

# NuMicro® Family

## VS Code

## Quick Start Guide

*The information described in this document is the exclusive intellectual property of Nuvoton Technology Corporation and shall not be reproduced without permission from Nuvoton.*

*Nuvoton is providing this document only for reference purposes of NuMicro microcontroller based system design. Nuvoton assumes no responsibility for errors or omissions.*

*All data and specifications are subject to change without notice.*

For additional information or questions, please contact: Nuvoton Technology Corporation.

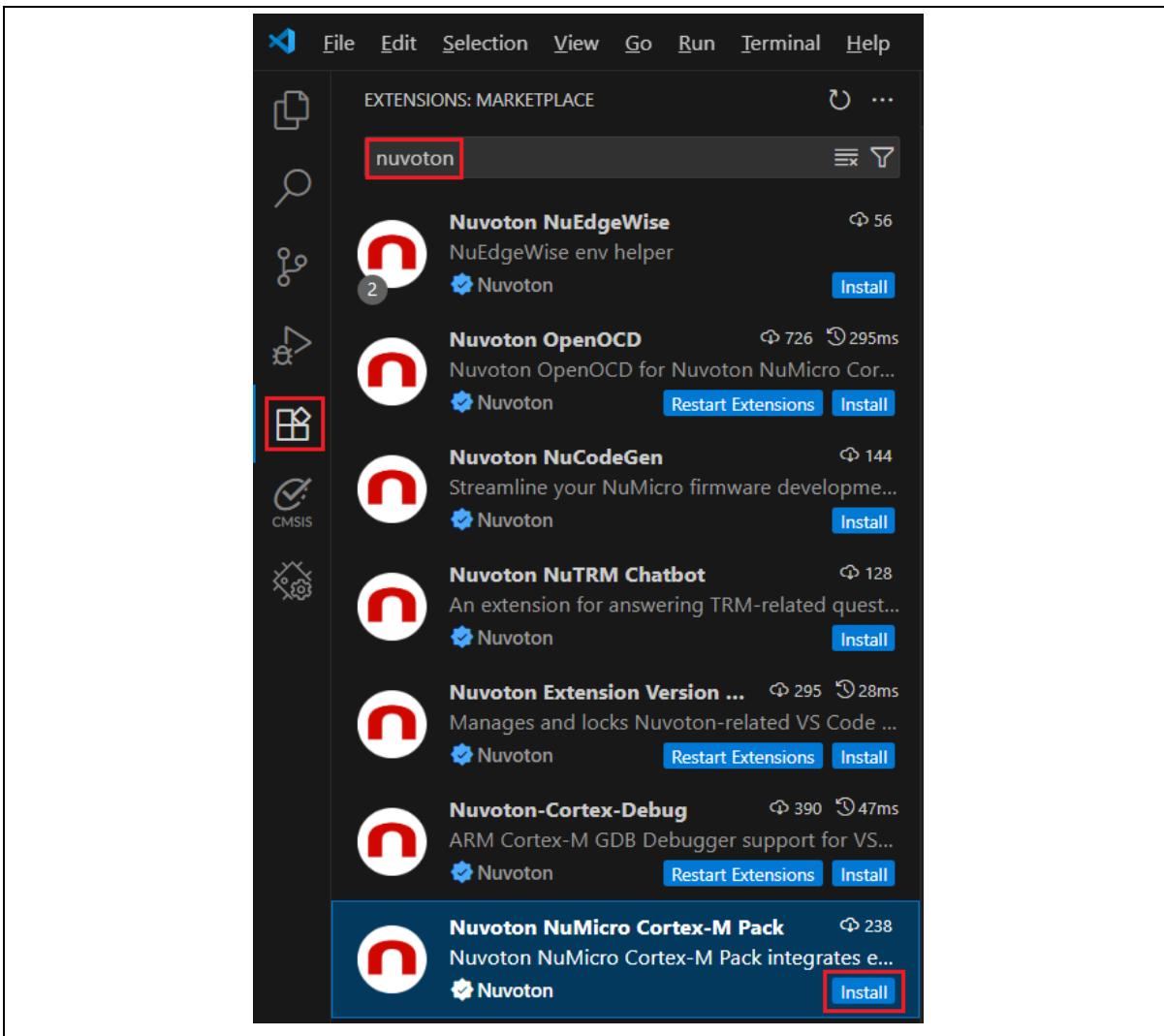
[www.nuvoton.com](http://www.nuvoton.com)

