Please note that Cypress is an Infineon Technologies Company.

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

The fact that Infineon offers the following product as part of the Infineon product portfolio does not lead to any changes to this document. Future revisions will occur when appropriate, and any changes will be set out on the document history page.

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.

ModusToolbox™ Installation Guide

Version 2.1

This guide provides instructions for installing the ModusToolbox software version 2.1 – a set of tools that enable you to integrate Cypress devices into your existing development methodology. Refer to earlier revisions of this guide for instructions to install previous ModusToolbox software versions.

System Requirements

The ModusToolbox software consumes approximately 2 GB of disk space. Like most modern software, it requires both free disk space and memory to run effectively. Cypress recommends a system configuration with a PassMark CPU score > 2000 (cpubenchmark.net), at least 25 GB of free disk space, and 8 GB of RAM. The product will operate with fewer resources; however, performance may be degraded.

ModusToolbox software is **not** supported on 32-bit operating systems. It has been tested on the following:

- Windows 7 64-bit / Windows 10 64-bit
- macOS 10.x
- Ubuntu Linux 18.04 LTS (**Note** ModusToolbox software requires libssl1.0.0, which is not provided in Ubuntu 20.04 for example.)

Note For Linux and macOS, ModusToolbox software requires the following Unix packages (with minimum versions) to work properly:

- make (v3.81)
- mktemp (v8.25)
- perl (v5.18.2)
- cmp (v2.8.1)
- git (2.17.0)

Some versions of Ubuntu Linux do not include 'make' by default. Use the following command to install it:

```
sudo apt-get install make
```

Installing with Previous Versions

ModusToolbox version 2.1 installs alongside previous versions of the software (version 1.0, 1.1, and 2.0); therefore, all versions can be used independently. However, refer to the “Production Versioning” section in the *ModusToolbox User Guide* to understand how versions interact with each other.

If you installed a version 2.1 Beta release, you need to uninstall it before installing this production release.

- **Windows**: The current release installer will prompt you to uninstall a previous version 2.1 installation. You can also use the Windows Control Panel.
- **Linux**: Go to the directory where you extracted the tar.gz installer. Delete only the tools_2.1 and ide_2.1 directories from the "ModusToolbox" directory.
- **macOS**: The current release installer contains a check box to uninstall a previous version 2.1 installation.

Note If you plan to use the Eclipse IDE included with the installation, be aware that uninstalling the ModusToolbox software does not remove any Eclipse IDE workspaces you may have previously created. You should manually delete these workspaces or move them to another location. See also Step 3: Run the Eclipse IDE for more details about workspaces.

Step 1: Download the Software

Go to the Cypress ModusToolbox website (www.cypress.com/modustoolbox) and download the appropriate software for your platform:

- **Windows**: ModusToolbox_2.1.0.<build>-windows-install.exe
- **Linux**: ModusToolbox_2.1.0.<build>-linux-install.tar.gz
- **macOS**: ModusToolbox_2.1.0.<build>-macos-install.pkg

Note If you plan to use the SEGGER J-link debugger, you must download and install the appropriate software pack for your OS. It is not included with the ModusToolbox software. Use version 6.35 or later. For Linux, if you install this using the tar.gz file, make sure you install J-Link in a common location. Otherwise, you must configure the Eclipse IDE to specify the location, as follows:

Window > Preferences > MCU > Global SEGGER J-Link Path

- **Executable**: *JLinkGDBServerCLExe*
- **Folder**: *<J-Link_extracted_location>*

Step 2: Install ModusToolbox Software

Note Do not use spaces in the installation directory name. Various tools, such as Make, do not support spaces. Also, do not use common illegal characters, such as:

```
* . " ' / \ [ ] : ; | = ,
```

Note If your user home directory contains spaces, see Installing with Spaces in User Home Directory.

