ModusToolbox™ Programming tools release notes

ModusToolbox™ Programming tools package version 2.0.0

A newer version of this document may be available on the web here.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 2.0.0

ModusToolbox™ Programmer update

Added support for native J-Link devices via the SEGGER J-Link SDK. J-Link Software and Documentation Package V9.76a is installed as dependency.

New part numbers in OpenOCD and ModusToolbox™ Programmer

Added support for new CCG7D, PSC3M 48QFN_ECO, VQFN40 part numbers, KIT_PSOC-HVPA-SPM20_LITE, and KIT_XMC52_EVK boards.

KitProg3 update

Support of EEPROM in the SOM module of KIT_PSE846_EVAL kit.

OS support

Support of programming tools on Ubuntu 26.

Design impact

- Removed support for J-Link via OpenOCD and switched to native J-Link driver on Windows.
- Not all features work as in previous releases during the switch to J-Link SDK.
- Added new limitations and known issues, described in section 4.4 Limitations.

1.2 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

1.3 Version 1.8.1

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

Updated flash loaders to support MX25U25643G memory.

Primary changes

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.

1.4 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.

1.5 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.

1.6 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.

1.7 Version 1.5.0

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

Primary changes

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.

1.8 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.

1.9 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.

1.10 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		

Primary changes

Old Target Config	New Target Config	Description
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
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.

1.11 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.

1.12 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

Primary changes

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 (2.0)	Previous Release (1.9)
ModusToolbox™ Programmer (mtb-programmer)	6.0.0	5.9.0
Firmware Loader (fw-loader)	3.14.0	3.13.0
OpenOCD	5.20.0	5.19.0
KitProg3	2.90	2.82
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	1.1.0	1.0.1

- 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 26.04 (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
KIT_PSE846_EVAL_EPC2	PSE846GPS2DBZC4A
KIT_PSE846_EVAL_EPC4	PSE846GPS4DBZC4A
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

What's included in the programming tools package

Platform	MCU/SOC/SIP
CY8CKIT-149	CY8C4147AZI-S475
CY8CKIT-045S	CY8C4548AZI-S485
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
KIT_PSOC-HVPA-SPM20_LITE	CY8C4147LDE-HVC34
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

What's included in the programming tools package

Platform	MCU/SOC/SIP
CYW920721B2EVK-03	CYW20721B2KUMLG
CYW920735Q60EVB-01	CYW20735B1
CYW920819EVB-02	CYW20819A1KFBG
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
XMC5200 kits	
KIT_XMC52_EVK	XMC5200-F100K1088AA

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
- SEGGER J-Link onboard probe
- 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 350 MB free disk space
- Minimum 1280x1024 screen resolution

3.2 Installing on Windows

1. Run the Windows installer program: *ModusToolboxProgtools_2.x.x.<build>.exe*
2. Follow the instructions of the installation wizard.
3. For unattended installations run the installer with `/silent` argument:

```
.\ModusToolboxProgtools_2.x.x.<build>.exe /silent
```

