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The document following this cover page is marked as “Cypress” document as this is the company that originally developed the product. Please note that Infineon will continue to offer the product to new and existing customers as part of the Infineon product portfolio.

Continuity of document content
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Continuity of ordering part numbers
Infineon continues to support existing part numbers. Please continue to use the ordering part numbers listed in the datasheet for ordering.

PSoC® Programmer Release Notes

Version 3.28.0

November 28, 2018

PSoC Programmer is Cypress's programming toolchain used for programming various Cypress devices.

- Supports applications including: PSoC Creator™, PSoC Designer™, TrueTouch® Host Emulator and MTK, CyClockWizard, and Ez-Click.
- Supports all PSoC architectures including PSoC 1, PSoC 3, PSoC 4, PSoC 5LP, PSoC 6, TrueTouch®, CapSense, and Clock devices.
- Supports all Cypress programming hardware such as MiniProg1, MiniProg3, MiniProg4, TrueTouch Bridge, KitProg1, KitProg2, KItProg3, ICE-Cube, CY3240 USB-I2C Bridge.
- Provides a COM layer that can be used to create custom applications.
- Installs secondary applications such as Bridge Control Panel and Clock Programmer.

PSoC Programmer 3.28.0 release delivers:

- Support for MiniProg4 standalone programmer and debugger
- Support for KitProg3 onboard programmer and debugger on multiple Cypress kits
- Pre-production support for CCG2B product line
- Support for new part numbers in the multiply device families
- Support for several new features:
    - Customer eFuse data programming (PSoC 6 MCU devices only)
    - Reading flash content into hex file
    - Custom checksum
    - Programming of PSoC 4 and PSoC 5 MCU kits from UI via CMSIS-DAP interface
- New PSoC 6 MCU programming examples

Contents

New Features for PSoC Programmer

The following products are delivered with this PSoC Programmer 3.28.0 release:

Product	Version
Bridge Control Panel	1.19.0
Clock Programmer	1.9.0
KitProg1	2.21
KitProg2	1.05
KitProg3	1.01
Miniprog3	2.05 [3.11/2.10]
TrueTouch Bridge	1.38

Support for MiniProg4 standalone programmer and debugger

PSoC Programmer 3.28.0 supports the new MinipProg4 standalone programmer and debugger to work with PSoC 4, PSoC 5LP, and PSoC 6 MCU devices via PSoC Programmer and PSoC Creator tools. MiniProg4 also provides USB-I2C, USB-SPI and USB-UART bridging functionality for communicating with PSoC devices by using Bridge Control Panel. Refer to the MiniProg4 User Guide to get more details about this programmer.

Support for KitProg3 onboard programmer and debugger

PSoC Programmer 3.28.0 supports the KitProg3 onboard programmer and debugger to work with various Cypress kits via CMSIS-DAP Bulk and HID interfaces. KitProg3 also supports USB-UART, USB-I2C, and USP-SPI bridging functionality for communicating with PSoC devices by using Bridge Control Panel. Refer to the KitProg3 User Guide delivered with PSoC Programmer for the full list of the supported kits.

Note that kits that have legacy KitProg2 firmware on the board can be upgraded to KitProg3 via Utilities > Upgrade Firmware option in the PSoC Programmer UI. KitProg3 supports Bulk endpoints and CMSIS-DAP 2.0, for faster connections via CMSIS-DAP. KitProg2 supports Mass Storage and Proprietary modes, which are deprecated in KitProg3 firmware. For more details, please refer KitProg3 User Guide.

If you need to downgrade from KitProg3 to KitProg2 for some reason, you can do it in two ways:

1. Program KitProg2 hex file manually using a MiniProg3 probe.
2. Rename KitProg2.hex and KitProg2_1.cyacd files to KitProg3.hex and KitProg3_1.cyacd respectively, then upgrade it via Utilities->Upgrade Firmware option in PSoC Programmer UI

Note that a future release of PSoC Programmer may no longer support KitProg2.

