# ModusToolbox™ Programming tools release notes

ModusToolbox™ Programming tools package version 1.9.0

A newer version of this document may be available on the web here.

## About this document

### Scope and purpose

This document describes the features and known limitations for the ModusToolbox™ Programming tools package. This package includes several cross-platform programming tools that allow you to program flash on Infineon MCU and Kit devices. These are used within the ModusToolbox™ ecosystem, and you may also use them separately, if needed.

For more details about what is included with the ModusToolbox™ Programming tools package, see the What's included section in this document.

### Reference documents

Refer to the Infineon programming solutions website for more information as needed.

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# 1 Primary changes

This programming tools package release includes the following updates:

## 1.1 Version 1.9.0

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for KIT_PSC3M6_CC1+, KIT_PSC3M6_EVAL, KIT_PSC3M8_CC1, KIT_PSC3M8_EVK and KIT_T2G-B-H-16M_LITE devices and new part numbers in CYT4EN (T2G-C2D 6M DDR), PSOC™ 4 HVPA-SPM 2.0, PSC3M8/P8, PSC3M7/P7 and PSC3M6/P6 product families.

### KitProg3 update

Increased programming performance over KitProg3 interface for PSOC™ Edge E84 and PSOC™ Control C3 devices.

### Non-secure program and debug support for PSOC™ Control C3 devices

Updated OpenOCD has option to work with non-secure custom flash loaders and protected firmware.

### Added support of external memory for TRAVEO™ T2G C2D 4M devices

## 1.2 Version 1.8.1

### Updated default external memory flash loaders for PSOC™ Edge E84 devices

Updated flash loaders to support MX25U25643G memory.

### Resolved debug session issues when working with special protection settings on PSOC™ Edge E84 devices

User applications may change protection settings for system registers used by the debugger. If the debugger accesses a register using an S/NS alias that does not match the updated protection settings, bus errors can occur. The debug session may break if the application handles these bus errors in its error handlers.

## 1.3 Version 1.8.0

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for:

- New MPNs for PSOC™ Edge E84, CCG7SA4F, XMC5100, and XMC5300.
- Added CYT6BJ series of TRAVEO™ T2G 16M MCU devices.

### ModusToolbox™ Programmer UI update

Updated layout of the ModusToolbox™ Programmer UI with the KitProg3 Board Preferences button and window.

### KitProg3 update

Added support of UART Half-Duplex mode for MiniProg4 probe.

### OS support

Dropped support of Intel x86_64 platform for macOS, now only native ARM64 is supported by all tools.

**Primary changes**

## 1.4 Version 1.7.0

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for KIT_PSE84_HMI and KIT_T2G-C-E-4M_LITE devices and new part numbers in CYT2CL (T2G-CE-4M), CCG3PA3, and PMG1S4 product families.

## 1.5 Version 1.6.0

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for CYW955913EVK-01, KIT_PSE84_AI, and KIT_T2G_C-2D-4M_LITE devices and new part numbers in T2G-C2D-4M, PSOC 4000T, and PSOC™ 4 HVMS product families.

### ModusToolbox™ Programmer UI update

Updated layout of the ModusToolbox™ Programmer UI.

### ModusToolbox™ Programmer voltage level detection and selection improvement

Improved the list of voltages proposed to be set to only show supported ones.

## 1.6 Version 1.5.0

This is a new version of the programming tools package. It includes:

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for PSOC™ Edge E84 devices and new part numbers in the PMG1-B2, CYW20829, CCG6_CFP & CCG8_CFP, and PSOC™ 4 HVPA SPM 1.0 devices.

### Protection and kill mode support for PSOC™ 4, CCG, PMG and PAG2S devices

Added ability to move PSOC™ 4, CCG, PMG and PAG2S devices in protection and kill mode.

## 1.7 Version 1.4.0

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for PSOC™ 4100T Plus devices and new part numbers in the CCG7S, CYW20829, PSOC 4000T, and PSOC 62 devices.

### In KitProg3 enabled DapLink mode

Updated KitProg3 with support for DAPLink mode on PSOC™ 4100T Plus CAPSENSE™ Prototyping Kit and CY8CPROTO-040T-MS PSOC™ 4000T Multi-Sense Prototyping Kit.

### ModusToolbox™ Programmer UI update

Updated icons and font in UI of the ModusToolbox™ Programmer.

**Primary changes**

## 1.8 Version 1.3.1

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for new part numbers in the CCG7S device family.