## TABLE OF CONTENTS

1	INSTALLATION VS CODE AND EXTENSIONS .....	3
2	GET STARTED WITH A SAMPLE PROJECT.....	4
3	MANAGE ARM LICENSE.....	7
4	CONFIGURE THE DEVICE .....	9
5	RUN THE SAMPLE PROJECT.....	12

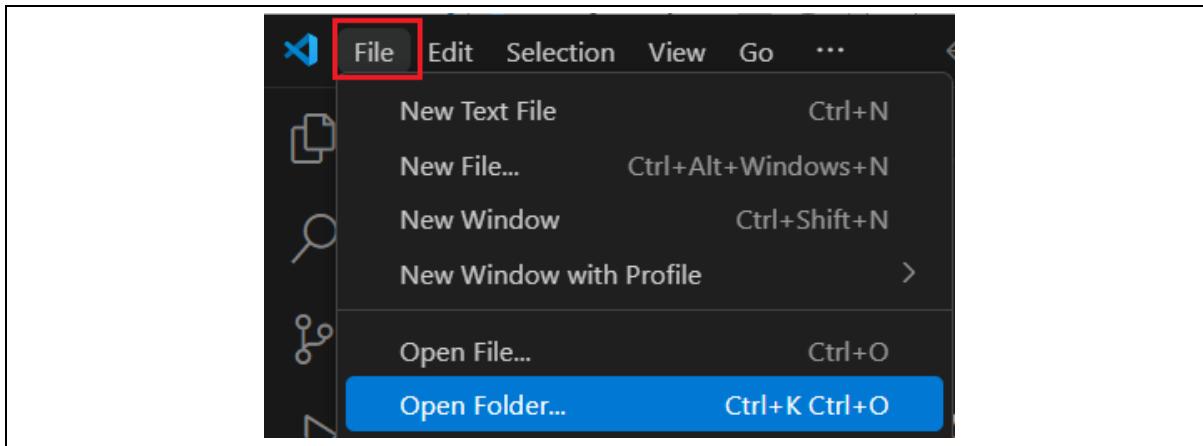
## 1 INSTALLATION VS CODE AND EXTENSIONS

1. Download VS Code from <https://code.visualstudio.com> and install it.
2. Launch VS Code and click Extensions in the Activity Bar.
3. Text “**Nuvoton NuMicro Cortex-M Pack Extension**” in search bar. Click the “**Install**” button to install.

