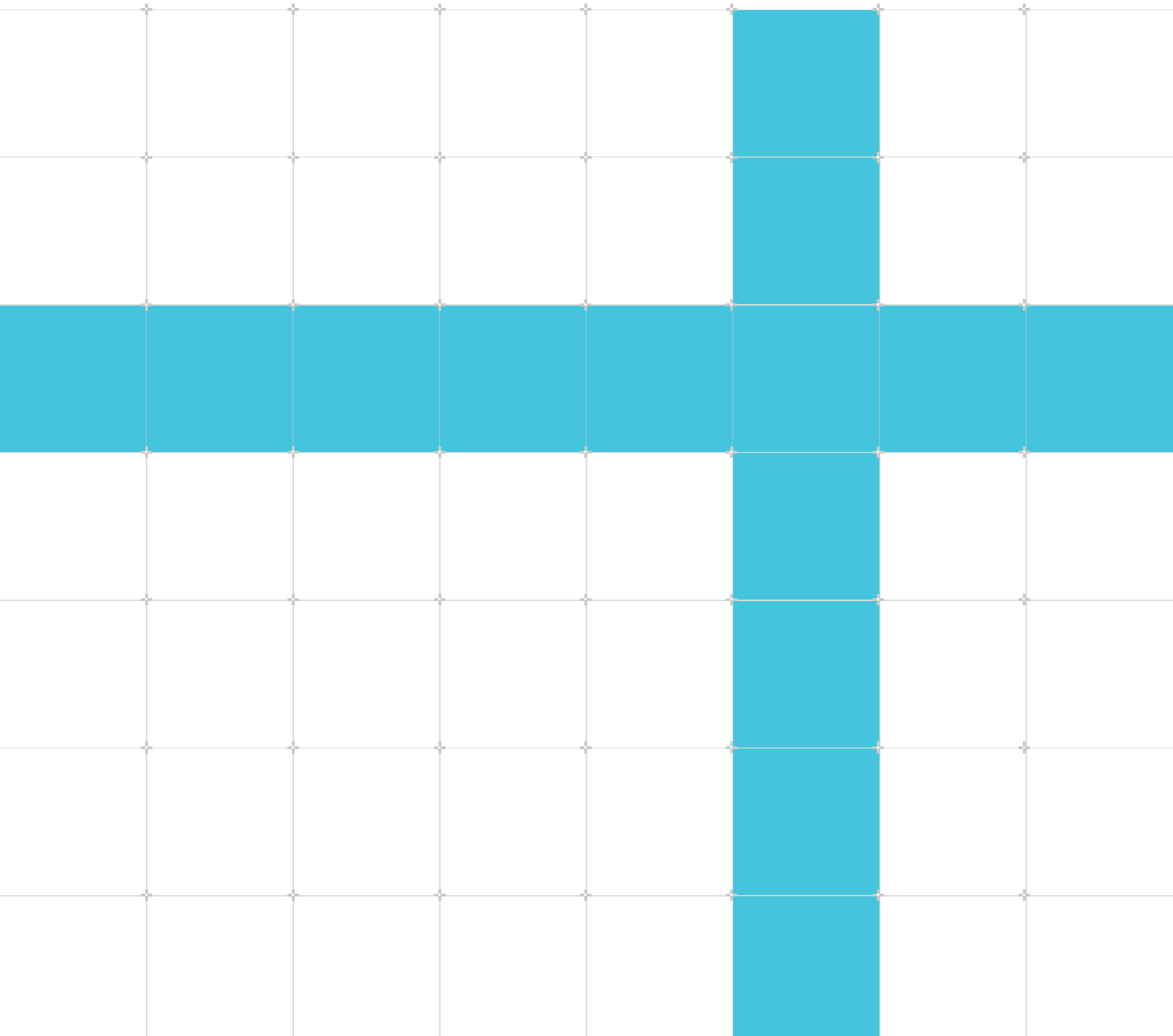
Installing the Keil MDK for Holtek Edition

Version 1.1.0

Application Note

Issue
kan343_1.1.0_en



Installing the Keil MDK for Holtek Edition Application Note

This document (kan343_1.1.0_en) was issued on 2024-08-21. There might be a later issue at http://developer.arm.com/documentation/kan343

The product version is 1.1.0.

See also: Proprietary notice | Product and document information | Useful resources

Start reading

If you prefer, you can skip to the start of the content.

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Embedded Software and Firmware Developers.

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1. Abstract

Arm offers software developers working with Holtek devices based on the Arm Cortex-M0+ processor a free-to-use professional Keil MDK v6 tool suite.

This edition includes all tools and software components delivered with Keil MDK v6.

If you wish to program all Holtek's Arm Cortex-M based devices, purchase the Keil MDK Holtek Edition online.

This application note explains how to download, install, and use MDK with Holtek devices.

Keil MDK v6 with user-based licensing only supports Arm Compiler 6 and onwards. If you need to take care of a legacy project requiring Arm Compiler 5, please contact support for help.

