode scans, which causes the overall current consumption of the devices to increase.</p> <p>As an example, the current consumption is typically:</p>		
Mode	Data Sheet Specified Value	Measured Value
Sleep Mode Current — 3 sensors or fewer	0.78 μ A	3.78 μ A
Sleep Mode Current — 4 sensors	0.79 μ A	3.79 μ A
Sleep Mode Current — 7 sensors	0.84 μ A	3.84 μ A
<p>As shown, the measured values are higher than the values specified in the device data sheet by approximately 3 μA. This offset value will increase as scan period reduces. The amount of time spent in Active mode and Optimized Active during Sleep mode scanning remains the same, but as the Sleep mode scan period decreases, the time that the device can be in its lowest power Sleep state decreases. The resulting increase in average current draw during Sleep mode scanning is an exponential curve that increases as Sleep mode scan period decreases.</p>		
Affected Conditions / Impacts		
<p>The increased current consumption impacts applications that are using Sleep mode scanning.</p> <p>There is no impact for applications that stay in Active or Optimized Active modes.</p>		
Workaround		
<p>There is currently no workaround for this issue.</p>		
Resolution		
<p>This issue is resolved in revision A02 devices.</p>		

4. Revision History

4.1 Revision 0.3

May 18, 2021

Merged errata history and errata into one document.

Added [CPT_E102](#).

4.2 Revision 0.2

August 12th, 2016

Moved CPT_E101 from the errata to the errata history.

4.3 Revision 0.1

November 18th, 2015

Initial release.

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