Updated OpenOCD to address known issue about the PSOC™ Control C3 device becoming permanently disabled if the Flash row 0 contains uncorrectable ECC errors.

## 1.9 Version 1.3.0

### New device series-dependent approach in OpenOCD target configurations

This approach was implemented to enhance the user experience when choosing the correct config file for each device.

*Note:* *Since old config files will be removed in future releases of ModusToolbox™ Programming tools, consider using new config files.*

The following table shows the old and corresponding new target config files:

| Old Target Config | New Target Config | Description |
|---|---|---|
| *psoc6.cfg* | *infineon/cy8c6xxx.cfg* | CY8C6xx7, CY8C6xx6 target configuration |
| *psoc6_2m.cfg* | *infineon/cy8cxxa.cfg* | CY8C6xxA, CY8C6xx8 target configuration |
| *psoc6_512k.cfg* | *infineon/cy8cxx5.cfg* | CY8C6xx5 target configuration |
| *psoc6_256k.cfg* | *infineon/cy8cxx4.cfg* | CY8C6xx4 target configuration |
| *psoc6_2m_secure.cfg* | *infineon/cyxx64xa.cfg* | CYS0644A, CYB0644A target configuration |
| *psoc6_secure.cfg* | | |
| *psoc6_512k_secure.cfg* | *infineon/cyxx64x5.cfg* | CYB06445 target configuration |
| *psoc4.cfg* | *infineon/psoc4.cfg* | Configuration for all PSOC™ 4 MCU, CCGx targets except PSOC™ 4500H MCU |
| *psoc4500.cfg* | *infineon/psoc4500h.cfg* | Configuration file for PSOC™ 4500H MCU |
| *pag2s.cfg* | *infineon/pag2s.cfg* | Configuration file for PAG2S MCU |
| *cyw208xx.cfg* | *infineon/cyw20829.cfg* | Configuration file for the AIROC™ CYW208xx Wi-Fi & Bluetooth® combo chips |
| *cat1c.cfg* | *infineon/xmc7xxx.cfg* | Configuration file for XMC7100/XMC7200 series of devices |
| *cat1c.cfg* | *infineon/cytxbb.cfg* | Configuration file for CYT3BB/CYT4BB series of TRAVEO™ T2G Body High MCU devices |
| *cat1c.cfg* | *infineon/cyt4bf.cfg* | Configuration file for CYT4BF series of TRAVEO™ T2G Body High MCU devices |
| *cat1c.cfg* | *infineon/cyt4dn.cfg* | Configuration file for CYT4DN series of TRAVEO™ T2G Cluster 6M MCU devices |
| *traveo2_1m_a0.cfg* | *infineon/cyt2b7.cfg* | Configuration file for CYT2B7 series of TRAVEO™ T2G Body Entry MCU devices |
| *traveo2_2m.cfg* | *infineon/cyt2b9.cfg* | Configuration file for CYT2B9 series of TRAVEO™ T2G Body Entry MCU devices |
| *traveo2_be_4m.cfg* | *infineon/cyt2bl.cfg* | Configuration file for CYT2BL series of TRAVEO™ T2G Body Entry MCU devices |

**Primary changes**

| Old Target Config | New Target Config | Description |
|---|---|---|
| *traveo2_512k_a0.cfg* | *infineon/cyt2b6.cfg* | Configuration file for CYT2B6 series of TRAVEO™ T2G Body Entry MCU devices |
| *psoc4hv_a0.cfg* | *infineon/psoc4hv_a0.cfg* | Configuration file for PSOC4-HV devices |
| *fx3g2.cfg* | *infineon/fx3gx.cfg* | Configuration file for FX3G2 and FX2G3 series of devices |

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for PSOC™ Control C3 devices and part numbers of XMC5100/XMC5200/XMC5300 series MCU devices.

## 1.10 Version 1.2.1

### Improved performance of UART communication for Bluetooth® devices

The delay between UART data packet transfers was reduced from about 16 ms to 2 ms. This improves the overall performance of programming Bluetooth® devices via the ChipLoad tool on Windows OS.

### New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support of new part numbers for EZ-PD™ CCG7S, PSOC™ 4 HVMS and FX3G2 device families.

## 1.11 Version 1.2.0

### New release of ModusToolbox™ Programmer

This release provided a new delivery mechanism for the various programming tools, as well as the ModusToolbox™ Programmer that replaced the legacy Cypress Programmer.