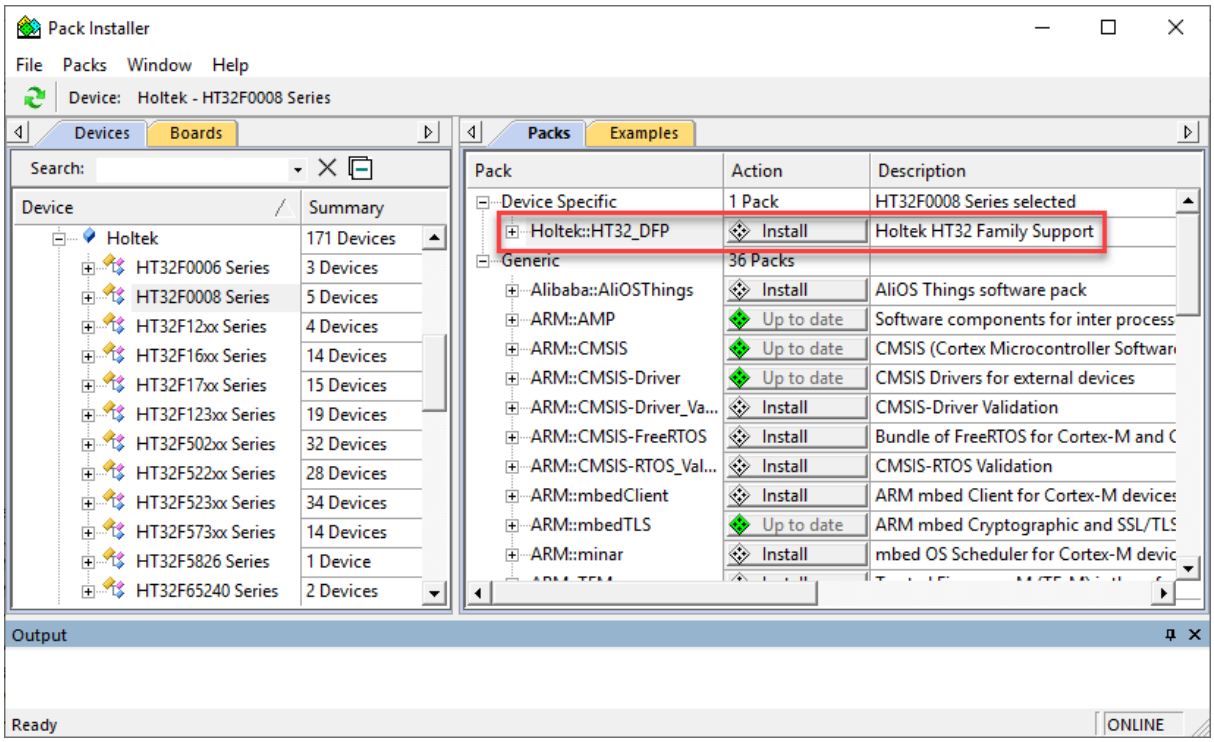
2. Installation

This chapter explains how to download and install Keil MDK on your local computer.

Keil uVision (Windows only)

1. Download the installer.
2. Run the downloaded MDK5xx.exe installer.
3. Select your installation location. If you have existing MDK installations that you want to keep, select a new folder. Once the installation has finished, Pack Installer opens.
4. In Pack Installer, click **Install** to download and install the Holtek HT32 device family packs.

Figure 2-1: Install Holtek CMSIS-Packs



Next, you need to activate your product.

Keil Studio

1. Download and install Microsoft Visual Studio Code on your computer.
2. Once installed, open the **Extensions** in the activity bar.

Figure 2-2: Open the extensions

3. Search for `Keil Studio Pack` and install the extension.

Next, you need to activate your product.

3. Activation

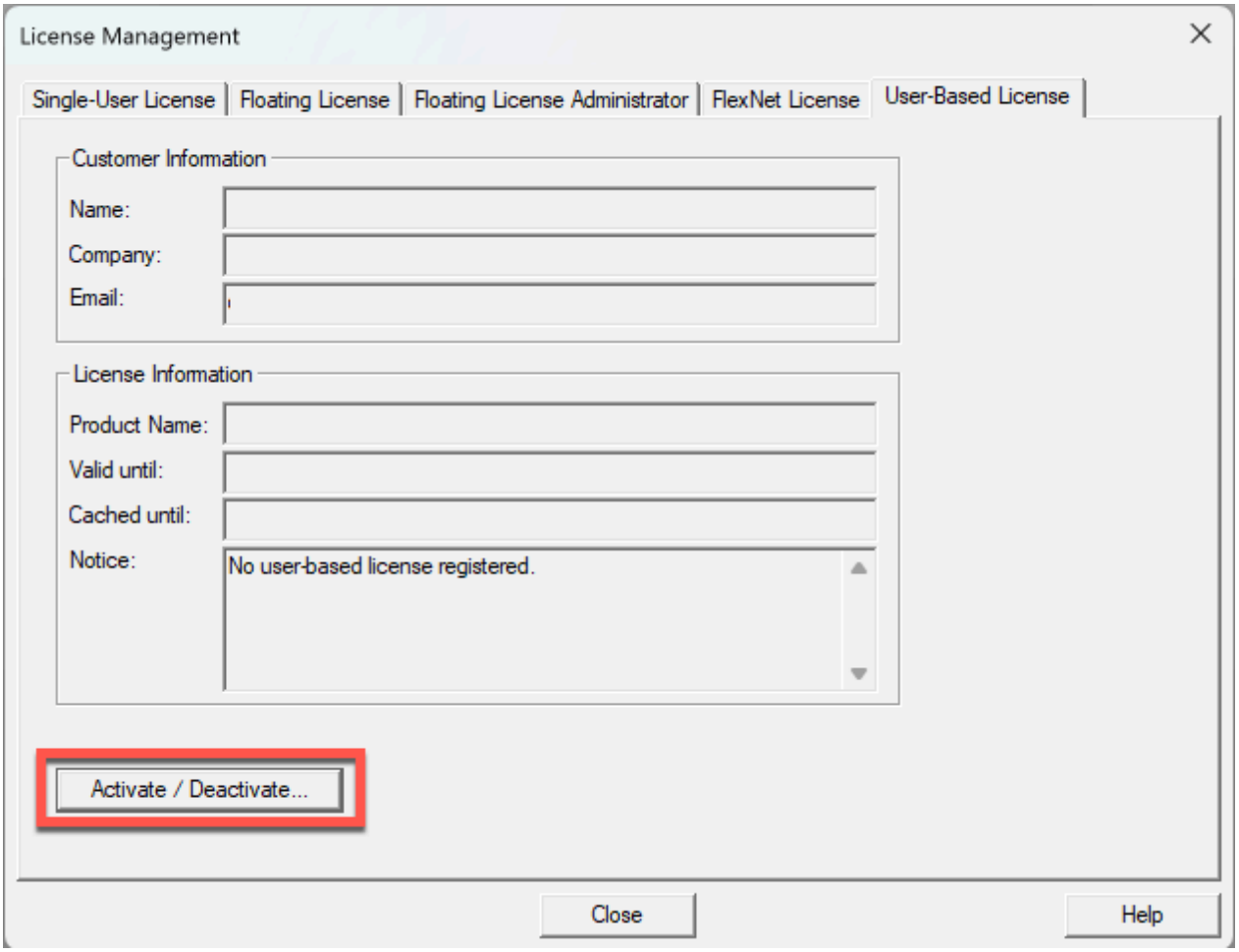
This chapter explains how to activate your product.