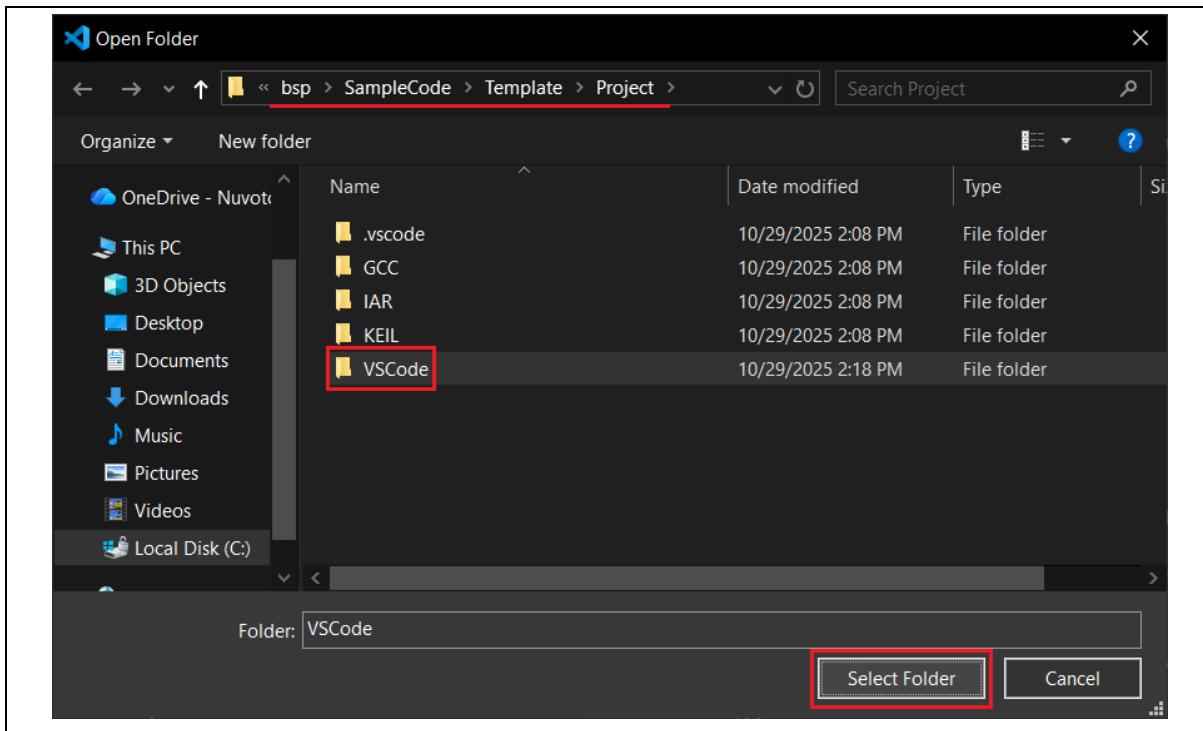


## 2 GET STARTED WITH A SAMPLE PROJECT

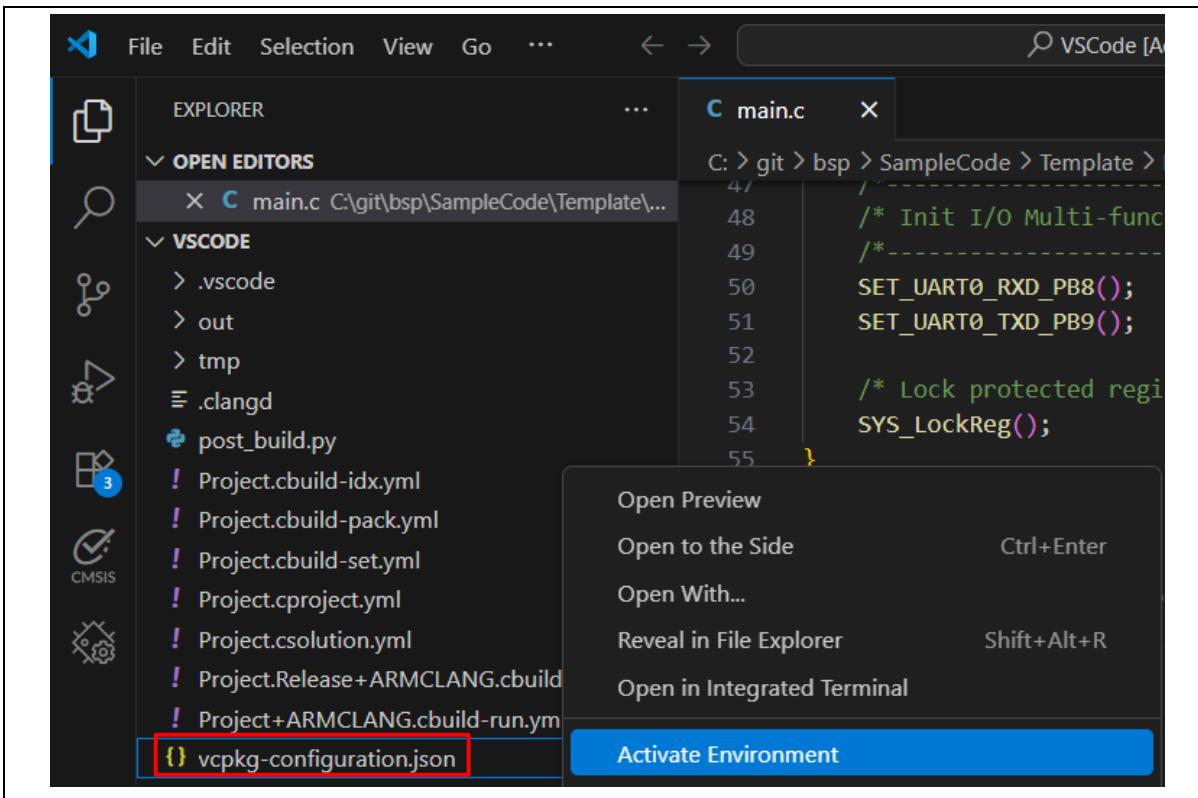
1. Click “File” menu and select “Open Folder” in the toolbar.