ModusToolbox™ Programmer version 5.2.0 provides updated GUI controls for more flexible device selection. The **Programmer** pull-down allows you to select the hardware probe. The **Board** pull-down provides the list of supported board (Kit) names, and the **Device** pull-down allows you to select the MPN of the target device to be programmed with the tool.

# 2 What's included in the programming tools package

This programming tools package release includes the following tools and versions:

| Tool Name | Current Release (1.9) | Previous Release (1.8.1) |
|---|---|---|
| ModusToolbox™ Programmer (mtb-programmer) | 5.9.0 | 5.8.0 |
| Firmware Loader (fw-loader) | 3.13.0 | 3.12.0 |
| OpenOCD | 5.19.0 | 5.16.1 |
| KitProg3 | 2.82 | 2.81 |
| ChipLoad | 1.6.9 | 1.6.9 |
| DetAndID | 5.0.2 | 5.0.2 |
| MbtP | 5.0.2 | 5.0.2 |
| Driver media | 1.2.0 | 1.2.0 |
| Kit Database | 1.0.1 | 1.0.0 |

- ModusToolbox™ Programmer graphical user interface: This tool provides a graphical user interface to program, erase, verify, and read the flash of the target device.
- Firmware Loader: This tool provides a command-line interface to upgrade KitProg3 firmware and easily switch back and forth between legacy KitProg2 and KitProg3.
- OpenOCD: This tool provides debugging and in-system programming functionality for target devices for ModusToolbox™ and mtb-programmer.
- KitProg3: This asset provides communication firmware that supports both CMSIS-DAP programming and debugging.
- ChipLoad: This tool allows you to download firmware to AIROC™ Bluetooth® platforms.
- DetAndID: This tool allows you to detect the serial port to which AIROC™ Bluetooth® device is connected.
- MbtP: This tool allows you to download firmware files to CYW955572BTEVK-01 devices to quickly disable the autobaud watchdog.
- Driver media: This asset delivers hardware device drivers for Windows and udev_rules scripts for Linux.
- Kit Database: This asset delivers information about supported KitProg3 boards and their features.

## 2.1 Supported operating systems

- Windows 11 (x64)
- macOS 14 "Sonoma" (only ARM) macOS 15 "Sequoia" (only ARM) and, macOS 26 "Tahoe" ARM
- Ubuntu 22.04 (x64), Ubuntu 24.04 (x64) and Ubuntu 25.04 (x64)

## 2.2 Supported Kits/Platforms

This release provides support for the following kits/platforms:

| Platform | MCU/SOC/SIP |
|---|---|
| **PSOC™ Control C3 kits** | |
| KIT_PSC3M5_EVK | PSC3M5FDS2AFQ1 |
| KIT_PSC3M5_CC1 | PSC3M5FDS2AFQ1 |
| KIT_PSC3M5_CC2 | PSC3M5FDS2AFQ1 |
| KIT_PSC3M6_CC1+ | PSC3M6GES3AHQ1 |
| KIT_PSC3M6_EVAL | PSC3M6GES3AHQ1 |
| KIT_PSC3M8_CC1 | PSC3M8GFS3PAHQ1 |
| KIT_PSC3M8_EVK | PSC3M8GFS3PAHQ1 |
| **PSOC™ Edge E84 kits** | |
| KIT_PSE84_EVAL_EPC2 | PSE846GPS2DBZC4ESA |
| KIT_PSE84_EVAL_EPC4 | PSE846GPS4DBZC4A |
| KIT_PSE84_AI | PSE846GPS2DBZC4ESA |
| KIT_PSE84_HMI | PSE846GPS2DBZC4ESA |
| **PSOC™ 6 kits** | |
| CY8CKIT-062-BLE | CY8C6347BZI-BLD53 |
| CY8CKIT-062-WIFI-BT | CY8C6247BZI-D54 |
| CY8CPROTO-062-4343W | CY8C624ABZI-S2D44 |
| CY8CPROTO-063-BLE | CYBLE-416045-02 |
| CY8CKIT-062S2-43012 | CY8C624ABZI-S2D44 |
| CY8CPROTO-062S2-43012 | CY8C624ABZI-S2D44 |
| CY8CPROTO-062S3-4343W | CY8C6245LQI-S3D72 |
| CY8CPROTO-062S2-43439 | CY8C624ABZI-S2D44 |
| CY8CEVAL-062S2 | CY8C624ABZI-S2D44 |
| CY8CKIT-062S4 | CY8C6244LQI-S4D92 |
| CYW9P62S1-43438EVB-01 | CY8C6247BZI-D54 |
| CYW9P62S1-43012EVB-01 | CY8C6247FDI-D32 |
| CY8CPROTO-064S1-SB | CYB06447BZI-D54 |
| CY8CPROTO-064B0S3 | CYB0445LQI-S3D42 |
| CY8CPROTO-064B0S1-BLE | CYB06447BZI-BLD53 |
| CY8CKIT-064B0S2-4343W | CYB0644ABZI-S2D44 |
| CY8CKIT-064S0S2-4343W | CYS0644ABZI-S2D44 |
| CY8CEVAL-064SXS2 | CYB0644ABZI-S2D44 |
| CY8CKIT-062S2-AI | CY8C624ABZI-S2D44 |
| CYUSB3G2KIT | CYUSB4024-BZXI |
| **PSOC™ 4 kits** | |
| CY8CKIT-041-40XX | CY8C4045AZI-S413 |
| CY8CKIT-041-41XX | CY8C4146AZI-S433 |
| CY8CKIT-145-40XX | CY8C4045AZI-S413 |
| CY8CKIT-149 | CY8C4147AZI-S475 |
| CY8CKIT-045S | CY8C4548AZI-S485 |