Keil uVision

Open uVision and go to **File — License Management...** and select the **User-Based License** tab.

Click the button **Activate / Deactivate**.

Figure 3-1: License Management - User-Based License

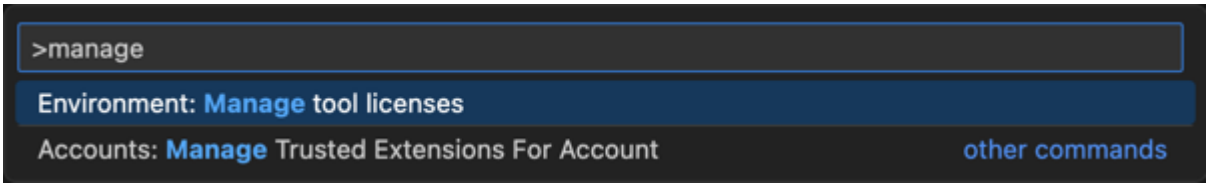


Continue in the Arm License Management Tool.

Keil Studio

Open Visual Studio Code and press Ctrl + Shift + p (Cmd + Shift + p on macOS). In the command box, enter `manage` and select **Environment: Manage tools licenses**:

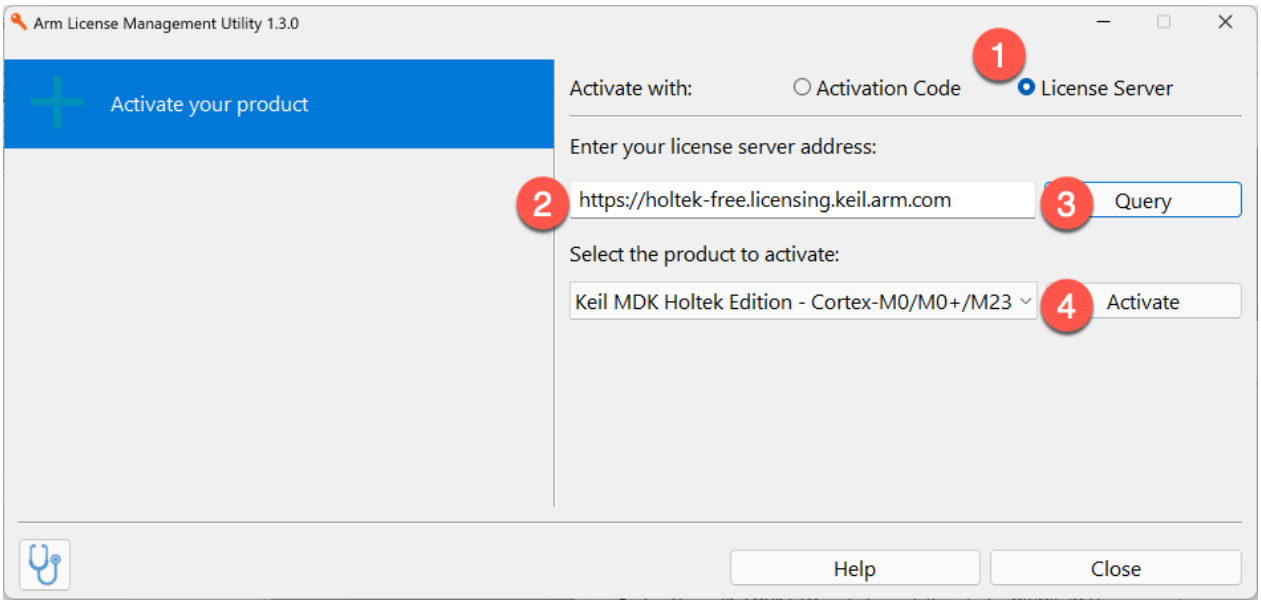
Figure 3-2: Run the manage tools licenses command



Continue in the Arm License Management Tool.