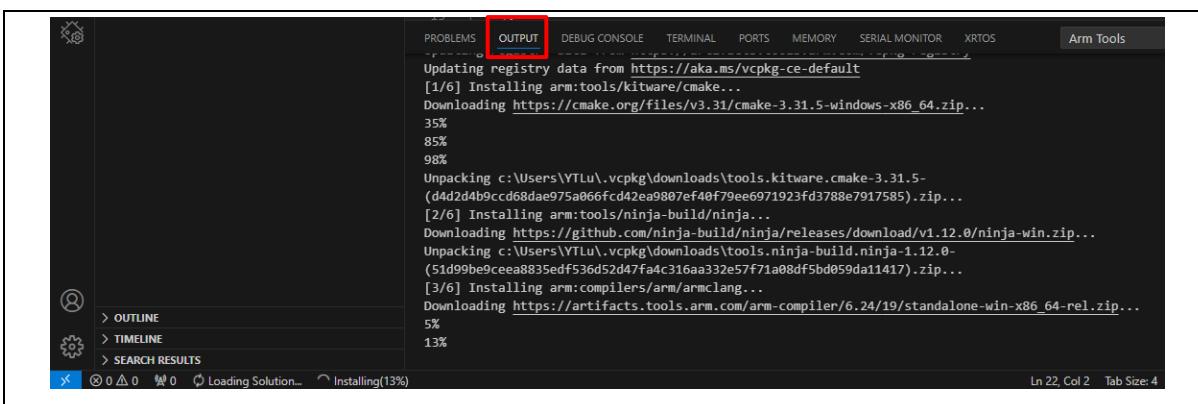
2. Select the "VSCode" folder of a sample project to open the project.



3. Right-click “**vcpkg-configuration.json**” file and select “**Activate Environment**” command. (Please use private network connection.)