## What's included in the programming tools package

| Platform | MCU/SOC/SIP |
|---|---|
| CY8CKIT-041S-MAX | CY8C4149AZI-S598 |
| CY8CKIT-040T | CY8C4046LQI-T452 |
| CY8CPROTO-040T | CY8C4046LQI-T452 |
| CYHVMS-64K-56-001 | CY8C4146LWE-HVS115X |
| CYHVPA-128K-32-001 | CY8C4147LCE-HV423 |
| KIT_PSoC4-HVPA-144K_LITE | CY8C4147LCE-HV423 |
| KIT_PSoC4-HVMS-128K_LITE | CY8C4147LWE-HVS135X |
| KIT_PSoC4-HVMS-64K_LITE | CY8C4146LWE-HVS115X |
| KIT_PSOC-HVPA-SPM1_LITE | CY8C4147LDE-HV734 |
| **PMG1 kits** | |
| CY7110 | CYPM1011-24LQXI |
| CY7111 | CYPM1111-40LQXIT |
| CY7112 | CYPM1211-40LQXIT |
| CY7113 | CYPM1311-48LQXI |
| EVAL_PMG1_B1_DRP | CYPM1116-48LQXI |
| EVAL_PMG1_S1_DRP | CYPM1111-40LQXIT |
| EVAL_PMG1_S3_DUALDRP | CYPM1321-97BZXIT |
| **AIROC™ Wi-Fi kits and boards** | |
| BCM94343WWCD2 | STM32F412 |
| BCM943362WCD4 | STM32F205 |
| BCM943438WCD1 | STM32F411 |
| BCM943364WCD1 | STM32F411 |
| CYW943012EVB-04 | STM32L4A6 |
| CYW943340WCD1 | STM32F417 |
| CYW943455EVB-02 | STM32H7 |
| CYW943907AEVAL1F (Rev 1.1) | CYW43907KWBG |
| CYW943907WAE4 | CYW43907KWBG |
| CYW954907AEVAL1F | CYW54907KWBG |
| **AIROC™ Bluetooth® kits and boards** | |
| CYBT-213043-EVAL | CYW20819A1 |
| CYBT-213043-MESH | CYW20819A1 |
| CYBT-343026-EVAL | CYW20706A2 |
| CYBT-413055-EVAL | CYW20719B2 |
| CYBT-423054-EVAL | CYW20719B2 |
| CYBT-483056-EVAL | CYW20719B2 |
| CYW920719Q40EVB-01 | CYW20719 |
| CYW920719B2Q40EVB-01 | CYW20719B2KUMLG |
| CYW920706WCDEVAL | CYW20706A2 |
| CYW920721B2EVK-02 | CYW20721B2KUMLG |
| CYW920721B2EVK-03 | CYW20721B2KUMLG |
| CYW920735Q60EVB-01 | CYW20735B1 |
| CYW920819EVB-02 | CYW20819A1KFBG |