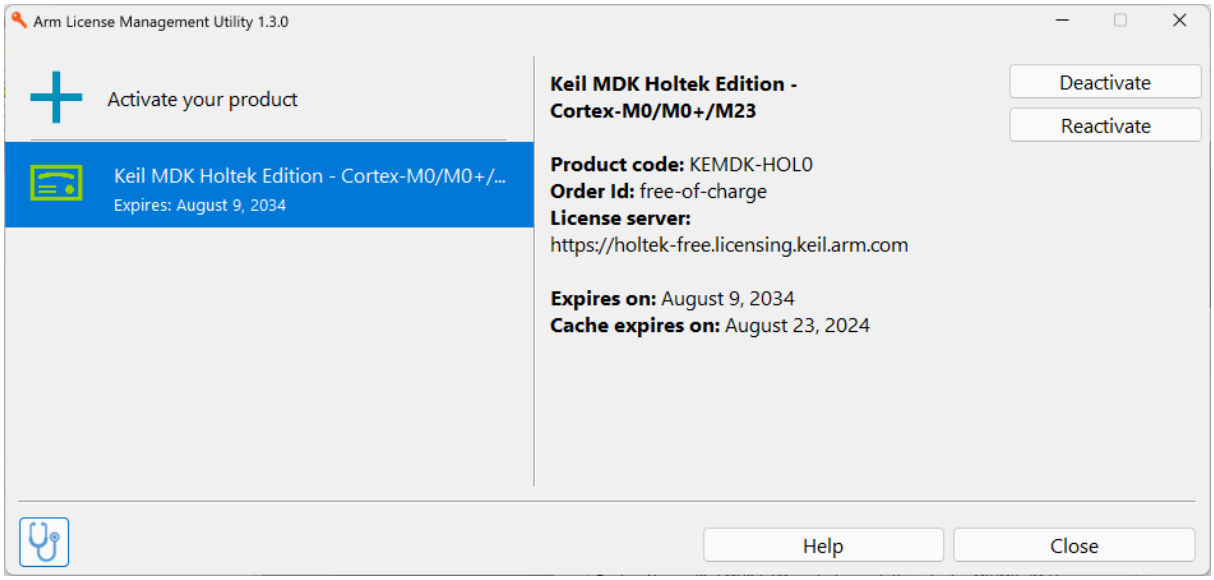
Arm License Management Tool

Figure 3-3: Arm License Management Utility



1. Enable **License Server**.
2. Enter the following license server address: `https://holtek-free.licensing.keil.arm.com`.
3. Click the **Query** button.
4. Click on **Activate**. The window changes and shows the information of the activated license:

Figure 3-4: Arm License Activated



Note

If you have purchased the MDK edition for Holtek supporting all Cortex-M devices, you will have received an activation code. The user-based licensing documentation explains how to use this code.

Next, test your set up using an example project.

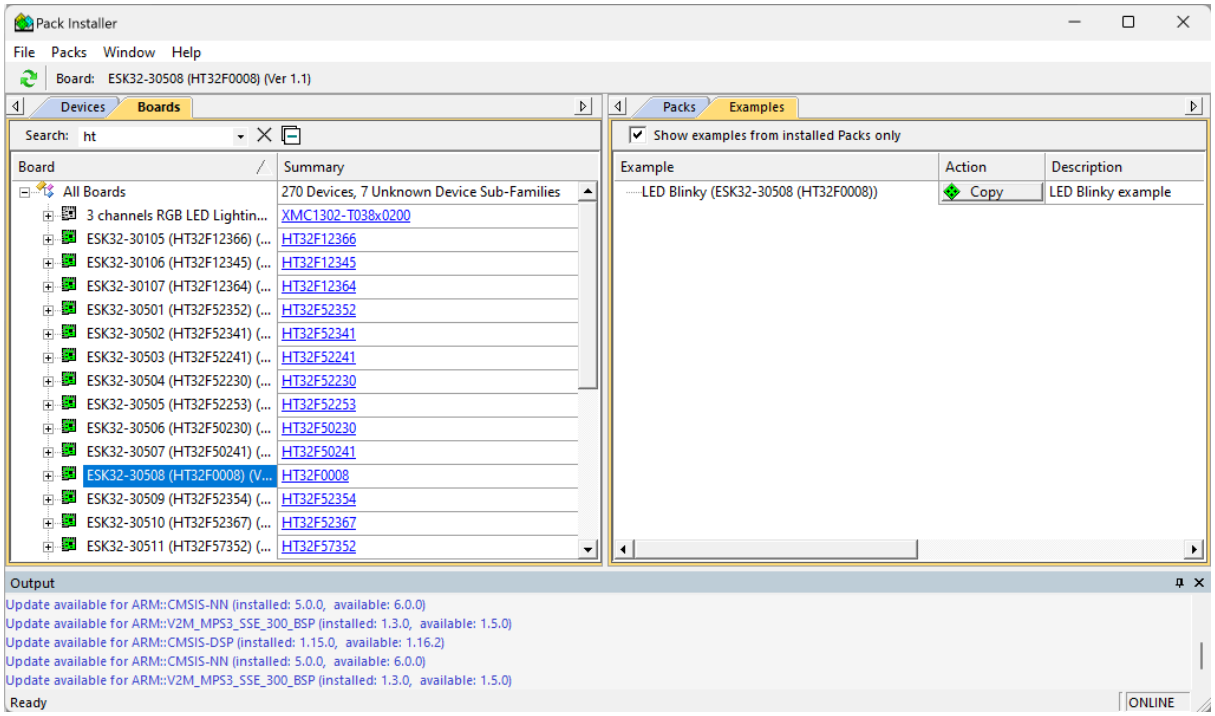
4. Example Projects

This chapter shows how to use example projects from the Holtek CMSIS-Packs to check the correct set up of the hardware and software.

