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Cypress Programmer Release Notes

Version 4.0

Thank you for your interest in Cypress Programmer. This document lists the installation requirements, software and hardware updates, limitations, and known issues with the tool.

Product Description

Cypress Programmer is a flexible, cross-platform application used to program Cypress devices. It can Program, Erase, Verify, and Read the flash of the target device.

Cypress Programmer is both a command-line tool and a GUI tool. It is based on OpenOCD v0.10.0 software with Cypress enhancements, fixes, and updates.

Cypress Programmer 4.0 delivers:

- Support for PSoC64-1M, -2M, -512K secure targets and kits
- Support for PSoC6-256K targets and kits
- Support for single-core PSoC 6A 2M and 512K devices
- Support for PMG1-S0, S1, S2, S3 devices and kits
- Support of PSoC4-S4 targets and kits
- Support for chip protection and Sflash programming in PSoC 4 S1, S2, S3, S4, MC devices
- Support for new IoT Bluetooth kits
- Ability to specify the OpenOCD Telnet port number
- Bug fixes

What's Included

- Cypress Programmer Graphical User Interface 4.0: This tool provides a graphical user interface to Program, Erase, Verify, and Read the flash of the target device.
- Cypress OpenOCD 4.2: This tool provides debugging and in-system programming functionality for target devices in Cypress Programmer.
- KitProg3 2.21: This tool provides communication firmware that supports both CMSIS-DAP and DAPLink programming and debugging.
- CyBridge library 3.2.0: This is a cross-platform library providing access to KitProg3, MiniProg4 and UART devices via high-level API.
- ChipLoad 1.6.1: This tool allows to download firmware to WICED IoT Bluetooth platforms

Supported Operating Systems

- Windows 10 (x64) and Windows 7 (x64)
- macOS X 10.14 (x64) and macOS X 10.15 (x64), macOS 11 (x64)
- Ubuntu 18.04 LTS (x64) and Ubuntu 20.04 (x64)

Supported Kits

- PSoC 6 Pioneer and Prototyping kits
 - CY8CKIT-062-WiFi-BT
 - CY8CKIT-062-BLE
 - CY8CPROTO-062-4343W
 - CY8CPROTO-063-BLE
 - CY8CKIT-062S2-43012
 - CY8CPROTO-062S2-43012
 - CY8CPROTO-062S3-4343W
 - CY8CEVAL-062S2
 - CY8CKIT-062S4
- Wi-Fi Cypress Kits
 - CYW9P62S1-43438EVB-01
 - CYW9P62S1-43012EVB-01
- PSoC 64 Cypress kits
 - CY8CPROTO-064S1-SB
 - CY8CPROTO-064B0S3
 - CY8CPROTO-064B0S1-BLE
 - CY8CKIT-064B0S2-4343W
 - CY8CEVAL-064SXS2
- PSoC 4 Cypress kits
 - CY8CKIT-041-40XX
 - CY8CKIT-041-41XX
 - CY8CKIT-145-40XX
 - CY8CKIT-149
 - CY8CKIT-045S
 - CY8CKIT-041S-MAX
- PMG1 Cypress kits
 - CY7110
 - CY7111
 - CY7112
 - CY7113
- IoT Wi-Fi kits and boards
 - BCM94343WWCD2
 - BCM943362WCD4
 - BCM943438WCD1
 - BCM943364WCD1
 - CYW943012EVB-04



- CYW943340WCD1
- CYW943455EVB-02
- CYW943907AEVAL1F (Rev 1.1)
- CYW943907WAE4
- CYW954907AEVAL1F
- IoT Bluetooth kits and boards
 - CYBT-213043-EVAL
 - CYBT-213043-MESH
 - CYBT-343026-EVAL
 - CYBT-413055-EVAL
 - CYBT-423054-EVAL
 - CYBT-483056-EVAL
 - CYW920719Q40EVB-01
 - CYW920719B2Q40EVB-01
 - CYW920706WCDEVAL
 - CYW920721B2EVK-02
 - CYW920721B2EVK-03
 - CYW920735Q60EVB-01
 - CYW920819EVB-02
 - CYW920820EVB-02
 - CYW989820EVB-01
 - CYW9M2BASE-43012BT