**What's included in the programming tools package**

| Platform | MCU/SOC/SIP |
|---|---|
| CYW920820EVB-02 | CYW20820A1KFBG |
| CYW989820EVB-01 | CYW89820BWMLG |
| CYW9M2BASE-43012BT | CYW43012C0 |
| CYW920829M2EVK-02 | CYW20829B0LKML |
| CYW955513EVK-01 | CYW55513IUBG |
| CYW920829SM2EVK-02 | CYW20829B0 |
| CYW920829B0M2P4TAI100-EVK | CYW20829B0 |
| CYW920829B0M2P4EPI100-EVK | CYW20829B0 |
| CYW955913EVK-01 | CYW55913IUBG |
| **XMC7100/7200 kits and boards** | |
| KIT_XMC72_EVK | XMC7200D-E272K8384 |
| KIT_XMC71_EVK_LITE_V1 | XMC7100D-F176K4160 |
| KIT_XMC71_EVK_LITE_V2 | XMC7100D-F100K4160 |
| **TRAVEO™ T2G kits** | |
| KIT_T2G-B-E_LITE | CYT2BL5CAE |
| KIT_T2G_C-2D-6M_LITE | CYT4DNJBZS |
| KIT_T2G_C-2D-4M_LITE | CYT3DLBBHS |
| KIT_T2G-C-E-4M_LITE | CYT2CL8BAA |
| KIT_T2G-B-H_EVK | CYT4BFBCHE |
| KIT_T2G-B-H_LITE | CYT4BF8CDS |
| KIT_T2G-B-H-16M_LITE | CYT6BJ8DDS |

## 2.3 Supported product families

- PSOC™ Control C3
- PSOC™ Edge E84
- PSOC™ 60xx, PSOC™ 61xx, PSOC™ 62xx, PSOC™ 63xx, PSOC™ 64xx
- PSOC™ 4000S, PSOC™ 4000T, PSOC™ 4100S, PSOC™ 4100S Plus, PSOC™ 4100T Plus, PSOC™ 4100S Max, PSOC™ 4500S, PSOC™ 4500H, PSOC™ 4 HVPA, PSOC™ 4 HVMS, PSOC™ 4000T, PSOC 4 HVPA-SPM 2.0
- PMG1-Sx, PMG1-Bx
- WLC1
- EZ-PD™ CCG7S, CCG7D
- CCG2, CCG3PA, CCG3PA2, CCG4, CCG6 and CCG8, CCG3PA3
- PAG2S
- XMC7xxx, XMC5xxx
- TRAVEO™ T2G BH/BE (CYT4BB/BF, CYT2Bx, CYT3Bx, CYT6BJ)
- TRAVEO™ T2G Cluster (CYT4Dx, CYT3DL, CYT4EN)
- TRAVEO™ T2G Cluster Entry 4M (CYT2CL)
- AIROC™ CYW20829
- FX3G2 and FX2G3

## 2.4 Supported programming hardware

- SEGGER J-Link stand-alone probe (with libusbK driver)
- SEGGER J-Link onboard probe (with libusbK driver)
- MiniProg4 stand-alone programmer/debugger
- KitProg3 onboard programmer/debugger
- FTDI FT2232H

## 2.5 Open source

Portions of this software package are licensed under free and/or open source licenses such as the GNU General Public License. Such free and/or open source software is subject to the applicable license agreement and not our license agreement covering this software package. The applicable license agreements are available online here:

*https://www.infineon.com/cms/en/design-support/software/free-and-open-source-software-foss/modustoolbox-foss-packages/*

# 3 Installation

Download the applicable ModusToolbox™ Programming tools package for your operating system from the link available here:

https://softwaretools.infineon.com/tools/com.ifx.tb.tool.modustoolboxprogtools

You can also use the ModusToolbox™ Setup program to install the Programming tools, as well as additional ModusToolbox™ software. The Setup program is available here:

https://softwaretools.infineon.com/tools/com.ifx.tb.tool.modustoolboxsetup

*Note:* *If your installation directory contains spaces or illegal characters, ModusToolbox™ Programming tools installer prevents you from installing into that directory.*

## 3.1 System prerequisites

We recommend the following minimum system configuration:

- PassMark CPU score > 2000 (cpubenchmark.net)
- Minimum of 4 GB RAM
- Minimum 140 MB free disk space
- Minimum 1280x1024 screen resolution

## 3.2 Installing on Windows

1. Run the Windows installer program: *ModusToolboxProgtools_1.x.x.<build>.exe*
2. Follow the instructions of the installation wizard.
3. For unattended installations run the installer with `/silent` argument:

```
.\ModusToolboxProgtools_1.x.x.<build>.exe /silent
```

*Note:* *To use J-Link, follow the instructions described in Section 1.5.1 of ModusToolbox™ software OpenOCD CLI user guide.*

## 3.3 Installing on Ubuntu

Run the installer program: *ModusToolboxProgtools_1.x.x.<build>.deb*

## 3.4 Installing on macOS

1. Run the pkg installer: *ModusToolboxProgtools_1.x.x.<build>.pkg*.

   Follow the instructions on the installation wizard.