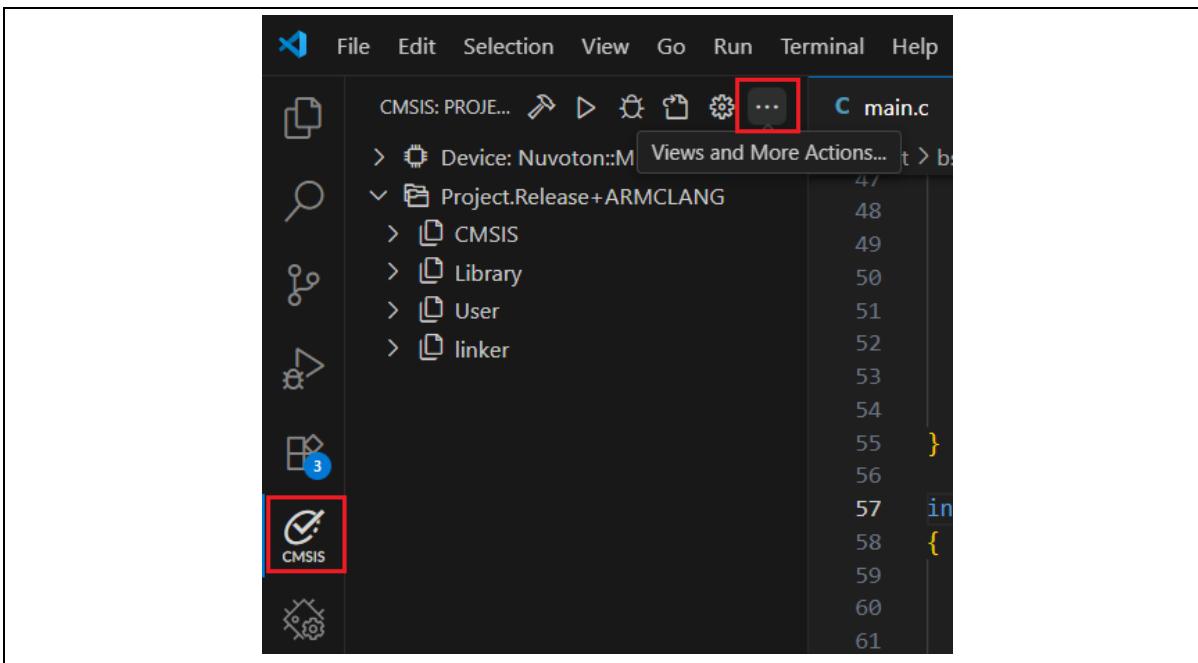


4. Check **OUTPUT** terminal at the bottom. It will download and install the requires tools.

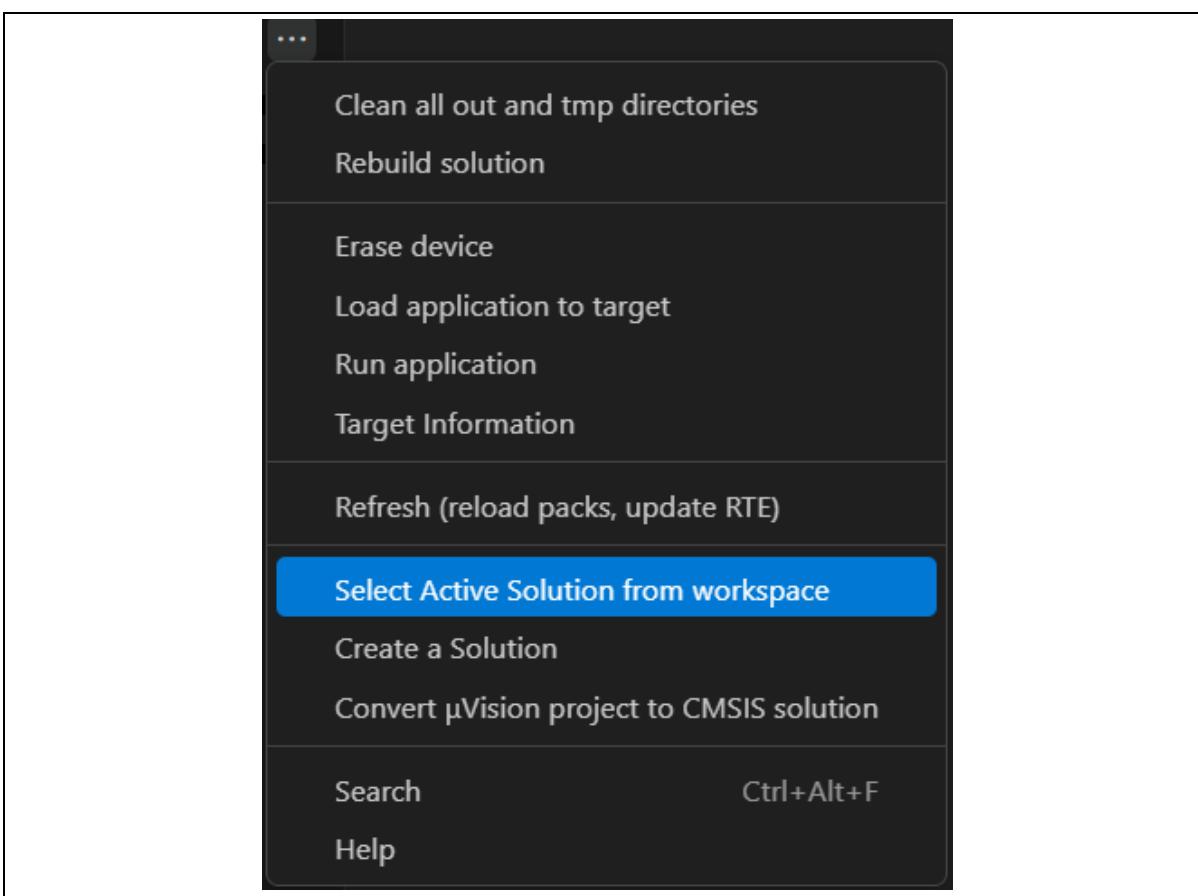


5. Click **CMSIS** icon in the Activity Bar.

Then click “Views and More Actions...” button.