Note If you install ModusToolbox in a non-default location, you will need to set the CY_TOOLS_PATHS environment variable for your system to point to the *<install_path>/ModusToolbox/tools_2.1* folder, or set that variable in each Makefile. You must use forward slashes in the variable's path, even in Windows. Refer to the "Production Versioning" section in the *ModusToolbox User Guide*.

Windows

Run the *ModusToolbox_2.1.0.<build>-windows-install.exe* installer program. By default, it is installed here:

C:\Users\<user_name>\ModusToolbox

Note If you have not installed ModusToolbox software previously, you may be prompted to restart your computer due to installation of Microsoft Visual C++ redistributable files.

Linux

Extract the *ModusToolbox_2.1.0.<build>-linux-install.tar.gz* file to your *<user_home>* directory. The extraction process will create a "ModusToolbox" directory there, if there is not one there already.

After extracting, you must run the following scripts before running ModusToolbox software on your machine:

- OpenOCD: <user_home>/ModusToolbox/tools_2.1/openocd/udev_rules/install_rules.sh
- WICED Bluetooth Boards: <user_home>/ModusToolbox/tools_2.1/driver_media/install_rules.sh
- Firmware Loader: <user_home>/ModusToolbox/tools_2.1/fw-loader/udev_rules/install_rules.sh
- Post-Install Script: <user_home>/ModusToolbox/tools_2.1/modus-shell/postinstall

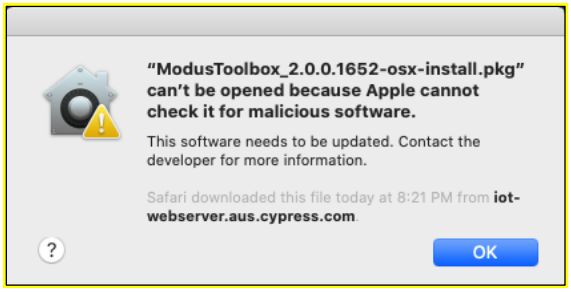
For the ModusToolbox software to work correctly on Linux, you must install an additional "libusb-0.1-4" package for the Ubuntu 18.xx OS. To do that, run the following command in the Terminal window:

```
$ sudo apt-get install libusb-0.1-4
```

macOS

Double-click the downloaded *ModusToolbox_2.1.0.<build>-osx-install.pkg* file and follow the wizard.

Note On the Catalina version of macOS, you may see a dialog similar to the following:



If this happens, click **OK** to close the dialog. Then, right-click on the pkg file and select **Open**. When this dialog displays again, it will include an **Open** option.

The ModusToolbox software will be installed under the **Applications** folder in the volume you select in the wizard.

Note The ModusToolbox package installer installs the WICED USB driver for use with future versions of ModusToolbox. It may pop up a "System Extension Blocked" dialog. In this case, go to **Security Preference** and click **Allow** for the driver to be installed.

In order for ModusToolbox to work correctly on macOS, you must install an additional Xcode package from the Mac App Store if you don't already have it installed. You can also install it using the following command in a terminal window:

```
xcode-select --install
```

Step 3: Run the Eclipse IDE

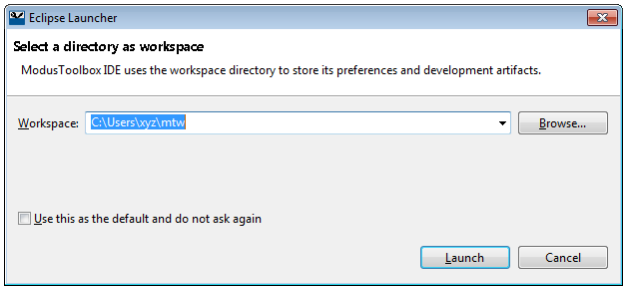
The ModusToolbox software includes an optional Eclipse IDE. To run the IDE:

- **Windows**: Navigate to <user_home>/ModusToolbox/ide_2.1/eclipse and run *ModusToolbox.exe*.

