



PSoC Designer Release Notes

Version 5.4 Service Pack 1
Release Date: 6 February 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.

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New Features, User Modules, and Device Support

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

Support for New CY8C20075 Device (Beta)

This release provides beta level support for the following new CY8C20075 devices.

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

Support for New CY7C64346 Device (Beta)

This release provides beta level 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 FMEA (shorts detection and Cmod(*Rb) measurement) and Background scanning features. Fixed issues with compiler optimization.
SmartSense2X	
SmartSense2X_EMCC	
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 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

This section details the user modules that were updated in this release. For detailed listing and descriptions of the user module changes, see the version history tables in individual user module datasheets. Here is a complete list of all user modules that have been updated:

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
BootLdrUSBFS	3.00b
CSD	2.00
CSD2X	3.00
CSDPlus	1.30
EzADC	2.00
LED	2.00
SmartSense	1.70
SmartSense_EM	1.40
SmartSense_EMplus	1.30
SmartSense2x	2.00
SmartSense2x_EM	2.00
SPIS	2.80
Thermistor	2.10
TX8SW	1.30

PSoC Designer Compatibility Matrix

PSoC Designer provides backwards compatibility for projects created between PSoC Designer 4.4 and PSoC Designer 5.4 through the project update mechanisms. 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” = The projects can be opened or updated to a later version.

“No” = The projects can neither be opened nor updated to a later version.

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

Open Source

Portions of this software package are licensed under free and/or open source licenses. Such free and/or open source software is subject to the applicable license agreement and not the Cypress license agreement covering this software package. The applicable license terms will accompany each source code package. You may obtain the source code of such free and/or open source software at no charge from this web site: www.cypress.com/go/opensource.

Internet Explorer 9 Installation

After installing PSoC Designer, if the user updates or installs Internet Explorer 9, an issue may arise with SVG Viewer that will require a reinstall of 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 and follow the installation instructions. Once SVG Viewer has been re-installed you will not receive the runtime message and PSoC Designer will function properly.

Users with Internet Explorer 9 installed prior to PSoC Designer will not need to reinstall SVG Viewer. CyInstaller will update SVG Vewer during 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.

To install PSoC Designer, you need to install PSoC Programmer first. CDs provide the necessary prerequisites and the wizards to guide you through installing the appropriate software. The Web installation requires you to download and install the executables separately. The following sections contain more specific installation details.

Note Do NOT connect your Cypress Programmers (Minipro1, Minipro3, etc) until all software installation is complete AND the PSoC Designer application is open.

How to Install PSoC Designer from the Web:

1. Download PSoCDesignerSetup.exe from the Cypress website.
2. PSoCDesignerSetup.exe will install CyInstaller for PSoC Designer.
3. CyInstaller will do a pre-requisite test, leading the user through the install process for missing prerequisites such as PSoC Programmer.
4. When the pre-requisite tests are passed, CyInstaller provides the user with the option to do a "Typical", "Complete" or "Custom" install.
 - a. Typical or Complete Install: Will install the latest available PSoC Designer release.
 - b. Custom Install: Will show the user all releases of PSoC Designer and install the selected release (for now there is just one).
5. Once the PSoC Designer release is downloaded, CyInstaller displays EULA and other applicable licenses.
6. Once the install is complete, CyInstaller displays the finish screen with options to view the "Release Notes" and "Add Desktop Shortcut".

How To Install Using an ISO Image (Two Methods):

1. Create a CDROM using the ISO image:
 - a. Drag the ISO image onto the CD/DVD drive containing the CD/DVD. Right click on the CD/DVD drive and select "Burn" to create a CD/DVD for PSoC Designer installations.
 - b. Download MagicISO (<http://www.magiciso.com/download.htm>) and follow the tutorial to create a CD/DVD from ISO <http://www.magiciso.com/tutorials/miso-burnwin.htm>.

Note – To burn a CD with MagicISO, you need to pay \$30 for a full version. There are also Freeware versions and tools that allow you to mount an ISO file without burning a CD. This is described in step 2.

- c. The installer, cyautorun.exe, launches once the CD/DVD is inserted in the CD/DVD drive. If not, double click cyautorun.
2. Install directly from an ISO image:
 - a. Download MagicISO (<http://www.magiciso.com/download.htm>) or other Virtual Drive creators (these are typically freeware) and create a virtual drive. Mount the ISO image on the drive from the "Mount" option in MagicISO.
 - For help with mounting and unmounting ISO images see <http://www.magiciso.com/tutorials/tutorials.htm>.
 - b. When you have mounted the ISO file, the installer should start.
 - if it does not start, double click on cyautorun.
 - c. An alternative to using Virtual Drive creators is to download winrar (<http://www.rarlab.com/download.htm>) and open the ISO file in it. Then, extract and run "cyautorun.exe".
3. cyautorun.exe prompts you to install PSoC Designer. Then follow steps 3-6 from the Web Installation instructions.