Supported Product Families

- PSoC 60xx, PSoC 61xx, PSoC 62xx, PSoC 63xx, PSoC 64xx
- PSoC 4000S, PSoC 4100S, PSoC 4100S Plus, PSoC 4100S Max, PSoC 4500S and PSoC 4500H
- PMG1

Supported Programming Hardware

- SEGGER J-Link probe
- MiniProg4 stand-alone programmer/debugger
- KitProg3 onboard programmer/debugger
- FTDI FT2232H

Installation

- For Windows, use the exe installer.
- For macOS, use the PKG installer. Approve the system software from developer "Cypress Semiconductor" in **System Preferences > Security & Privacy > General > Allow**.
- For Linux, unzip the tar.gz file and run the "udev_rules/install_rules.sh" script before the first tool launch. Script location:

`<install_dir>/udev_rules`

Resolved Issues

The following issues from a previous release have been resolved:

Limitation ID	Description
PROGTOOLS-886	The user cannot change SMIF region size in GUI.
PROGTOOLS-888	Cypress Programmer GUI/OpenOCD does not report an error on IoT devices during external flash programming when 'Offset' parameter is close to UINT32_MAX
PROGTOOLS-1561	The CYBT-213043-EVAL kit is not accessible if hot-plugged on Ubuntu 18.04

Known Problems and Solutions

The following problems are known in this release:

Defect ID	Defect Description	Impact / Workaround
PROGTOOLS-887	Not able to reliably program the following kits: <ul style="list-style-type: none"> • CYBT-213043-EVAL • CYBT-213043-MESH • CYBT-343026-EVAL • CYBT-413055-EVAL • CYBT-423054-EVAL • CYBT-483056-EVAL • CYW920719Q40EVB-01 • CYW920719B2Q40EVB-01 • CYW920706WCDEVAL • CYW920721B2EVK-02 • CYW920721B2EVK-03 • CYW920735Q60EVB-01 • CYW920819EVB-02 • CYW920820EVB-02 • CYW989820EVB-01 	Put the device into recovery mode: <ol style="list-style-type: none"> 1. Press and hold the Recovery button. 2. Press and hold the Reset button for one second. 3. Release the Reset button. 4. Release the Recovery button. 5. Re-program the board as usual.

Defect ID	Defect Description	Impact / Workaround
PROGTOOLS-884	Read operation does not work on the following kits: <ul style="list-style-type: none"> • CYBT-213043-EVAL • CYBT-213043-MESH • CYBT-343026-EVAL • CYBT-413055-EVAL • CYBT-423054-EVAL • CYBT-483056-EVAL • CYW920719Q40EVB-01 • CYW920719B2Q40EVB-01 • CYW920706WCDEVAL • CYW920721B2EVK-02 • CYW920721B2EVK-03 • CYW920735Q60EVB-01 • CYW920819EVB-02 • CYW920820EVB-02 • CYW989820EVB-01 • CYW9M2BASE-43012BT 	No workaround
PROGTOOLS-885	Unable to program the following kits after erase: <ul style="list-style-type: none"> • CYW920719Q40EVB-01 • CYW920719B2Q40EVB-01 • CYW920819EVB-02 • CYW920820EVB-02 • CYW989820EVB-01 • CYW920721B2EVK-02 • CYW920721B2EVK-03 • CYW920706WCDEVAL • CYW920735Q60EVB-01 • CYBT-213043-EVAL • CYBT-213043-MESH • CYBT-343026-EVAL • CYBT-413055-EVAL • CYBT-423054-EVAL • CYBT-483056-EVAL 	After erase put the device into recovery mode: <ol style="list-style-type: none"> 1. Press and hold the Recovery button. 2. Press and hold the Reset button for one second. 3. Release the Reset button. 4. Release the Recovery button. 5. Re-program the board as usual.
PROGTOOLS-2459	Some WICED BT kits may not be accessible if hot-plugged on particular Win10 x64 PCs. Affected platforms are CYW9207xx and CYW9208xx	After restarting application, the device should be available in Cypress Programmer GUI
PROGTOOLS-1553	Verify flash operation may fail on a WICED BT device if you use HEX file generated by older version of ModusToolbox (<= 2.1) and BT SDK prior to version 2.7. The issue affects CYW20819, CYW20820, and CYW89820 WICED BT platforms.	Switch to the latest ModusToolbox (version >= 2.2), and rebuild the project with the BT SDK version 2.9 or grater

