PSoC® Designer™ Release Notes

Version 5.4 Service Pack 1
Release Date: 4 March 2015

Thank you for your interest in PSoC Designer. PSoC Designer is a complete Integrated Development Environment (IDE) for designing with PSoC 1 devices. This is the production release of PSoC Designer.

This document describes the new features and changes since the previous release.

Contents

New Features, User Modules, and Device Support

The following section details the new features released with PSoC Designer.

Support for New CY8C20075 Device

This release provides support for the following new CY8C20075 devices:

Marketing Part Number	Package	Flash	SRAM
CY8C20075-24LKXI	16-QFN	8K	1K

Support for New CY7C64346 Device

This release provides support for the following new CY7C64346 devices:

Marketing Part Number	Package	Flash	SRAM
CY7C64346-32LQXC	32-QFN	32K	2K

Updated User Modules

The following user modules have undergone significant upgrades:

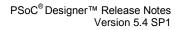| User Module Name	Description
CSD2x	Improved operation of shorts detection, Cmod(*Rb) measurement, and Background scanning features. Fixed issues with compiler optimization.
SmartSense2X	
SmartSense2X_EMC	
EzADC	Corrected the operation of the OffsetCompensation parameter and EzADC_GetSamples API function.
BootLdrI2C	BootLdrI2C user module has been added to the CY8C20055 device family.
Thermistor	Improved the methods of temperature and resistance calculation.

Supported Tool Chains

ImageCraft Compiler (Standard and Pro versions)

One of the following compilers is required for PSoC Designer 5.4 Service Pack 1.

ICCV7 for M8C STD version 7.05.00

ICCV8 for M8C PRO version 8.05.00

User Module Changes

The table below is the list of the user modules that were updated in this release. For detailed listing and descriptions of the changes, see the version history tables in user module datasheets.

User Module Name (Device Family)	Version
EzI2Cs (for CY8C20xx5/6/7 and enCoRe V devices)	1.60
BootLdrI2C (for CY8C20xx5/6/7 and enCoRe V devices)	3.20
CSD2X (for CY8C21x45 and CY8C22x45 devices)	4.00
AMUXn	3.00b
BootLdrI2C	3.00b
BootLdrUSBFSe	3.00b
CSD	2.00
CSD2X	3.00
CSDPlus	1.30
EzADC	2.00
LED	2.00
SmartSense	1.70
SmartSense_EMC	1.40
SmartSense_EMCplus	1.30
SmartSense2x	2.00
SmartSense2x_EMC	2.00
SPIS	2.80
Thermistor	2.10
TX8SW	1.30

PSoC Designer Compatibility Matrix

PSoC Designer provides backward compatibility for projects created between PSoC Designer 4.4 and PSoC Designer 5.4 through the project update mechanism. The following table shows the project compatibility matrix:

Designer Release	4.2	4.3	4.4	5.0	5.1	5.2	5.3	5.4
4.2	Yes	Yes	Yes	No	No	No	No	No
4.3	-	Yes	Yes	No	No	No	No	No
4.4	-	-	Yes	Yes	Yes	Yes	Yes	Yes
5.0	-	-	-	Yes	Yes	Yes	Yes	Yes
5.1	-	-	-	-	Yes	Yes	Yes	Yes
5.2	-	-	-	-	-	Yes	Yes	Yes
5.3	-	-	-	-	-	-	Yes	Yes
5.4	-	-	-	-	-	-	-	Yes

"Yes" = Projects can be opened with or updated to a later version.

"No" = Projects can neither be opened with nor updated to a later version.

"-" = Not applicable – Projects created with the latest versions of PSoC Designer cannot be opened in its older versions.

Open Source

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Internet Explorer 9 Installation

After installing PSoC Designer, if you update or install Internet Explorer 9, an issue may arise that will require a reinstallation of the SVG Viewer. PSoC Designer has implemented a runtime check that will warn users if this error is found. To eliminate this error, please, perform the following actions.