  Note You may be asked to grant access by the Firewall manager.
- **Linux**: Navigate to <user_home>/ModusToolbox/ide_2.1/eclipse and run *ModusToolbox*.
- **macOS**: Navigate to the directory where you moved the *ModusToolbox.app* file (for example, */Applications/ModusToolbox/ide_2.1*) and run *ModusToolbox.app*.

When the Eclipse IDE runs for the first time, a dialog opens to specify the Workspace location. The default location for the workspace is: *<user_home>/mtw*.

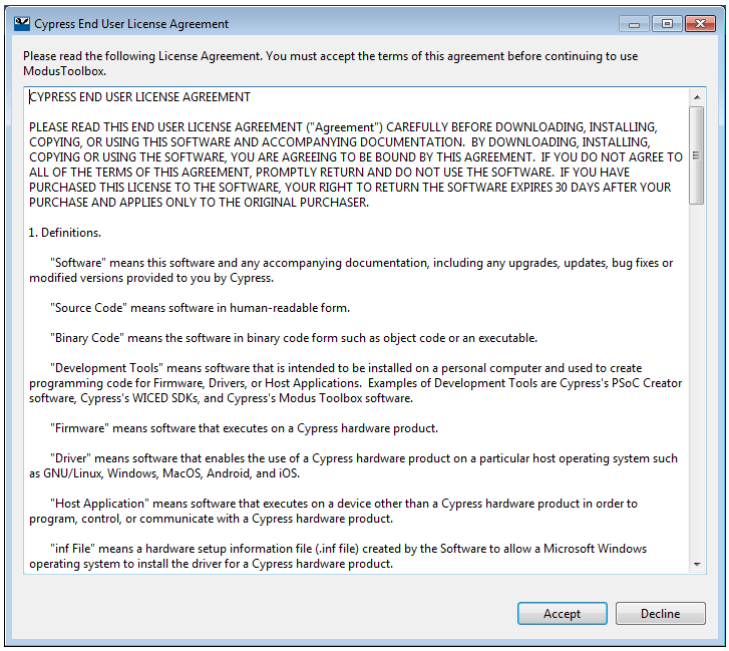
Note Be aware that the default Eclipse IDE workspace location (*<user_home>/mtw*) is the same for all versions of ModusToolbox software. If you plan to use more than one version, you must specify different workspace names for each one.



Enter the workspace location and name and click **Launch** to open the IDE.

Note If you change the workspace location or name, do not use spaces or illegal characters anywhere in the path.

After the IDE opens for the first time, the Cypress End User License Agreement (EULA) displays.



Read the EULA and click **Accept** to proceed. If you click **Decline**, the IDE will close.

Next Steps

Refer to the *ModusToolbox User Guide* for a description of the software and instructions to get started.

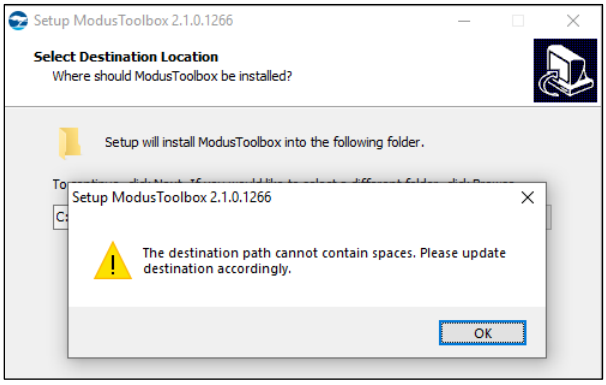
If you plan to use the Eclipse IDE included with the ModusToolbox software:

- Refer to the *Eclipse IDE for ModusToolbox Quick Start Guide* for brief instructions to create, build, and program applications.
- Refer to the *Eclipse IDE for ModusToolbox User Guide* for more detailed information about using the IDE.