Pre-Production support for CCG2B Family

PSoC Programmer 3.28.0 provides pre-production programming and debugging support for Cypress's CCG2B devices via SWD interface of MiniProg3 programmer.

Support for new part numbers in the multiply device families

PSoC Programmer 3.28.0 provides the support of new part numbers within the following device families:

- PSoC 4000S
- PSoC 4100S Plus
- TSG6_XL
- TSG6_L
- TSG7_XL
- CCG3PA
- CCG3PA2
- CCG5
- CCG6
- USB-SC

Customer eFuse data programming (PSoC 6 MCU devices only)

PSoC Programmer 3.28.0 supports programming customer eFuse data into PSoC 6 MCU devices. Customer data is a part of eFuse memory which is intended to store user-defined data. This extends existing functionality since PSoC Programmer already supported programming security-related fuses. **Note: blowing an eFuse is an irreversible process. Programming is recommended only in mass production programming under controlled factory conditions, and not prototyping stages.**

Reading flash content into hex file

PSoC Programmer 3.28.0 supports reading Flash memory content and storing it into a single hex image for production programming. You may store this data in raw Intel Hex format or Cypress compatible Intel Hex format. Note that raw Intel Hex format is not supported neither by PSoC Creator nor PSoC Programmer but may be supported by third-party tools.

Custom checksum

PSoC Programmer 3.28.0 supports a customer excluding at least one memory address range from checksum calculation.

Programming of PSoC 4 and PSoC 5 MCU kits from UI via CMSIS-DAP interface

PSoC Programmer 3.28.0 enables the programming of PSoC 4 and PSoC 5 kits via the corresponding KitProg (1 and 3) enumerated as CMSIS-DAP.

New PSoC 6 MCU programming examples

PSoC Programmer 3.28 provides several C#, C++, Perl and Python examples that demonstrate how to program PSoC 6 MCU devices using PSoC Programmer's COM object and Command Line interface.

Clock Programmer update

Clock Programmer is updated to address various defects.

KitProg1 firmware update

KitProg1 firmware is updated to address various defects.

TrueTouch Bridge firmware update

TrueTouch Bridge firmware is updated to address various defects.

Resolved Issues

This release includes the following defect fixes:

ID	Description
297645	KitProg2 mode switch may take a long time or may fail. This can happen with some host machines using Windows 7 OS. This issue is resolved in the new KitProg3 firmware. If you observe this behavior with your kit, please upgrade this kit to KitProg3 via Utilities->Upgrade Firmware option in PSoC Programmer UI.
294169	Fixed memory map layout for CY22050 Clock device in CY3675-CLKMAKER1 kit's FW Note: to update firmware to the newer one, follow instruction from CY3675 Kit Guide available here.
294022	Resolved issue with failures during JTAG operations when PSoC 3, PSoC 5 and PSoC 6 devices are connected in JTAG chain simultaneously

Known Issues

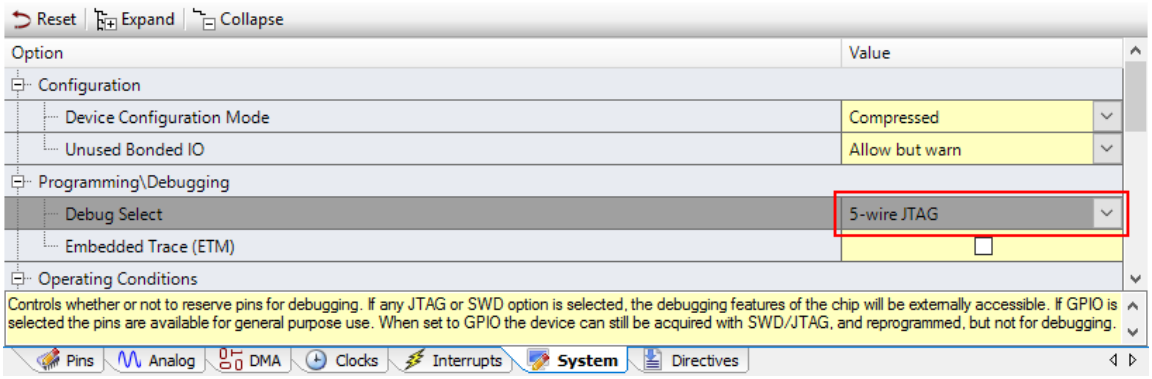
This section lists the known issues with this release:

ID	Problem	Workaround
298838	Device operation (Program/Verify/ Erase/Checksum) fails for PSoC 6 and FM0+ devices using MiniProg3 with SWD/JTAG protocol speed above 12 MHz.	Re-plug MiniProg3 after failure. Use up to 12 MHz SWD/JTAG protocol speed when programming or debugging PSoC 6 and FM0+ devices using MiniProg3.
229008	MiniProg3 is not detected when the host is using USB3.0 connected through some USB host controllers	If you observe this issue, use USB 2.0 for MiniProg3 connection

Known Limitations

The following are the known limitations in PSoC Programmer 3.28.0:

- PSoC 6 MCU support: to use the JTAG protocol, the device flash should be erased or contain an application that has JTAG selected in PSoC Creator ('Debug Select' option in System Tab):



When either SWD (default) or GPIO is selected in this option, JTAG pins are disabled in the user application start-up code. This causes PSoC Programmer or 3rd party tools to be unable to access the device using JTAG protocol.

- When using standard CMSIS-DAP programmer/debugger, the device flash should be erased or contain an application that has SWD or JTAG selected in PSoC Creator ('Debug Select' option in System Tab). When GPIO is selected in this option, debug pins are disabled in start-up code of user application. PSoC Programmer or 3rd party tools then cannot access the device. The only option for accessing the device, when debug pins are configured as GPIO, is to enter Cypress-specific Test Mode, which is not supported with standard CMSIS-DAP transport. This can be done using following programmers: MiniProg3, MiniProg4, KitProg3 and using KitProg1 or KitProg2 in proprietary mode.
- PSoC 6 MCU support: for programming and debugging operations, the System Access Port (AP[0]) of SWJ-DP unit and either the Access Port for CM0+ core (AP[1]) or the Access Port for CM4 core (AP[2]) must be enabled in device access restrictions settings (Normal Access Restrictions in SFlash for NORMAL life-cycle stage or Secure Access Restriction in eFuse).
- Device operation (Program/Verify/Erase/Checksum) fails for S6E1Axx Kits, connected via MiniProg3, if performed quickly right after “Toggle Power” operation. This is known issue in MiniProg3 firmware. To avoid this, please wait for four seconds after power is toggled before doing further steps.
- Programming of TrueTouch, Clock, and CCGx devices via MiniProg4 is not guaranteed. Customers who wish to work with these devices should use MiniProg3 programmer.
- Scripts or applications based on PSoC Programmer’s COM or Command Line interfaces will stop working after KitProg2 to KitProg3 firmware upgrade IF they are using hardcoded strings for the name of KitProg2 Port. Such scripts have to be modified with the new Port name, which can be obtained from PSoC Programmer’s GUI or using “GetPorts” API.
- Custom checksum operation is not supported for PSoC 5LP devices which contains an application that disables the debug pins ('Debug Select' option in System Tab of PSoC Creator’s project is set to GPIO).

The full list of the legacy limitations is available in KBA210619.