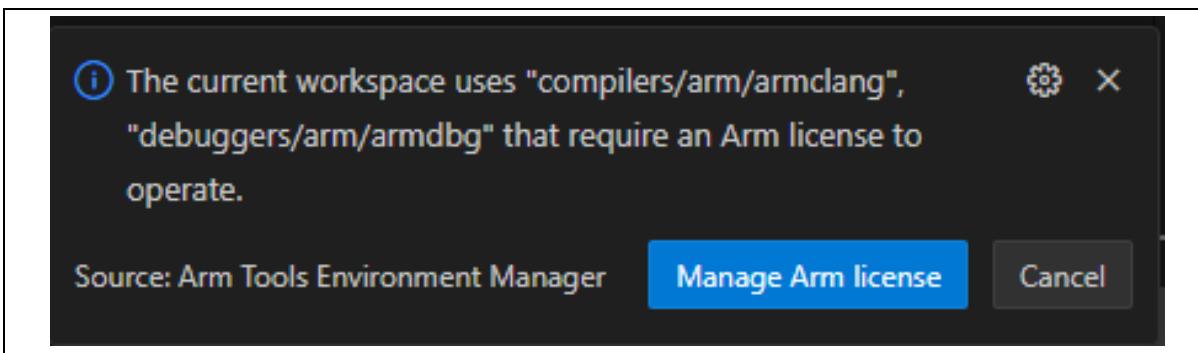


6. Select “Select Active Solution from workspace” command.

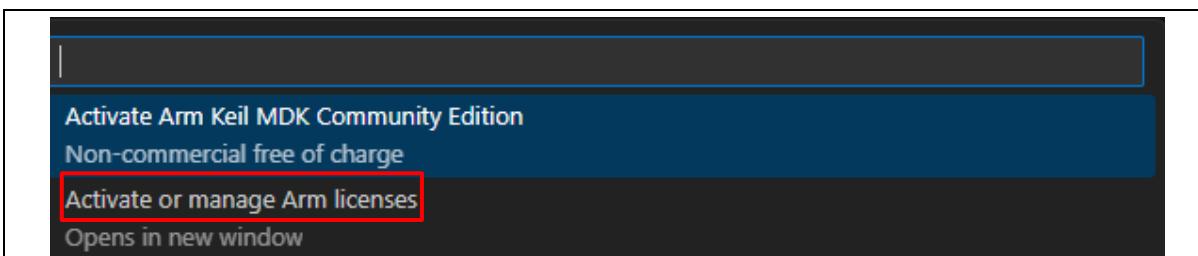


### 3 MANAGE ARM LICENSE

1. Click “Manage Arm License” button in the pop-up window at the bottom right.



2. In the search bar at the top, select "Activate or manage Arm licenses" command from the available options.



3. Get Keil MDK License ID code.

- 1) Navigation to [Official Website](#).

nuvoton

Products Applications Software and Tool Product Related Information AI Discovery

Home > Software and Tool > IDE and Nu-Link Driver > Keil MDK Nuvoton Edition – Full Cortex-M

**Keil MDK Nuvoton Edition – Full Cortex-M**

Evaluation Board

Debugger and Programmer

Software Tool

Board Support Package (BSP)

BSP and Example Code

IDE and Nu-Link Driver

**Keil MDK Nuvoton Edition – Full Cortex-M**

Overview FAQ - Unable to successfully activate

Arm and Nuvoton provide software developers with a free-to-use professional tool suite for commercial Edition – Full Cortex-M, including support for all Nuvoton devices based on Arm® Cortex-M processor M0, M0+, M23, M33, M4, M55, M7, and M85.

This edition includes all tools and software components provided with Arm Keil MDK v6, including the A Studio Pack - the Visual Studio Code extensions, Keil µVision and debugger.

This free service is available for use with Keil MDK Version 5.37 or later and only supports the Arm Cor

Click here to [Apply for License](#) (valid till September 25, 2027)

2) Fill out the form.