Known Limitations

The following are known limitations in this release:

Limitation ID	Description
CYPROGRAMMER-15	Not able to detect KitProg3/MiniProg4 probe when the OpenOCD process has been killed. Killing OpenOCD process leaves KitProg3/MiniProg4 in unpredictable/invalid state. Unplug KitProg3/MiniProg4 from the USB port and re-attach.
CYPROGRAMMER-120	Cypress Programmer GUI loses connection with CYW943907AEVAL1F, CYW943907WAE4 kits in case they are programmed with invalid image. Messages regarding lost connection can be safely ignored. Connection with target is restored during next operation.
CYPROGRAMMER-157	Unable to access PSoC 6 MCU via JTAG of J-Link if DAP has been switched to SWD mode previously. Hardware Reset or power cycle is required in order to switch the DAP back to JTAG mode.
MTBIDE-781	<p>There is a programming error for Cypress platforms that connect via FTDI on macOS Catalina. The boards include:</p> <ul style="list-style-type: none"> • CYW920819EVB-02 • CYW920820EVB-02 • CYW920719B2Q40EVB-01 • CYW920719Q40EVB-01 • CYW920721B2EVK-02 • CYW920721B2EVK-03 • CYW989820EVB-01 • CYW920706WCDEVAL • CYW920735Q60EVB-01 <p>This only happens in macOS Catalina 10.15.5 because of a serial port detection error. The macOS Catalina FTDI driver is missing the necessary device identification information.</p> <p>To resolve this issue, update to macOS Catalina 10.15.6.</p>
PROGTOOLS-893	External memory programming does not work on CYW943340WCD1 kit
None	The CYW9M2BASE-43012BT kit supports only direct download to RAM. To recover or reset this device you should power cycle the board. Due to this limitation the only allowed operation for this device is program to RAM.
None	Due to significant changes in design of production (ES100) PSoC 64 devices CYP 4.0 does not support previous pre-released (ES10) PSoC 64 secure devices. In case if pre-released PSOC 64 silicon is connected to CYP 4.0, the appropriate warning message is displayed in the Log view.
None	Some PMG1 devices can be acquired by programmer tool only in the Power Cycle mode. See description of the "Programming Mode" setting in the CYP 4.0 user guide.



Documentation and Links

The following are links to source and documentation

- Cypress programming solutions website:
<https://www.cypress.com/products/psoc-programming-solutions>
- Original OpenOCD sources v0.10.0:
<https://sourceforge.net/projects/openocd/files/openocd/0.10.0/>
- OpenOCD v0.10.0 release notes:
<http://openocd.org/2017/01/openocd-0-10-0-release-is-out/>
- OpenOCD v0.10.0 user guide:
<http://openocd.org/doc-release/pdf/openocd.pdf>



Cypress Semiconductor
An Infineon Technologies Company
198 Champion Ct.
San Jose, CA 95134-1709 USA
Application Support Hotline: 425.787.4814
www.cypress.com
www.infineon.com

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