PSoC® Creator™ 2.0 Migration Guide

Introduction

This document discusses the known issues that may be encountered when migrating designs from PSoC Creator 1.0 (Beta, Production or Service Pack release) to version 2.0. It does not cover the specifics of migrating from ES-marked (engineering sample) PSoC 5 devices to production parts. That process is described in document 001-74087, *Migrating to PSoC® 5 Production Devices*. The document is located on disk in the installation "documentation" folder and online at http://www.cypress.com/go/creator_migration.

In addition to new components and features, PSoC Creator 2.0 includes tool updates and new component revisions for both PSoC 5 and PSoC 3 devices. Cypress strongly recommends that you update the software and migrate your designs to the latest component revisions.

However, some changes to the software may impact your existing designs, requiring some care when moving to the new tool and updating components. Note that in most cases, the requested updates are a result of improved behavior in newer components and better error checking in the tool.

The two key migration issues discussed in the document are:

- Handling Obsolete Devices
- Migrating Components from PSoC Creator 1.0

Handling Obsolete Devices

The various PSoC Creator 1.x releases included several PSoC 3 and PSoC 5 part numbers that are now obsolete. The impacted devices were never sampled to users and have been removed from the device catalog in PSoC Creator 2.0.

If you have a project using one of these obsolete devices, you will be prompted to change it when opening the project in PSoC Creator 2.0. In all cases, the tool will suggest an appropriate, functional superset and pin-compatible device to use.

1. Start by opening the design in PSoC Creator 2.0.

   Note The tool will automatically create a backup copy of the original project.

2. If your old design contains a device that is not available, a dialog will display prompting you to select a replacement device.

3. Click **OK** to open the project with the suggested device, or click **Device Selector** to select a different device.

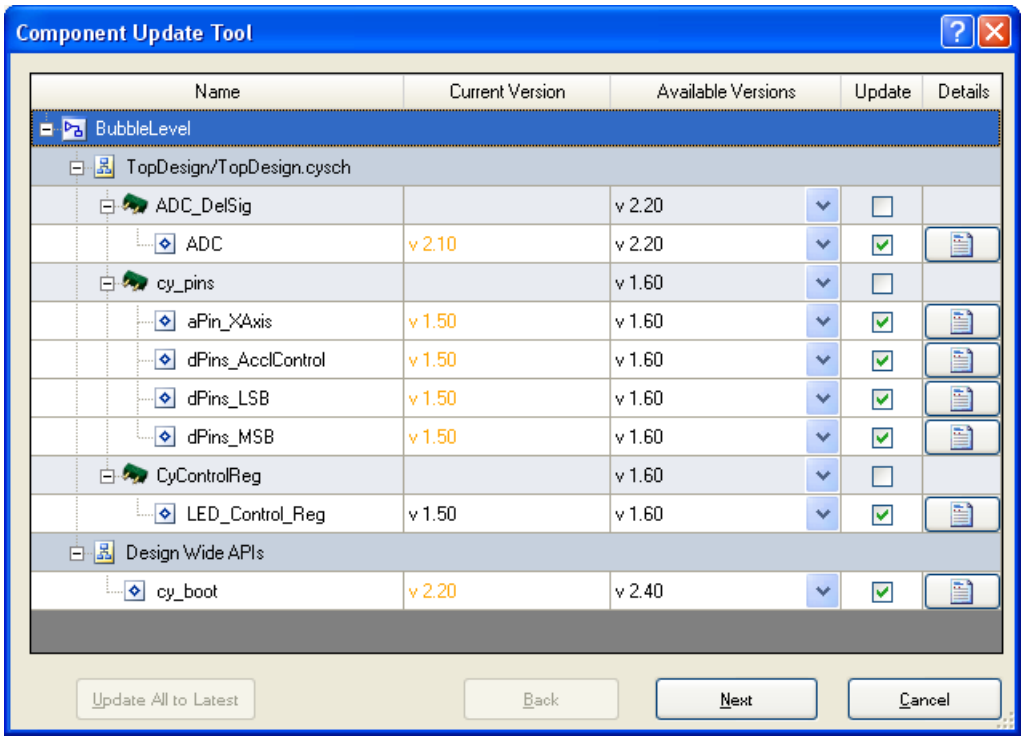
Migrating Components from PSoC Creator 1.0

Component Update Tool

When you open a project that was last saved in PSoC Creator 1.0 in the new software you will be prompted to update components to the latest version. This is optional but recommended.

1. Use the Component Update Tool (available from the **Project** menu) to choose the latest, production-ready versions of all components.

   It is recommended that all components are updated together and an “Update All to Latest” button is provided to ensure the newest versions are selected for update.



Be aware that major version changes (e.g., from v1.xx to v2.xx) are not guaranteed to be backward compatible. So, review the component change logs carefully (these are located at the end of the component datasheets). See Impacted Components for a list of components and highlights of major changes.