System Level Design Users:

Customers who wish to continue developing system level projects will need to install PSoC Designer 5.0 SP6. System level development has been removed from PSoC Designer. PSoC Designer 5.0 SP6 will be provided on the PSoC Designer web page or PSoC Designer archives page for any users interested in maintaining System Level projects, though creating new projects is no longer recommended. PSoC Designer 5.0 SP6 and PSoC Designer 5.x+ will coexist on the same machine allowing customers to continue developing System Level designs and continue 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 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

Known Problems and Limitations for PSoC Designer

The Known Problems and Solutions (KPS) are included in a separate file. Please, download it from the appropriate PSoC Designer directory, <http://www.cypress.com/?rID=41083>.

Removed SD card User Module

Starting from PSoC Designer 5.0 SDCard User Module is not supported. It is not recommended to use User Module.



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 the 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 required on DAC9 update rate mentioned in datasheet	Limited the update rate of DAC9 User Module in the datasheet to 54 ksps.
151831	User Modules	E2PROM user module datasheet states 511 flash blocks for 32 K device.	Corrected the number of flash blocks in the E2PROM User Module datasheet.
154815	User Modules	Negative noise spikes with CSDPLUS on Krypton2.	Removed the negative RawCounts spikes if long interrupts are present.
155730	User Modules	CSD start is disconnecting the connection from LUT1 to global bus.	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	DS: I2C Bootloader datasheet - Bootloader register map Table details.	Updated the description of the Initial Status response registers.
157825	User Modules	Bootloading is not working even though 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	SmartSense2X 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.
161119	User Modules	PLT_Start/PLT_Restart APIs overwrite Port Data.	Updated the PLT User Module datasheet with the information how to control GPIO pins.
161128	User Modules	No build errors if pins are not assigned in AMuxN UM Wizard.	Added build error if AMuxN UM Wizard hasn't been called.

CY CDT #	Category	Title	Fix and Impact
161661	Engine	Wrong prototype shown for ftoa() library function.	Corrected operation of AutoComplete with library functions.
162070	Linker	E2PROMx128 UM allocates RAM overwrites 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.
163520	User Modules	Sensor on P15 is not working when the Rb pin is at P14.	Corrected the masks of Data and Drive Mode Registers for the Rb pin.
164237	Compiler	linker error only when the condensation is enabled.	Resolved the issue with CapSense User Modules operation if ImageCraft compiler optimization is enabled.
170085	Engine	Pinout window disappears if the sign "&" is typed.	Added verification if a pin name contains a "&" symbol.
170105	User Modules	Insufficient flag operation in Krypton2 EzI2C user module.	Corrected the method of clearing status bits in the EzI2Cs_SCR_REG register on CY8C20xx7 devices.
174423	Engine	The CPU Usage in Windows Task manager shows 100% when a PD5.4 is opened.	Corrected operation of AutoComplete with "DS", "DSU" and "ASCIZ" Assembly types.
174583	User Modules	Unable to assign Port pin P3[0] to PWM8SW UM output.	Updated the PWM8SW User Module datasheet with the information how to assign any pin to the User Module output.
179172	User Modules	Include memory.inc in SPISINT.asm template.	Included the memory.inc file into SPISINT.asm.
181513	User Modules	TX8SW start bit failure in Krypton1.	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	CYFISNP Node UM not supported in CYRF69103 device.	Added support of CYRF69103 devices for CYFISNP User Module.
186849	User Modules	Error when upgrading from I2Cm v1.4 to I2Cm v2.0 user module in PSoC1.	Resolved the issue with I2Cm User Module upgrade from version 1.4 to 2.00.

CY CDT #	Category	Title	Fix and Impact
189502	User Modules	Sensor RawCount Overflow when finger Touch the Sensor(16-bit).	Resolved the issue with RawCounts overflows for CY8C21xxx devices.
194554	User Guide	Arithmetic Libraries document to be corrected on arith.inc usage.	Corrected the description of using Arithmetic Libraries in Assembly
194998	User Modules	Can't place PWM8 in 3rd Row.	Fixed placement configurations for PWM8 and PRS16 UMs for CY8C28xxx devices.
195800	User Modules	"COMP Wizard" of comparator not opening for CY8C24123-24SI device.	Corrected operation of the COMP User Module wizard on the CY8C24x23 device.
196977	User Modules	Error reporting when importing LDF file in LINS module.	Corrected import operation of LINS User Module Wizard.
199496	User Modules	Problem in upgrading PSoC Designer form 5.3 to 5.4.	Added "Backward compatibility" description to the E2PROM User Module datasheet.

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, go to the PSoC Programmer web page:

www.cypress.com/go/psocprogrammer

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

www.cypress.com/go/psoccreator

For a list of PSoC Designer-related trainings, please, see

www.cypress.com/?rID=40543



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