Apply for Kell MDK Nuvoton Edition – Full Cortex-M

First Name\*

Last Name\*

Company / Organization\*

Job Title\*

Region / Country or region\*  
-- Select Region -- | -- Country or region -- |

State / Province

Email\*

Phone\*

Industry  -- Industry --

Application\*  -- Application --

Series\*  -- Select Line -- | -- Select Category --

Part No

**NUVOTON Privacy Policy**

NUVOTON Privacy Policy  
Last modified July 01, 2023

NUVOTON TECHNOLOGY CORPORATION and its affiliated companies (hereinafter referred to as "NUVOTON", "we/us/our") are committed to protecting and respecting your privacy. Your Privacy is important to us. We endeavor to comply with all applicable laws on privacy protection and personal information security. NUVOTON Privacy Policy, together with any additional terms and conditions that contain supplementary information in connection with particular services you are using (hereinafter referred to as "Privacy Policy"), defines our privacy practices regarding the collection, use and disclosure of your personal information through: (1) the websites operated by NUVOTON (<http://www.nuvoton.com>) (the "Website"); (2) NUVOTON's App; and (3) any services both online and offline we provide (hereinafter referred to as "SERVICES"), along with whom we may share or disclose the collected information. If you are a minor, you shall access or use the SERVICES only after your parents (or your guardian) role and agree our Privacy Policy.

I have read, accept or otherwise consented to the terms of the SERVICES by you, or if you are a minor, the extension of your personal information either by your parents (or your guardian) or you with the permission of your parents (or guardian) will be deemed as your acceptance of the Privacy Policy.

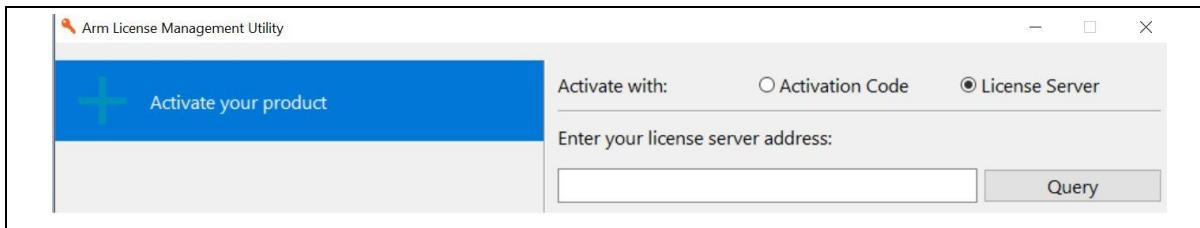
I have read and I accept Nuvoton's Privacy Policy

Add me as my Nuvoton member

\*Please do not share or make public reference that violates Nuvoton Terms of Use, Privacy Policy, or related guidelines on Nuvoton website (including other site requirements and relevant legal provisions), or if you engage in any illegal activities using this service or the Kell MDK Nuvoton Edition – Full Cortex-M, or if other abnormal situations arise such as unauthorized use of your account by a third party, Nuvoton Technology has the right to suspend or permanently terminate your account and/or suspend or permanently terminate the related services and licenses. By clicking submit, you agree to this statement.