1) Navigate to the following web page and download the latest SVG Viewer:

http://www.adobe.com/svg/viewer/install/

or use the direct link for the English version of Adobe SVG Viewer.

http://download.adobe.com/pub/adobe/magic/svgviewer/win/3.x/3.03/en/SVGView.exe

2) Run this installer following the instructions. Once the SVG Viewer has been re-installed, you will not receive the runtime error message and PSoC Designer will function properly.

Users with Internet Explorer 9 installed prior to PSoC Designer will not need to reinstall the SVG Viewer. CyInstaller updates the SVG Viewer during the installation.

Installation

Minimum and Recommended Requirements

Hardware/Operation System Requirements	Minimum	Recommended
• Processor Speed	2 GHz	2 GHz Dual Core
• MB of RAM	2 GB	3 GB
• MB of Free Hard Drive Space	1.3 GB	1.3 GB
• Screen Resolution	1024x768	1280x1024
• CD/DVD Drive*	Not Req.	✓
• USB	Full Speed	2.0 Hi-Speed
• Windows® XP (SP2 or higher), Vista, Windows 7, Windows 8, Windows 8.1	✓	✓
Software Prerequisites **	**Minimum**	**Recommended**
• Microsoft Internet Explorer	7	
• .NET Framework	2.0 SP1	
• Adobe Reader (for viewing PDF Documentation)	6	9
• Windows Installer	3.1	
• PSoC Programmer	3.22.0	

* CD/DVD drive is only required for installation with no web access.

** Software Prerequisites – To install and run PSoC Designer, you may also need to install additional software. Cypress Installer guides you through the process if the additional programs are not already installed.

Update Instructions

As part of the installation process, the Cypress Update Manager utility is also installed and located on the **Start** menu. You can use this utility to update all the programs you have installed when updates for them become available.

Follow the instructions provided with the tool.

Installation Notes

Cypress uses the Live Update feature to simplify the installation process and to decrease a download size. This process consists of a set of wizards that walk you through the installation. You can install PSoC Designer and its various prerequisites from the web, but if you have issues with installing behind a firewall or on a machine with no internet connection, an ISO file is provided on the web to create your own CD. There are slight differences in the process, based on the medium used to install the software.

The CD provides the necessary prerequisites and wizards to guide you through installing the appropriate software. The following sections contain more specific installation details.

Note Do NOT connect your Cypress programmers (Miniprog1, Miniprog3, etc) until all software installation is complete AND the PSoC Designer application is open.

PSoC Designer CD Installation

The PSoC Designer CD contains PSoC Designer and PSoC Programmer as well as various prerequisites.

1. Load the CD. The main installer program should run automatically. If not, double-click the cyautorun.exe file to launch it.

2. On the main installer, click the **Install the PSoC Designer 5.4…** button to launch the PSoC Designer InstallShield Wizard.

3. Follow the prompts on the wizard. The CyInstaller for PSoC Designer opens and displays steps to install PSoC Designer.

4. Click the hyperlink for any software that is not installed as indicated (such as, .NET, etc.). Run the installer for that program as needed.

5. Continue following the prompts to install PSoC Designer.

Web Installation

If you are downloading the software from the web (www.cypress.com/go/psocdesigner), run the PSoC Designer single package executable.

1. Double-click the PSoC Designer executable file to launch the installer.

2. If a non-Cypress prerequisite is missing (like .Net and Windows Installer, etc), a webpage with a download link will pop up. Download and install the prerequisites. Run the installer of those programs as needed.

3. Follow the prompts to install PSoC Designer. The CyInstaller for PSoC Designer opens and displays a series of steps to install PSoC Designer, and it will perform Cypress's prerequisite checks and install the prerequisites like PSoC Programmer.

4. When complete, close the installer

System-level Design Users

Users who wish to continue developing system-level projects need to install PSoC Designer 5.0 SP6. The system-level development has been removed from PSoC Designer. PSoC Designer 5.0 SP6 is provided on the PSoC Designer archives web page for any user interested in maintaining system-level projects, although creating new projects is no longer recommended. PSoC Designer 5.0 SP6 and PSoC Designer 5.4 will coexist on the same machine allowing users to continue developing system-level designs and designing new chip-level designs with PSoC Designer.