2. Rebuild the design and test.

Impacted Components

The following components have new revisions in PSoC Creator 2.0:

- ADC_DelSig
- ADC_SAR
- BoostConv
- CAN
- CapSense_CSD
- Clock
- Comparator
- Control Register
- Counter
- CRC
- cy_boot
- DieTemp
- EEPROM
- I^2C
- I^2S
- IDAC8
- Mixer
- Mux/Demux
- Opamp
- PGA
- PGA_Inv
- Pins
- PWM
- QuadDec
- SegLCD
- Shift Register
- SPI_Master
- SPI_Slave
- StaticSegLCD
- Status Register
- TIA
- Timer
- UART
- USBFS
- VDAC8

The following are some of the high-level impacts of various component changes. Refer to each individual component datasheet for specific changes made as needed.

ADC DelSig

The EOC terminal from the ADC DelSig is only available for a single interrupt and a single DMA. It is not routable as a hardware signal.

CapSense

The CapSense component has been replaced with a new CapSense_CSD component. The APIs for the new component are significantly different in their implementation.

Comparator

Older Comparator components are obsolete because they offer the “PowerDownOverride” option on a device that does not support the feature.

cy_boot

This is a required component that is automatically and invisibly instantiated in all designs. It provides boot code and system APIs that are documented in the System Reference Guide.

For PSoC 5 and PSoC 3 production devices, Cypress recommends upgrading to at least version 2.30 and version 2.21, respectively. If you use an older version of cy_boot, PSoC Creator will generate various warnings.

Fixed-Function Timer/Counter/PWM

The fixed-function implementations for the Timer, Counter and PWM components do not support connections to the interrupt terminal. The interrupt terminal is shown on the symbol for compatibility issues, but if you connect it there will be a DRC error during the build. You can either use the UDB implementation of these components, or use the “Interrupt on TC” option from the component’s Configure dialog. You can also route from the TC terminal through the DSI.

I²C

Older I²C component versions are obsolete because they offer the “EnableWakeup” option on a device that does not support the feature.

Pins

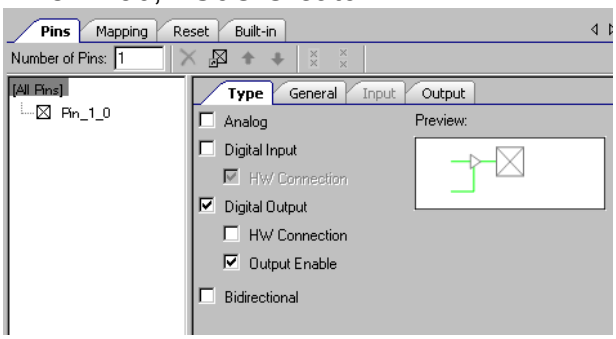
Reset Tab

The Pins component has been be updated to remove the Reset tab from the Configure dialog for PSoC 5 devices. All IOs have the same, fixed reset state (High-Z, input buffer disabled).

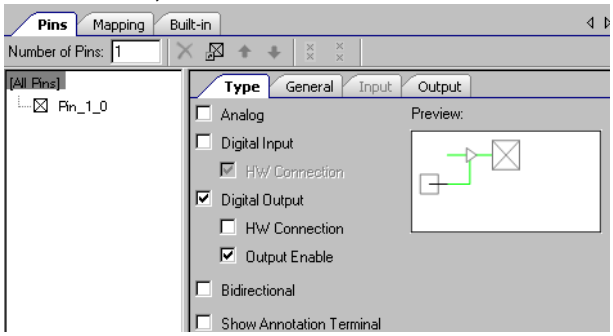
Hardware Connection

The Pins component has been updated for the Output Enable hardware connection. In version 1.50 the terminal connection was not shown if the Hardware Connection option was not selected. In version 1.60, the terminal connection is always shown. When upgrading the Pins component, it is possible that this terminal might connect with an existing wire.

Pins v1.50, PSoC Creator 1.x



Pins v1.60, PSoC Creator 2.0



UART

For PSoC 5, the IMO has reduced accuracy. As a result, PSoC 5 does not support UART operation using the IMO as the source clock. An external clock source (e.g., XTAL or XTAL_32KHZ) is required.

USB

For PSoC 5, the IMO has reduced accuracy. As a result, PSoC 5 does not support USB operation using the IMO as the source clock. An external clock source (XTAL) at 24 MHz is required instead. Also, the bus clock (BUS_CLK) must be greater than 33 MHz.

Document History

Document Title: PSoC® Creator™ 2.0 Migration Guide

Document Number: 001-73852

Revision	Submission Date	Description of Change
**	11/16/2011	New Spec – Initial Release for PSoC Creator 2.0