These documents are also available from the Eclipse IDE **Help** menu.

Installing with Spaces in User Home Directory

The ModusToolbox installer tries to install in your user home directory by default. However, it prevents you from installing into a directory that contains spaces.



If possible, create a new user account and user home directory that doesn't contain spaces. If you cannot create a new user home directory without spaces, then you must perform some extra manual installation steps.

Note Even though this process is shown for Windows, these steps apply in general to macOS and Linux as well.

Step 1: Install at a custom path.

1. Select an alternate installation path that does not include spaces. For example:

   C:\Cypress\ModusToolbox

   Any path without spaces will work.

2. After installation is complete, create a directory to store your workspaces. For example:

   C:\Cypress\mtb-projects

   You can choose any path as long as it doesn't contain spaces.

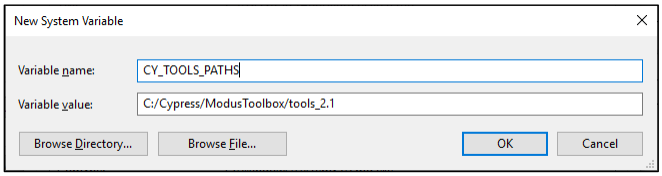
3. Also, create a hidden "dot" directory named "**.**modustoolbox" to store the cache, offline content, and manifest.loc file discussed later in this section. For example:

   *C:\Cypress**.***modustoolbox*

Step 2: Create a system variable to specify the path to Tools.

Because you are installing ModusToolbox into a non-default location, you need to specify the path to your "tools" directory using a System Variable. Open the Environment Variables dialog, and create a new System Variable. For example:

CY_TOOLS_PATHS = C:/Cypress/ModusToolbox/tools_2.1/



Note Use a Windows-style path (not Cygwin-style, like /cygdrive/c/). Also, use forward slashes.

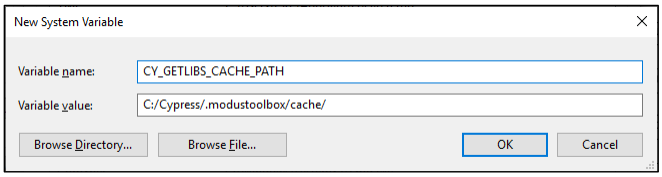
Step 3: Create a system variable to specify the path to cache.

The ModusToolbox make system clones all the repos needed for your project, directly into your project. So the resulting project is self-contained. It uses cache to speed up the clone operations. Normally, the make system would create and use cache directory at:

C:\Users\<user_name>\.modustoolbox

However, you need to fix this for the new install location for ModusToolbox by changing the location where the make system keeps the cache. Open the Environment Variables dialog, and create a new System Variable. For example:

CY_GETLIBS_CACHE_PATH = C:/Cypress/.modustoolbox/cache/



Note Use a Windows-style path (not Cygwin-style, like /cygdrive/c/). Also, use forward slashes.

Alternately, you can disable the caching. The downside is that this will slow down the clone operation and overall project creation, as well as the library update experience. To disable the cache, create a User Variable:

CY_GETLIBS_NO_CACHE = 1

Step 4: Specify the custom path to use for Offline Content and manifest.loc.

Although you may not use these features, dependencies require that you set them up while installing the software.

Offline Content Path

Specify the non-default location to the “offline” directory with a System Variable. For example:

CY_GETLIBS_OFFLINE_PATH = C:/Cypress/.modustoolbox/offline/

manifest.loc

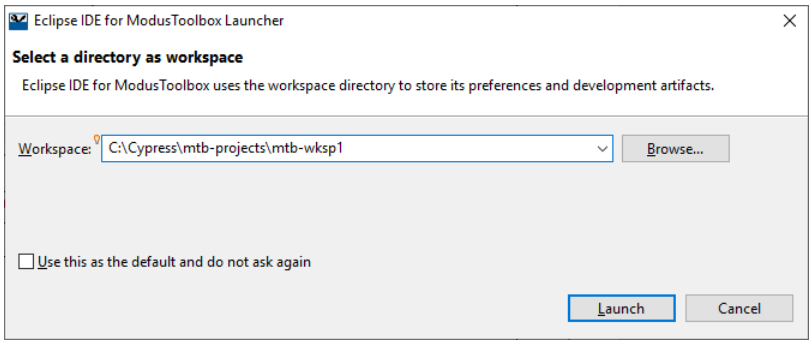
Likewise, create a System Variable to specify the non-default location of the *manifest.loc* file. For example:

CyManifestLocOverride = C:/Cypress/.modustoolbox/manifest.loc

Step 5: Configure Eclipse Workspace

If using the Eclipse IDE, you must specify a path to the workspace that does not include spaces. For example:

C:\Cypress\mtb-projects\mtb-wksp1



© Cypress Semiconductor Corporation, 2017-2020. This document is the property of Cypress Semiconductor Corporation and its subsidiaries, including Spansion LLC (“Cypress”). This document, including any software or firmware included or referenced in this document (“Software”), is owned by Cypress under the intellectual property laws and treaties of the United States and other countries worldwide. Cypress reserves all rights under such laws and treaties and does not, except as specifically stated in this paragraph, grant any license under its patents, copyrights, trademarks, or other intellectual property rights. If the Software is not accompanied by a license agreement and you do not otherwise have a written agreement with Cypress governing the use of the Software, then Cypress hereby grants you a personal, non-exclusive, nontransferable license (without the right to sublicense) (1) under its copyright rights in the Software (a) for Software provided in source code form, to modify and reproduce the Software solely for use with Cypress hardware products, only internally within your organization, and (b) to distribute the Software in binary code form externally to end users (either directly or indirectly through resellers and distributors), solely for use on Cypress hardware product units, and (2) under those claims of Cypress’s patents that are infringed by the Software (as provided by Cypress, unmodified) to make, use, distribute, and import the Software solely for use with Cypress hardware products. Any other use, reproduction, modification, translation, or compilation of the Software is prohibited.

TO THE EXTENT PERMITTED BY APPLICABLE LAW, CYPRESS MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARD TO THIS DOCUMENT OR ANY SOFTWARE OR ACCOMPANYING HARDWARE, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. To the extent permitted by applicable law, Cypress reserves the right to make changes to this document without further notice. Cypress does not assume any liability arising out of the application or use of any product or circuit described in this document. Any information provided in this document, including any sample design information or programming code, is provided only for reference purposes. It is the responsibility of the user of this document to properly design, program, and test the functionality and safety of any application made of this information and any resulting product. Cypress products are not designed, intended, or authorized for use as critical components in systems designed or intended for the operation of weapons, weapons systems, nuclear installations, life-support devices or systems, other medical devices or systems (including resuscitation equipment and surgical implants), pollution control or hazardous substances management, or other uses where the failure of the device or system could cause personal injury, death, or property damage (“Unintended Uses”). A critical component is any component of a device or system whose failure to perform can be reasonably expected to cause the failure of the device or system, or to affect its safety or effectiveness. Cypress is not liable, in whole or in part, and you shall and hereby do release Cypress from any claim, damage, or other liability arising from or related to all Unintended Uses of Cypress products. You shall indemnify and hold Cypress harmless from and against all claims, costs, damages, and other liabilities, including claims for personal injury or death, arising from or related to any Unintended Uses of Cypress products.

Cypress, the Cypress logo, Spansion, the Spansion logo, and combinations thereof, ModusToolbox, WICED, PSoC, CapSense, EZ-USB, F-RAM, and Traveo are trademarks or registered trademarks of Cypress in the United States and other countries. For a more complete list of Cypress trademarks, visit cypress.com. Other names and brands may be claimed as property of their respective owners.