Installation

Minimum and Recommended Requirements

Hardware/Operation System Requirements	Minimum	Recommended
Processor Speed	2 GHz	2 GHz Dual Core
GB of RAM	2 GB	3 GB
GB of free hard drive space	1 GB	1 GB
Screen resolution	1024x768	1280x1024
USB	Full Speed	2.0 Hi-Speed
Windows 7 / 8 / 8.1 / 10	✓	✓
Software Prerequisites *	**Minimum/Recommended Version**	
Microsoft Internet Explorer	7	
.NET Framework	2.0 SP2	
Adobe Reader (for viewing PDF Documentation)	6	9+
Windows Installer	3.1	
Python – For Code Examples	2.6	2.6

* Software prerequisites are checked/installed by Programmer's CyInstaller (except Python interpreters).

Applications Dependent on a PSoC Programmer Installation

The following applications require PSoC Programmer to be installed. All Cypress software and kit products, which use PSoC Programmer, install it as well (minimum required version):

- PSoC Designer
- PSoC Creator
- TrueTouch Host Emulator
- MTK
- Ez-Click
- ClockWizard

The following applications are included in the PSoC Programmer installation:

- Bridge Control Panel (mandatory)
- Clock Programmer (mandatory)
- USB and I²C PSoC 1 Bootloader Hosts (optional, included by default)
- Examples (optional, included by default)

Update Instructions

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

Follow the instructions provided by the CyInstaller.

Check for the software updates to the Cypress PSoC development tools on the following web pages:

PSoC Software Tool	Link
PSoC Designer	http://www.cypress.com/go/psocdesigner
PSoC Creator	http://www.cypress.com/go/psoccreator
PSoC Programmer	http://www.cypress.com/go/psocprogrammer

Installation Notes

The installation process is a set of wizards that walks you through installing various components. You can install PSoC Programmer from the web.

Note Do not plug in any programming hardware until the software installation is complete.

Web Installation

1. Double-click the PSoC Programmer executable file to launch the PSoC Programmer installer.
2. Follow the prompts to install PSoC Programmer and various drivers.
3. When complete, close the installer.

Note that installation may fail when using the web because of firewall or administrator privileges. Contact your IT support for assistance

Cypress PSoC Kit Installation

A kit installer contains PSoC Programmer and may contain additional applications (such as PSoC Creator), documentation, and prerequisites needed for the associated kit. Both an executable installer and an ISO image are available on the kit webpage. The installation process is like that for PSoC Programmer, although the items or applications installed will vary. PSoC Programmer will be one of them.

Device Driver Re-Installation

Drivers for all Cypress devices are installed along with PSoC Programmer. Drivers are removed from the system during uninstallation of PSoC Programmer.

If you need to re-install drivers manually, do the following:

1. Navigate to the PSoC Programmer root installation directory.
2. Open the *Drivers* folder and run *driverui.bat* to uninstall current drivers.
3. Run the *driver.bat* file. This will install drivers from this PSoC Programmer release.

Coexistence with Older PSoC Programmer Releases

Only one version of PSoC Programmer can be installed in the system. During the installation of a new PSoC Programmer version, the previous one is removed. If you have an older version of PSoC Programmer (3.06 or below), uninstall it first and then proceed with installation of the latest release.

Further Reading

Documentation

Documentation is available in the PSoC Programmer root directory and under **Documents**. The documents include:

- Help files (CHM) for: PSoC Programmer GUI, PRoC-UI Programmer, HexToSvf
- PSoC Programmer COM Interface Guide

- PSoC Programmer Command Line Interface Guide
- PSoC Programmer Example Code
- Clock Programmer User Guide
- MiniProg3 User Guide
- KitProg2 User Guide
- MiniProg4 User Guide
- KitProg3 User Guide
- Third-Party Tools User Guide. This user guide provides information on using the Cypress silicon in third party tools. It is located at ./3rd_party_configuration_files/Documents

The Bridge Control Panel includes the following documents:

- Help File (CHM)
- I2C-USB Bridge Guide
- Example User Guide

Silicon Errata

The latest versions of the silicon errata are available on the website at http://www.cypress.com/psoc under **Related Documentation**.

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