Keil uVision

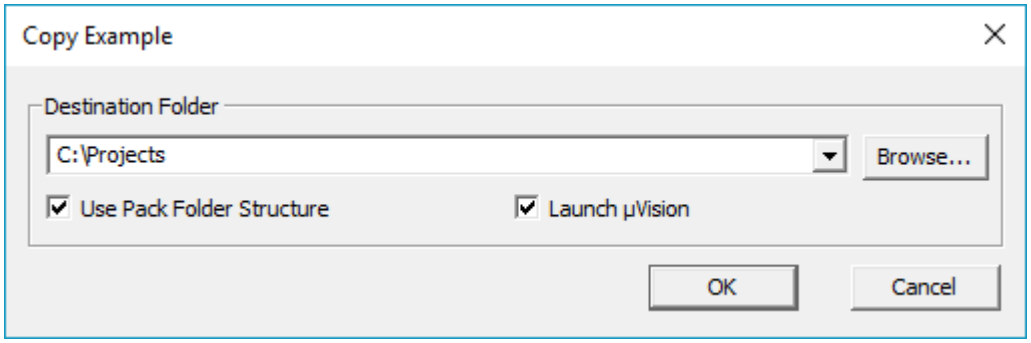
1. Open the Pack Installer from the uVision toolbar.
2. Switch to the **Boards** tab which allows to filter for specific development boards. On the **Examples** tab, select the example you want to install:

Figure 4-1: Find an example project



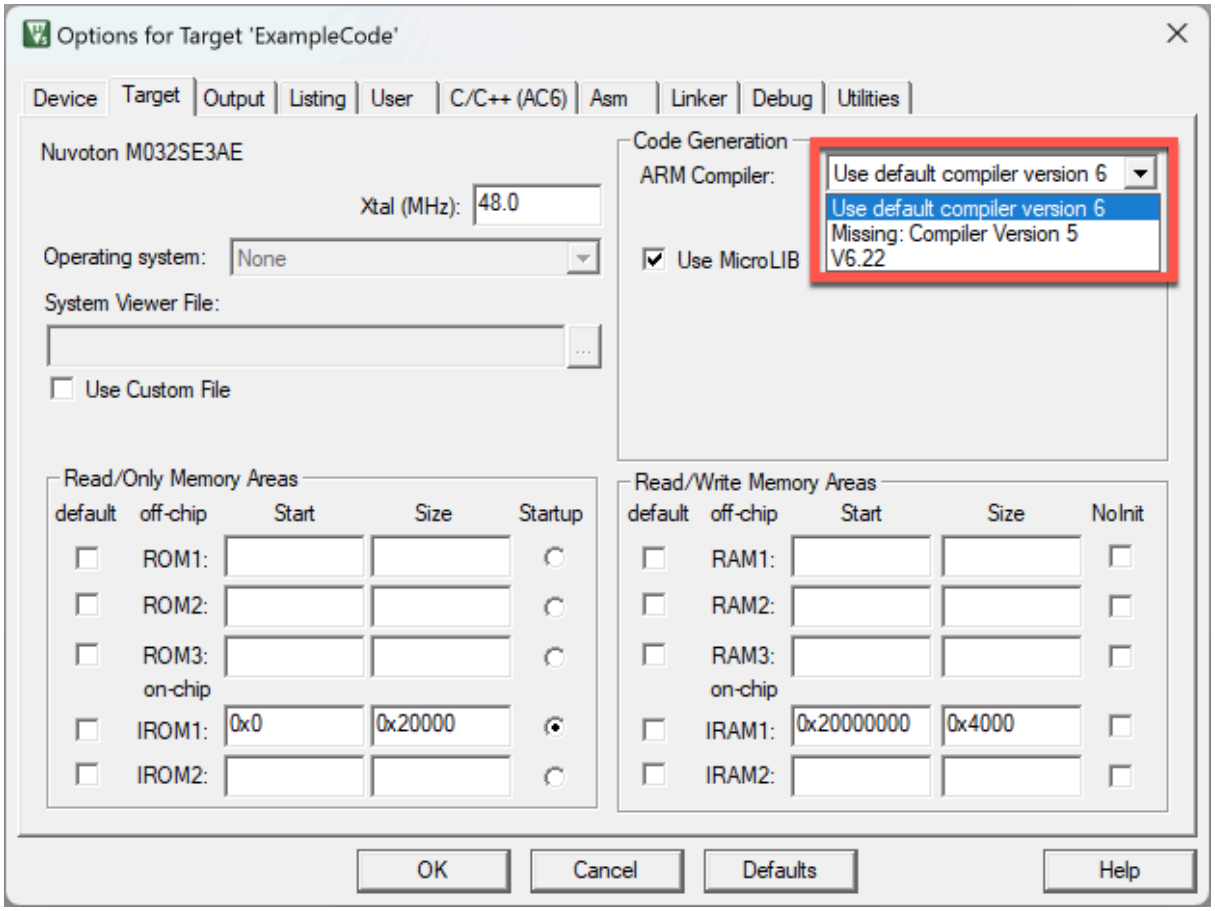
3. When pressing **Copy**, a dialog box will ask for the desired destination. The example will be directly installed into this folder. Folders that do not exist will be created automatically:

Figure 4-2: Copy an example project



4. Tick **Launch uVision** to open the project immediately.
5. Before you can build the project, press **Alt+F7** to open the **Options for Target** dialog. Make sure to set the compiler version to "Use default compiler version 6":

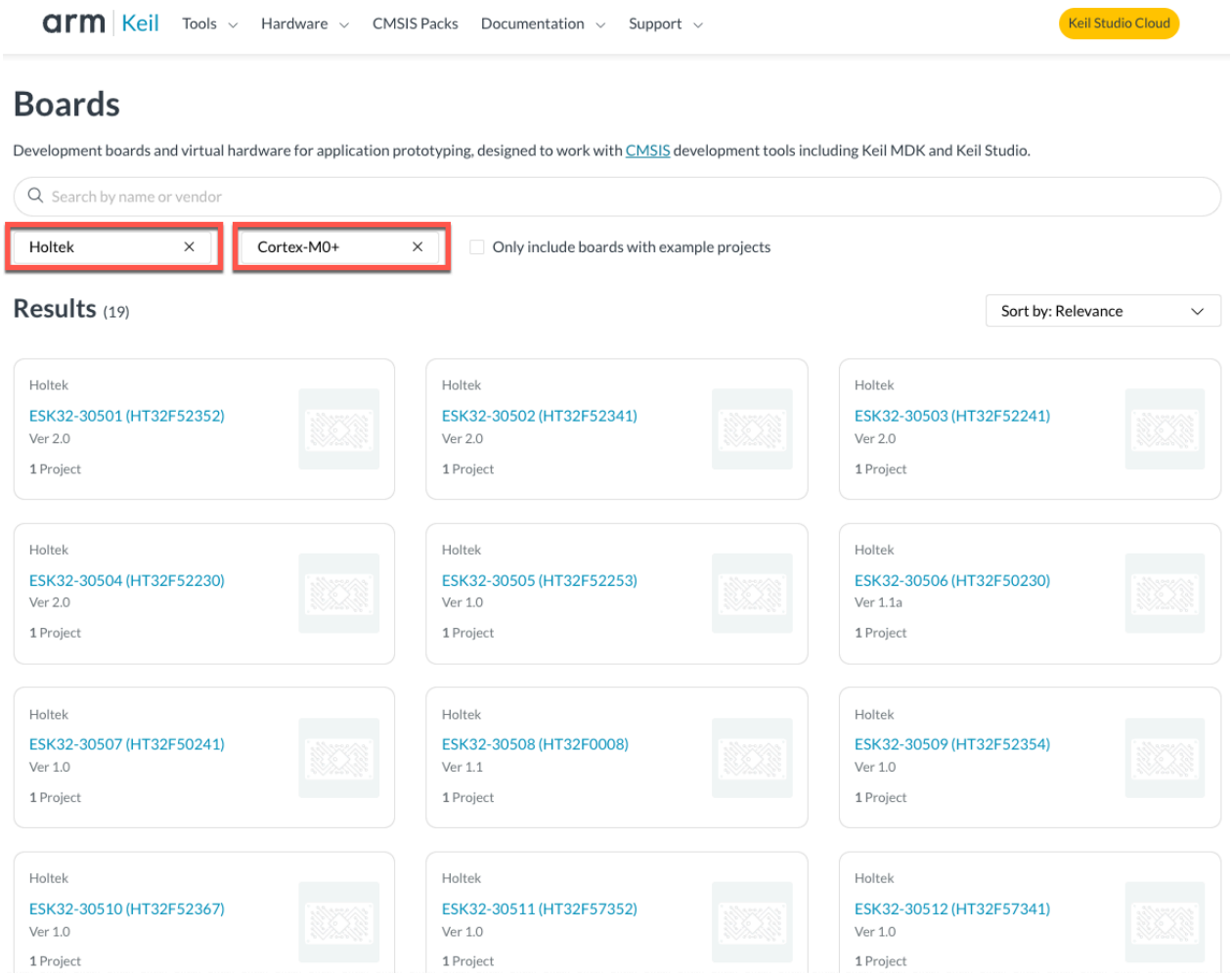
Figure 4-3: Set default compiler



Keil Studio

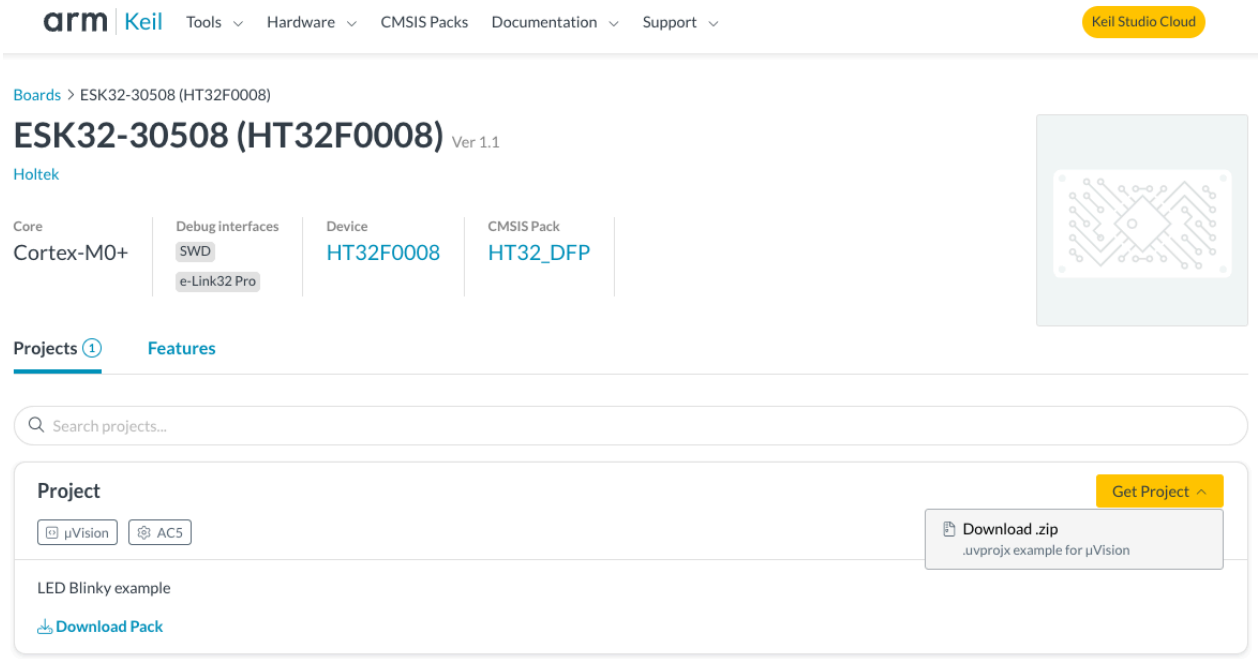
Open a web-browser and go to the CMSIS-Pack boards list. Narrow down your search by selecting **Holtek** as the *Vendor* and **Cortex-M0+** as the *Core*:

Figure 4-4: Find an example on keil.arm.com/boards



In the results, select the board you are interested in (for example, ESK32-30508). The board page opens with the **Projects** tab open:

Figure 4-5: ESK32-30508's board page



1. On the right, click on **Get Project** and select **Download .zip**.
2. Unzip the project to your PC.
3. Open Keil Studio and go to **File - Open Folder**.
4. Use your file manager to browse to the unzipped directory. Open the folder "MDK_ARMv5".

Note

Holtek example projects for uVision are set to Arm Compiler 5. Before you can convert the project to CMSIS csolution format, you need to edit the uvprojx file and add Arm Compiler 6.