2. For unattended installation, run the installer from the terminal:

   ```
   sudo installer -pkg ModusToolboxProgtools_1.x.x.<build>.pkg -target /
   ```

# 4 Known issues/limitations

This section lists the known issues/limitations of this release.

## 4.1 General programming issue

| Problem | Workaround |
|---|---|
| After programming the PSOC™ Control C3 device in **PRODUCTION LCS** (with closed CM33 AP), the application does not start automatically. | Perform a manual hardware reset after programming; either via Power Cycle or by pressing the RESET (XRES) button. |

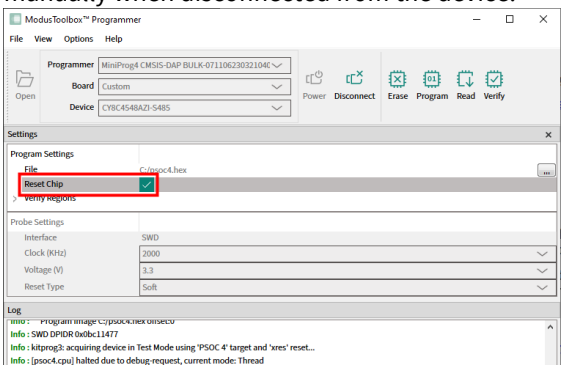
## 4.2 ModusToolbox™ Programmer GUI

| Problem | Workaround |
|---|---|
| Not able to reliably program the following kits:<br>• CYBT-213043-EVAL<br>• CYBT-213043-MESH<br>• CYBT-343026-EVAL<br>• CYBT-413055-EVAL<br>• CYBT-423054-EVAL<br>• CYBT-483056-EVAL<br>• CYW920719Q40EVB-01<br>• CYW920719B2Q40EVB-01<br>• CYW920706WCDEVAL<br>• CYW920721B2EVK-02<br>• CYW920721B2EVK-03<br>• CYW920735Q60EVB-01<br>• CYW920819EVB-02<br>• CYW920820EVB-02<br>• CYW989820EVB-01<br>• CYW9M2BASE-43012BT<br>• CYW955513EVK-01<br>• CYW955913EVK-01 | Put the device into recovery mode:<br>1. Press and hold the Recovery button.<br>2. Press and hold the Reset button for one second.<br>3. Release the Reset button.<br>4. Release the Recovery button.<br>5. Re-program the board as usual. |

## Known issues/limitations

| Problem | Workaround |
|---|---|
| Read operation does not work on the following kits:<br>• CYBT-213043-EVAL<br>• CYBT-213043-MESH<br>• CYBT-343026-EVAL<br>• CYBT-413055-EVAL<br>• CYBT-423054-EVAL<br>• CYBT-483056-EVAL<br>• CYW920719Q40EVB-01<br>• CYW920719B2Q40EVB-01<br>• CYW920706WCDEVAL<br>• CYW920721B2EVK-02<br>• CYW920721B2EVK-03<br>• CYW920735Q60EVB-01<br>• CYW920819EVB-02<br>• CYW920820EVB-02<br>• CYW989820EVB-01<br>• CYW9M2BASE-43012BT<br>• CYW955513EVK-01 | No workaround. |
| Unable to program the following kits after erase:<br>• CYW920719Q40EVB-01<br>• CYW920719B2Q40EVB-01<br>• CYW920819EVB-02<br>• CYW920820EVB-02<br>• CYW989820EVB-01<br>• CYW920721B2EVK-02<br>• CYW920721B2EVK-03<br>• CYW920706WCDEVAL<br>• CYW920735Q60EVB-01<br>• CYBT-213043-EVAL<br>• CYBT-213043-MESH<br>• CYBT-343026-EVAL<br>• CYBT-413055-EVAL<br>• CYBT-423054-EVAL<br>• CYBT-483056-EVAL<br>• CYW9M2BASE-43012BT<br>• CYW955513EVK-01<br>• CYW955913EVK-01 | After erase put the device into recovery mode:<br>1. Press and hold the Recovery button.<br>2. Press and hold the Reset button for one second.<br>3. Release the Reset button.<br>4. Release the Recovery button.<br>5. Re-program the board as usual. |
| Some AIROC™ Bluetooth® kits may not be accessible if hot-plugged on particular Windows 10 x64 PCs.<br>Affected platforms are CYW9207xx and CYW9208xx. | After restarting the application, the device should be available in mtb-programmer. |
| AIROC™ Bluetooth® kits of CY208xx family (CYW920819EVB-02, CYW920820EVB-02, etc.) may fail when programming hex files that include data in static section at addresses 0x0050000-0x00500400. | No workaround. |

