



## Product Change Notification - SYST-09UANY086

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**Date:**

13 Aug 2019

**Product Category:**

USB Hubs

**Affected CPNs:**



**Notification subject:**

ERRATA - USB2412 Errata Document Revision

**Notification text:**

SYST-09UANY086

Microchip has released a new Product Documents for the USB2412 Errata of devices. If you are using one of these devices please read the document located at [USB2412 Errata](#).

**Notification Status:** Final

**Description of Change:** 1) Initial release of this document.

**Impacts to Data Sheet:** None

**Reason for Change:** To Improve Productivity

**Change Implementation Status:** Complete

**Date Document Changes Effective:** 13 August 2019

**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):**

[USB2412 Errata](#)

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Affected Catalog Part Numbers (CPN)

USB2412-DZK

USB2412-DZK-TR

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## USB2412

### Silicon Errata and Data Sheet Clarification

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This document describes known anomalies in the USB2412 device.

**TABLE 1: SILICON ISSUE SUMMARY**

| Item Number | Silicon Issue Summary    |
|-------------|--------------------------|
| 1           | Detach detection failure |

#### Module 1: Detach detection failure

##### DESCRIPTION

When a Full-Speed/Low-Speed device detaches and quickly re-attaches, such as when issued a reset command over USB or other sideband control signal, there is a chance that the USB hub will not recognize the device detach and communicate the device detach event to the USB host. This may result in a failure to establish a connection with the device after the device is re-attached.

The hub requires 100us of uninterrupted SE0 line state (both D+ and D- lines below V<sub>IL</sub>(min)) before a device detach is detected.

##### END USER IMPLICATIONS

This issue does not typically apply to a physical detach, as a physical device detach and re-attach typically involves much longer time scales.

This issue may be encountered when a device performs a self detach and re-attach as a result of some special command over USB or a reset due to some stimulus within the device's system (such as a button reset).

##### Work around

There are two possible work arounds:

1. Ensure that the hub port detects an SE0 line state for > 100us before re-attaching the device.
  - a) The device must remove its D+ or D- pull-up resistor to ensure SE0 line state is achieved.
  - b) There must be at least one 100μs gap in between packets while the device is in the detached state.
2. If the device is being commanded to detach and re-attach from USB host command (such as when instructing a device to re-enumerate in a different mode of operation), issue a Port Reset command to the hub for the respective port immediately after the detach command is issued to ensure that the device can be properly detected when it re-attaches.

##### PLAN

This erratum will not be corrected in a future revision.

# USB2412

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## APPENDIX A: DOCUMENT REVISION HISTORY

TABLE A-1: REVISION HISTORY

| Revision Level & Date  | Section/Figure/Entry | Correction       |
|------------------------|----------------------|------------------|
| DS80000824A (03-20-19) | All                  | Initial release. |

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