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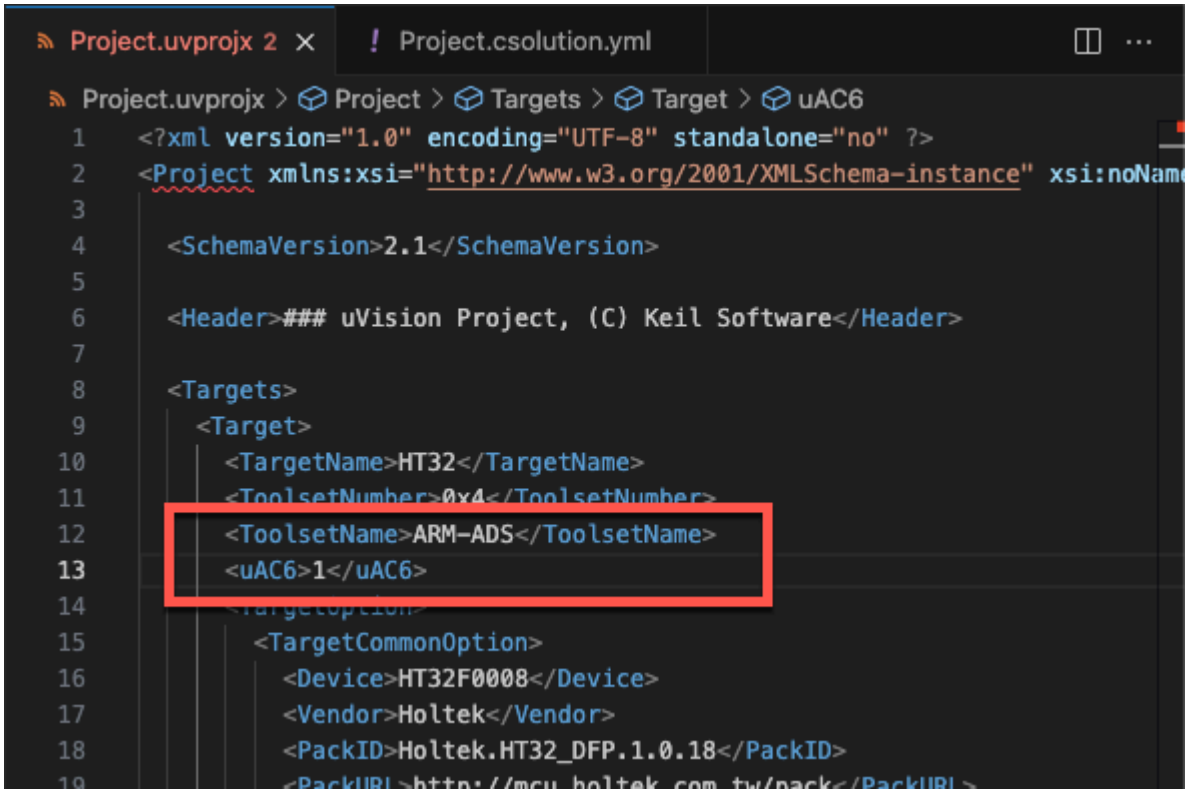
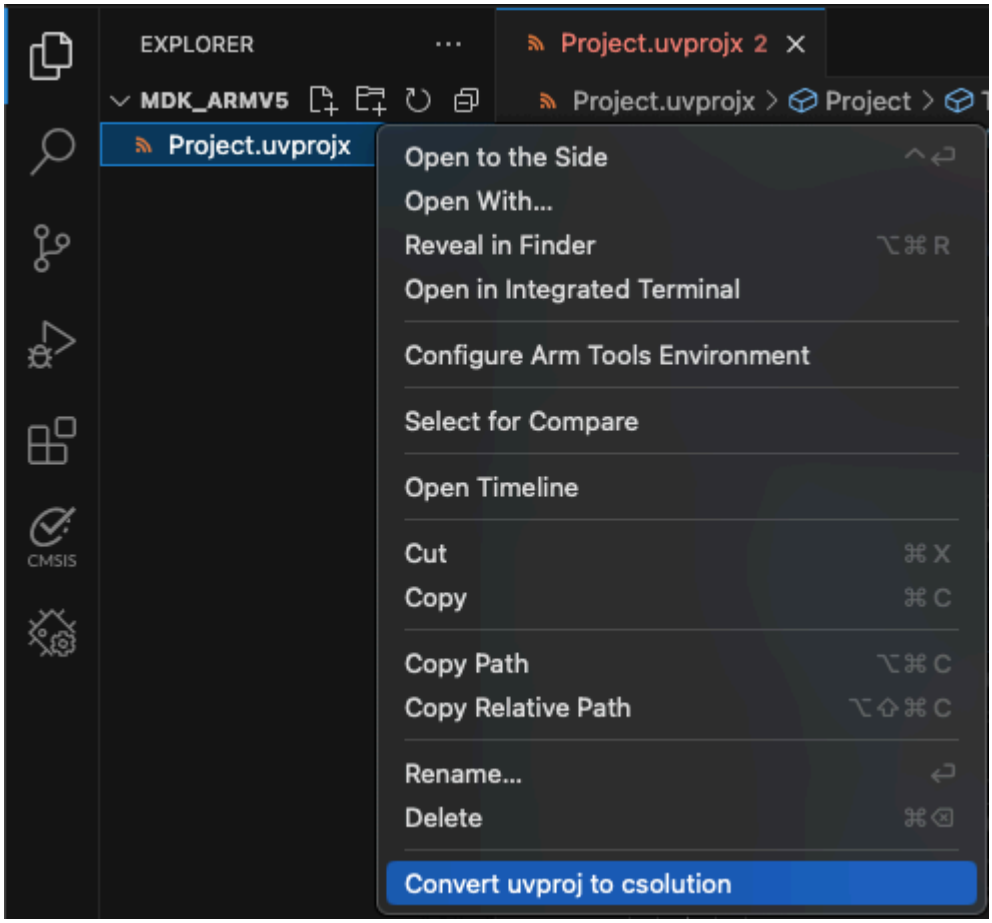
5. Open the `Project.uvprojx` file in Keil Studio.
6. Find the line with this code: `<ToolsetName>ARM-ADS</ToolsetName>`.
7. Add a new line after it and add this code: `<uAC6>1</uAC6>` (using the same indentation as in the line above):

Figure 4-6: Add Arm Compiler 6 to uvprojx file



8. Save the file.
9. Right-click the file and select **Convert uvproj to csolution**:

Figure 4-7: Convert uvprojx to csolution



10. Open the CMSIS extension (1) and use the hammer icon (2) to build the project:

Figure 4-8: Build the project

Further reading

Congratulations! You can now start working on embedded software development for Holtek devices!

If you want to learn more about Keil MDK, download the Getting Started Guide.

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PRE-1121-V1.0

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Product status

All products and services provided by Arm require deliverables to be prepared and made available at different levels of completeness. The information in this document indicates the appropriate level of completeness for the associated deliverables.

Product completeness status

The information in this document is Final, that is for a developed product.

Revision history

These sections can help you understand how the document has changed over time.

Document release information

The Document history table gives the issue number and the released date for each released issue of this document.

Document history

Issue	Date	Confidentiality	Change
1.1.0	21 August 2024	Non-Confidential	Updates for user-based licensing
1.0.0	11 January 2023	Non-Confidential	Initial release

Change history

The revisions tables describe the technical changes between released issues of this document.

Conventions

The following subsections describe conventions used in Arm documents.

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The Arm Glossary is a list of terms used in Arm documentation, together with definitions for those terms. The Arm Glossary does not contain terms that are industry standard unless the Arm meaning differs from the generally accepted meaning.

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Convention	Use
italic	Citations.
bold	Interface elements, such as menu names. Terms in descriptive lists, where appropriate.
`monospace`	Text that you can enter at the keyboard, such as commands, file and program names, and source code.
`monospace underline`	A permitted abbreviation for a command or option. You can enter the underlined text instead of the full command or option name.
`<and>`	Encloses replaceable terms for assembler syntax where they appear in code or code fragments. For example: `MRC p15, 0, <Rd>, <CRn>, <CRm>, <Opcode_2>`
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This information is important and needs your attention.

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A reminder of something important that relates to the information you are reading.

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