3.3 Installing on Ubuntu

Run the installer program: *ModusToolboxProgtools_2.x.x.<build>.deb*

3.4 Installing on macOS

1. Run the pkg installer: *ModusToolboxProgtools_2.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_2.x.x.<build>.pkg -target /
```

4 Known issues/limitations

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

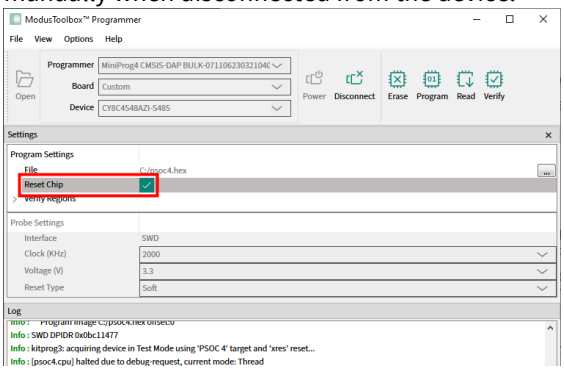
4.1 ModusToolbox™ Programmer GUI

Problem	Workaround
Not able to reliably program the following kits: • 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 • CYW955513EVK-01 • CYW955913EVK-01	Put the device into recovery mode: 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.
Read operation does not work on the following kits: • 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 • CYW955513EVK-01	No workaround.

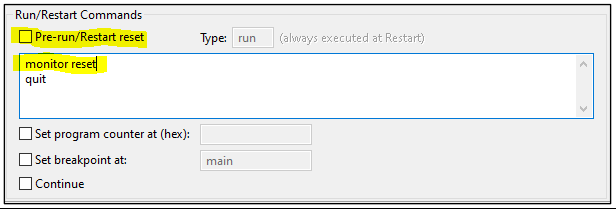
Known issues/limitations

Problem	Workaround
Unable to program the following kits after erase: • 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 • CYW9M2BASE-43012BT • CYW955513EVK-01 • CYW955913EVK-01	After erase put the device into recovery mode: 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.
Some AIROC™ Bluetooth® kits may not be accessible if hot-plugged on particular Windows 10 x64 PCs. 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.
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: Error: Failed to initialize bank psoc6_smif1_cm0 ... ... 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. 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.

Known issues/limitations

Problem	Workaround
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: Error connecting DP: cannot read IDR This occurs in cases where: 1. An application starts after programming and reconfigures SWD pins. 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: 1. Deselect the **Reset Chip** check box and execute reset manually when disconnected from the device:  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: • CYW955513EVK-01 • CYW955913EVK-01 • CYW989530EVK-01	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.
Erase fails on PSC3M8G / PSC3M6GES3AH devices in dual bank flash mode when using a J-Link / J-Link-OB probe.	Use a MiniProg4 probe to erase the device.
Connecting to CYPD317xx (e.g. CYPD3171) via a J-Link probe fails with default power settings, due to a time-critical acquire sequence.	Use J-Link Commander tool. Power the target from the J-Link 5V-Supply pin (not an external supply) and set VTref to 3.3 V. See the SEGGER CY4532 EZ-PD CCGAP3 guide
Reading or verifying external QSPI/SMIF memory over a J-Link probe may fail on some device families (XMC7000 / TRAVEO™ T2G, PSoC™ 6, PSOC™ Edge E84), because the external-memory flash loader is not initialized for the read/verify path, so the SMIF controller is not in memory-mapped (XIP) mode.	Read/verify external memory via KitProg3/MiniProg4 (OpenOCD). A J-Link read-with-init/deinit capability is pending on SEGGER.
PSOC™ Control C3 (PSC3) devices in Secure lifecycle cannot be programmed over a J-Link probe: the CM33 access port (AP) cannot be opened, and DevPro tool fails with Error: Target did not enter WFA mode. The SEGGER Device Provisioner does not open the AP on secure PSC3 devices. This may be resolved in a future SEGGER J-Link software release.	Program secure PSOC™ Control C3 devices using a KitProg3 or MiniProg4 probe (OpenOCD).

4.2 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.	Use the **SWD** interface instead of JTAG to program PSOC™ Control C3 devices.
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: • reboot your Mac • check and set the "Allow Accessories to Connect" setting in System Settings > Privacy & Security • use different ports 2.0 or 3.0 • use different usb-hub if possible • ensure you have the latest macOS Tahoe update
When programming or debugging, you see the following error message: Error connecting DP: cannot read IDR 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: Error: timed out while waiting for target halted	There is no impact on functionality, programming is successful. To suppress the message: 1. Open the "Program" launch configuration and navigate to the **Startup** tab. 2. In the **Run/Restart Commands** section, deselect the **Pre-run/Restart reset** check box. 3. Add the monitor reset command to the text field below the check box: 
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.

Known issues/limitations

Problem	Workaround
Openocd cannot detect incorrect configuration file for the connected target in next possible scenarios: • Selected config does not support JTAG interface. In this case the following error displays: JTAG transport not supported by selected target, please switch to SWD • Selected config has differences in JTAG parameters. In this case the following error displays: DAP initialization failed (check connection, power, transport, DAP is enabled etc.)	No workaround.

4.3 Installer

Problem	Workaround
Visual installer issues on Windows • 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.

4.4 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.
Programming a device that shares a JTAG scan chain with other devices (multi-device chain) using a J-Link probe is not supported for PSOC™ Edge E84 (PSE84), XMC7000 / TRAVEO™ T2G, and PSOC™ Control C3 devices. For these families the J-Link device-connect sequence assumes a single-device chain and cannot acquire the target. Use the SWD interface, place the device alone on the JTAG chain, or use a MiniProg4 / KitProg3 probe.
When selecting a target from a JTAG scan chain with a J-Link probe, the mtb-programmer tool pre-selects the best-match J-Link device alias in the **Device** drop-down. Verify (and correct if needed) that the alias matches the physical target before connecting; an incorrect alias can cause a failed or incorrect connect.

Known issues/limitations

Limitation description
For some families (PSOC™ 6 and PSOC™ 4), if the programming (HEX) file contains regions that are unknown to the J-Link SDK — or that map to a flash bank which is disabled for the selected device (such as an SMIF/external-memory bank) — programming may fail with “selected data may not fit into selected flash sectors” error. In this case, ensure the HEX file only contains regions that are defined and enabled for the selected J-Link device.
Changing the chip protection mode (for example, setting PROTECTED or KILL) at run time from the mtb-programmer UI is not supported for PSOC™ 4 devices when programming via a J-Link probe. This capability is available with KitProg3/MiniProg4 (OpenOCD) but is not exposed by the SEGGER J-Link software or the J-Link SDK.

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 Updated section "Known issues/limitations" 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.
*Q	2026-09-28	Updates per 2.0.0 release

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