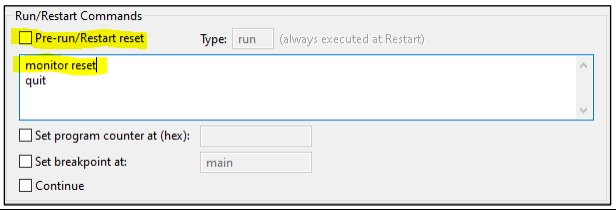
### Known issues/limitations

| Problem | Workaround |
|---|---|
| When trying to read memory from a PSOC™ 6 product family's chip and with external memory option turned on, ModusToolbox™ Programmer fails to succeed and prints the following error message:<br>Error: Failed to initialize bank psoc6_smif1_cm0<br>...<br>...<br>Error: ** SMIF configuration structure not found or invalid | In general (due to SMIF design), you will not be able to read or even erase SMIF bank if your PSOC™ 6 target device does not contain correct SMIF configuration.<br>Since the QSPI flash programming algorithms (flash loaders) are universal and supposed to work regardless of the memory MPN and mapping settings used in the design, you must put the configuration data into the internal flash and provide a pointer in SFlash TOC2 region. |
| In PSOC™ 4000S, PSOC™ 4000T, PSOC™ 4100S, PSOC™ 4100S Plus, PSOC™ 4100S Max, PSOC™ 4500S, PSOC™ 4500H, PSOC™ 4 HVPA, PSOC™ 4 HVMS, PMG1-Sx, PMG1-Bx, CCG2, CCG3PA, CCG3PA2, CCG4, CCG6, CCG7S, CCG7D, CCG8 and PAG2S product families you may see the following error message after programming:<br>Error connecting DP: cannot read IDR<br>This occurs in cases where:<br>1. An application starts after programming and reconfigures SWD pins.<br>2. Device is in go to deep sleep mode or another low power mode. | We recommend either of the following options to work around this issue:<br>1. Deselect the **Reset Chip** check box and execute reset manually when disconnected from the device:<br>  <br><br>2. Do not reconfigure SWD pins in the application. |
| Application does not start after programming some AIROC™ development kits (CYW955913EVK-01, CYW989530EVK-01, etc) on Ubuntu Linux. | Press the Reset button on the kit to start the application. |
| Not able to reliably program or erase the following kits after pressing the Connect button:<br>• CYW955513EVK-01<br>• CYW955913EVK-01<br>• CYW989530EVK-01 | 1. Press and hold the Recovery button.<br>2. Press and hold the Reset button for one second.<br>3. Release the Reset button.<br>4. Release the Recovery button.<br>5. Re-program the board as usual. |

## 4.3 OpenOCD

| Problem | Workaround |
|---|---|
| JTAG does not work for PSOC™ Control C3 when target provisioned for PROT_FW policy. | Use the SWD interface. |
| TestMode acquisition for PSOC™ Control C3 in JTAG mode can sometimes fail for low-end computers. | TestMode acquisition for PSOC™ Control C3 in JTAG mode can sometimes fail for low-end computers. |