Note to HI-TECH Compiler Users

The HI-TECH compiler is no longer supported by PSoC Designer. At your own risk, you may perform the following instructions if you wish to enable your existing HITECH PRO license.

You must manually update the *psoc.ini* file to add the device support before you can compile projects that use the new devices. The HI-TECH *psoc.ini* file is found in the HI-Tech installation folder. The default location of the *psoc.ini* is here:

C:\Program Files\HI-TECH Software\HCPSOC\PRO\9.61\dat\psoc.ini

The default location of the replacement *psoc.ini* file that adds support for the new devices is here:

C:\Program Files\Cypress\PSoC Designer\5.4\Common\CypressSemiDeviceEditor\Devices\psoc.ini

PSoC Designer Known Problems and Limitations

The **Knowledge Base Search** web page contains solutions to known issues:

http://www.cypress.com/?id=4&rtID=330.

Removed SD Card User Module

Starting from PSoC Designer 5.0 SP5, SD Card User Module is not supported.

Restriction of pin-names

Starting from PSoC Designer 5.0, names of pins have a restriction – it is not allowed to use symbols and spaces in pin names except English letters and digits. Names of pins should start with a letter.

Further Reading

The documentation for PSoC Designer is provided with on-line help, which you can open from the **Help** menu or by pressing [**F1**]. There are numerous other documents under the **Help->Documentation** menu, including:

- IDE User Guide
- PSoC Designer Release Notes
- Updating boot.tpl file (*update of BOOT.pdf*)
- Project Update help (*Version Update.pdf*)
- ICE User Guide
- C Language Compiler User Guide
- Math Libraries User Guide

- ▪ ImageCraft Release Notes
- ▪ Assembly Language Users Guide
- ▪ Hi-Tech to ImageCraft Migration guide
- ▪ User module and device datasheets
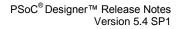
Customer Filed Defects Fixed

The following table lists the customer filed defects that were fixed in this release:

CY CDT #	Category	Title	Fix and Impact
132902	User Modules	Clarification is required on the DAC9 User Module update rate mentioned in the datasheet.	Limited the update rate of DAC9 User Module in the datasheet to 54 ksps.
151831	User Modules	The E2PROM User Module datasheet states 511 flash blocks for the 32 K device.	Corrected the number of flash blocks in the E2PROM User Module datasheet.
154815	User Modules	Negative noise spikes in the CSDPLUS User Module RawCounts.	Removed the negative RawCounts spikes if long interrupts are present in the CSDPLUS User Module.
155730	User Modules	CSD_Start API function disconnects LUT1 from the global buses.	Resolved the issue that CSD_Start API disconnects the Row_0_Output_1 connections to the Global Output buses for CY8C21x12 devices.
156695	User Modules	The incorrect register map table in the I2C Bootloader User Module datasheet.	Updated the description of the Initial Status response registers in the BootLdrI2C User Module datasheet.
157825	User Modules	Bootloading does not work although the read status is 20h (sucess).	Improved the algorithm that sets the "Relocatable code start address" parameter of the ImageCraft compiler in the Bootloader User Modules.
160269	Compiler	The SmartSense2X User Module does not work with enabled Condensation and Sublimation.	Resolved the issue with CapSense User Modules operation if ImageCraft compiler optimization is enabled.
160784	User Modules	EzADC_GetSamples(1) function does not work if Offset Compensation enabled.	Corrected operation of the EzADC_GetSamples API function in the EzADC User Module.
161119	User Modules	The PLT_Start and PLT_Restart API functions overwrite Port Data.	Updated the PLT User Module datasheet with the information how to control GPIO pins.
161128	User Modules	No build error present if pins are not assigned in the AMuxN User Module's Wizard.	Added build error if the AMuxN User Module's Wizard hasn't been called.
161661	Engine	The wrong prototype is shown for the ftoa() library function.	Corrected operation of AutoComplete with the library functions.
162070	Linker	The E2PROMx128 User Module overwrites the user variable at RAM 0xF7.	Removed the byte of RAM with the 0x00F7 address from the RAM space in devices with a 128-byte flash block.

CY CDT #	Category	Title	Fix and Impact
163520	User Modules	The sensor on P1[5] does not work when the Rb pin is at P14.	Corrected the masks of Data and Drive Mode Registers for the Rb pin in the CSD User Module for CY8C21xxx devices.
164237	Compiler	A linker error only when Condensation is enabled.	Resolved the issue with CapSense User Modules operation if ImageCraft compiler optimization is enabled.
170085	Engine	The pinout window disappears if sign "&" is typed.	Added verification if a pin name contains a "&" symbol.
170105	User Modules	Insufficient flag operation in the EzI2C User Module.	Corrected the method of clearing status bits in the EzI2Cs_SCR_REG register in the EzI2Cs User Module on CY8C20xx7 devices.
174423	Engine	The CPU usage increases up to 100% when PSoC Designer is opened.	Corrected operation of AutoComplete with the "DS", "DSU" and "ASCIZ" Assembly types.
174583	User Modules	Unable to assign pin P3[0] to the PWM8SW User Module's output.	Updated the PWM8SW User Module datasheet with the information how to assign any pin to the User Module's output.
179172	User Modules	Include memory.inc in SPISINT.asm template.	Included the memory.inc file into SPISINT.asm.
181513	User Modules	The TX8SW User Module start bit failure.	Resolved the issue with incorrect generation of the start bit at low baud rates (4800 bps and lower) when the CPU clock is high (6 MHz and above).
186084	User Modules	The CYFISNP Node User Module is not supported in the CYRF69103 device.	Added support of CYRF69103 devices for CYFISNP User Module.
186849	User Modules	An error when upgrading the I2Cm User Module from version 1.4 to 2.00.	Resolved the issue with the I2Cm User Module upgrade from version 1.4 to 2.00.
189502	User Modules	RawCount overflows when a finger touches the sensor.	Resolved the issue with RawCounts overflow in the CSD User Module for CY8C21xxx devices.
194554	User Guide	The arith.inc usage to be corrected in the Arithmetic Libraries document.	Corrected the description of the Arithmetic Libraries usage in Assembly.
194998	User Modules	It is not possible to place the PWM8 user module in 3rd row.	Fixed placement configurations for PWM8 and PRS16 User Modules for CY8C28xxx devices.
195800	User Modules	The COMP User Module's Wizard does not appear for the CY8C24123A-24SXI device.	Corrected operation of the COMP User Module's Wizard on the CY8C24x23 devices.

CY CDT #	Category	Title	Fix and Impact
196977	User Modules	An error when importing an LDF file into the LINs User Module.	Corrected import operation of the LINs User Module's Wizard.
199496	User Modules	A problem in upgrading PSoC Designer from version 5.3 to 5.4.	Added the "Backward compatibility" description to the E2PROM User Module datasheet.
203300	User Modules	SetIdacValue API does not work.	Corrected operation of SetIdacValue API in the CSD2X User Module for CY8C21x45 and CY8C22x45 devices.

For More Information Regarding PSoC Development Tools

For more information regarding PSoC Designer functionality and releases, please, review the user guide and release notes on the PSoC Designer web page:

www.cypress.com/go/psocdesigner

For more information regarding PSoC Programmer, supported hardware, and COM layer, please, refer to the PSoC Programmer web page:

www.cypress.com/go/psocprogrammer

For more information regarding Cypress's new and exciting PSoC3, PSoC4 and PSoC5 products and the PSoC Creator development environment, please, refer to the PSoC Creator web page:

www.cypress.com/go/psoccreator

For a list of PSoC Designer-related trainings, please, refer to

www.cypress.com/?rID=40543