## Known issues/limitations

| Problem | Workaround |
|---|---|
| Problem with USB devices on Tahoe OS (device not recognized, reboots during work, works unstably etc.) | The Tahoe with USB 2.0 on an M1/M2 Mac mini refers to a bug in macOS Tahoe that causes some USB-A peripherals to not connect reliably, often after waking from sleep. To fix this, try these solutions:<br>• reboot your Mac<br>• check and set the "Allow Accessories to Connect" setting in System Settings > Privacy & Security<br>• use different ports 2.0 or 3.0<br>• use different usb-hub if possible<br>• ensure you have the latest macOS Tahoe update |
| When programming or debugging, you see the following error message:<br>Error connecting DP: cannot read IDR<br>This occurs if the debug port is disabled in the BSP for the specific project. | You can enable the debug port for the specific project, or safely ignore this message if the debug port is still disabled. |
| When programming a PSOC™ 64 device, the following error displays:<br>Error: timed out while waiting for target halted | There is no impact on functionality, programming is successful. To suppress the message:<br>1. Open the "Program" launch configuration and navigate to the **Startup** tab.<br>2. In the **Run/Restart Commands** section, deselect the **Pre-run/Restart reset** check box.<br>3. Add the monitor reset command to the text field below the check box:<br>  |
| Debug doesn't work on AIROC™ CYW20829 devices with a J-Link probe in JTAG in Eclipse and VS Code IDEs. | Use the SWD interface. |
| While using Eclipse for ModusToolbox™ or Visual Studio Code on Windows for various program/debug operations, there's a plugin issue that prevents the debug port from shutting down. This could result in abnormal power consumption, the watchdog timer being blocked, or the inability to connect in JTAG mode after a successful connection in SWD mode. | Reset the device. For example, on the CY8CKIT-062S2-40312 kit, press the **SW1/XRES** button. |
| Openocd cannot detect incorrect configuration file for the connected target in next possible scenarios:<br>• Selected config does not support JTAG interface. In this case the following error displays:<br>JTAG transport not supported by selected target, please switch to SWD<br>• Selected config has differences in JTAG parameters. In this case the following error displays:<br>DAP initialization failed (check connection, power, transport, DAP is enabled etc.) | No workaround. |

**Known issues/limitations**

## 4.4 Installer

| Problem | Workaround |
|---|---|
| Visual installer issues on Windows<br>• If the “Custom Installation” option is chosen in the installation wizard, a custom installation path is provided. When the user returns to the install mode screen and chooses “Quick Installation,” the tool is still installed into the previously selected custom folder. | No workaround. |

## 4.5 Limitations

| Limitation description |
|---|
| Not able to detect KitProg3/MiniProg4 probe when the OpenOCD process has been killed. Killing the OpenOCD process leaves KitProg3/MiniProg4 in an unpredictable/invalid state. Unplug KitProg3/MiniProg4 from the USB port and re-attach. |
| ModusToolbox™ Programmer GUI loses connection with CYW943907AEVAL1F, CYW943907WAE4 kits in cases where they are programmed with an invalid image. Messages about lost connection can be safely ignored. Connection with target is restored during next operation. |
| 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 to switch the DAP back to JTAG mode. |
| External memory programming does not work on CYW943340WCD1 kit. |
| The CYW9M2BASE-43012BT kit supports only direct download to the 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 the RAM. |
| Due to significant changes in the design of production PSOC™ 64 devices, mtb-programmer does not support previous pre-released PSOC™ 64 secure devices. In cases where the pre-released PSOC™ 64 silicon is connected to mtb-programmer, the appropriate warning message is displayed in the Log view. |
| Some PMG1 devices can be acquired by the programmer tool only in the Power Cycle mode. See description of the “Programming Mode” setting in the ModusToolbox™ user guide. |

# Revision history

| Revision | Date | Description of Change |
|---|---|---|
| ** | 2023-09-13 | Initial release. |
| *A | 2024-04-29 | Updates per 1.1.0 release |
| *B | 2024-06-03 | Updates per 1.2.0 release |
| *C | 2024-08-13 | Updates per 1.2.1 release |
| *D | 2024-10-04 | Updates per 1.3.0 release<br>Updated section "Known issues/limitations"<br>Updated PSoC™ product category trademark to PSOC™ |
| *E | 2024-12-19 | Added known issue about installer GUID. |
| *F | 2025-01-06 | Updates per 1.3.1 release |
| *G | 2025-01-16 | Updated details for changes included in version 1.3.1. |
| *H | 2025-03-18 | Updates per 1.4.0 release |
| *I | 2025-06-17 | Updates per 1.5.0 release |
| *J | 2025-09-26 | Updates per 1.6.0 release |
| *K | 2025-12-05 | Updates per 1.7.0 release |
| *L | 2026-03-16 | Updates per 1.8.0 release |
| *M | 2026-04-10 | Updates per 1.8.1 release |
| *N | 2026-04-27 | Updated known issues section. |
| *O | 2026-06-10 | Updates per 1.9.0 release |
| *P | 2026-08-03 | Added general programming known issue. |

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