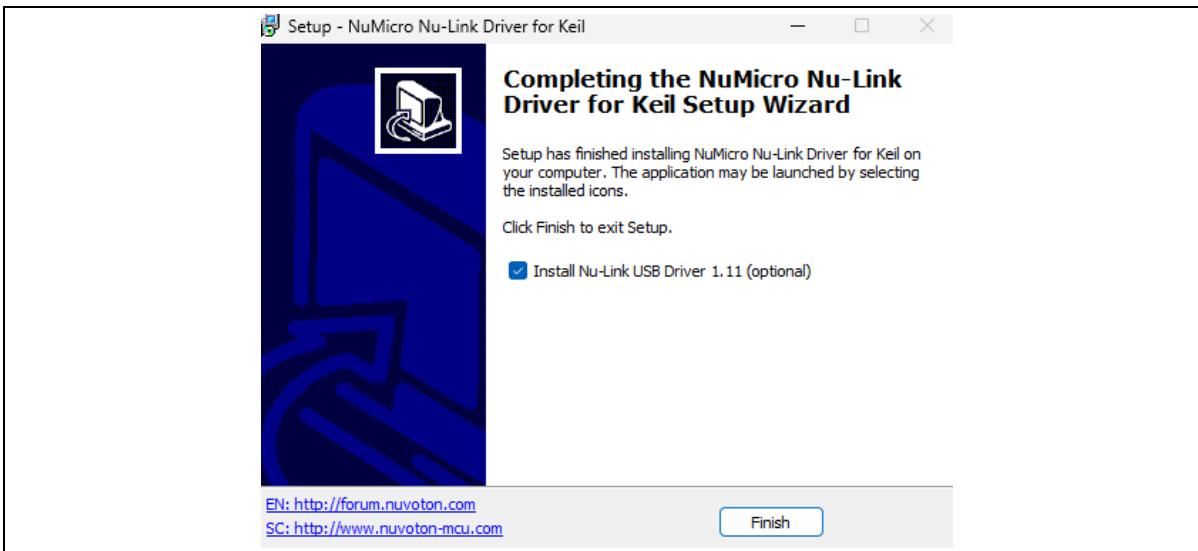
Submit

3) Check mailbox and fill in the License Server.

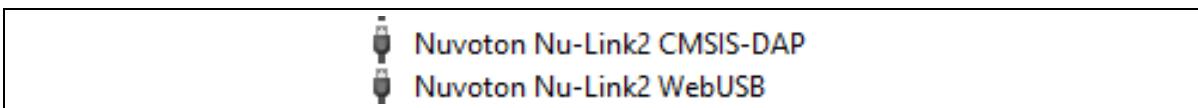


## 4 CONFIGURE THE DEVICE

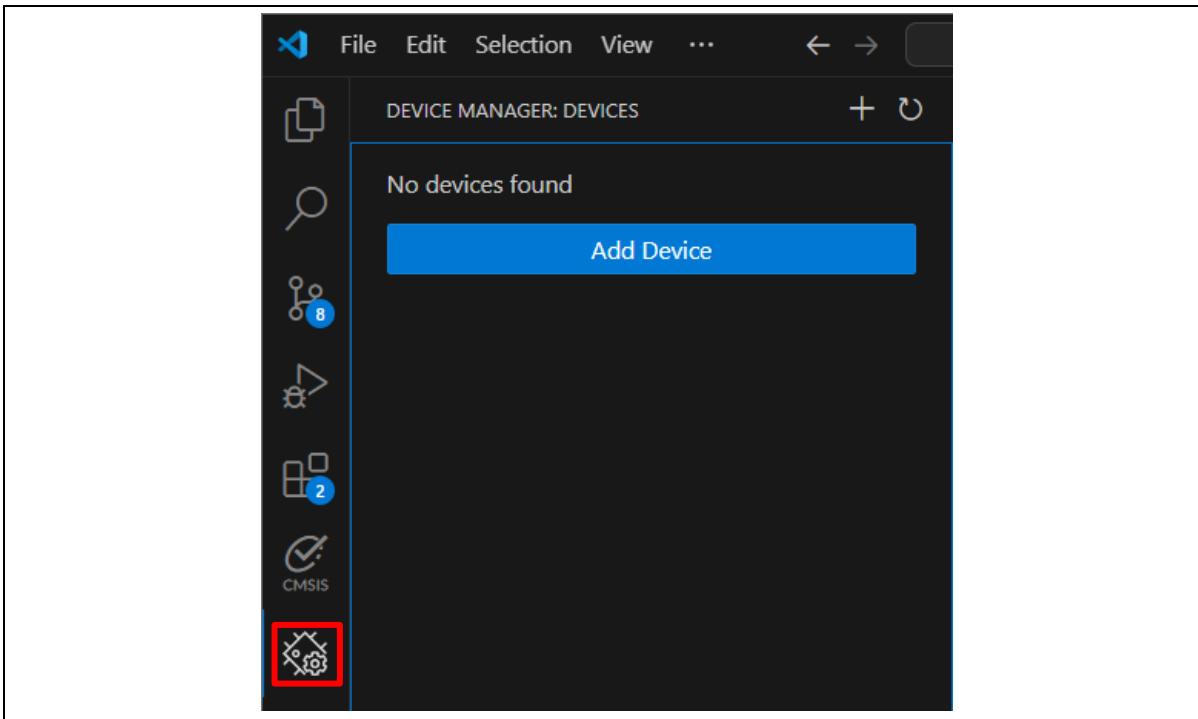
1. Install Nuvoton Nu-Link Keil Driver.
2. After installing the Keil driver, please check the box to install the Nu-Link USB Driver.



3. Installation complete in Windows Device Manager.



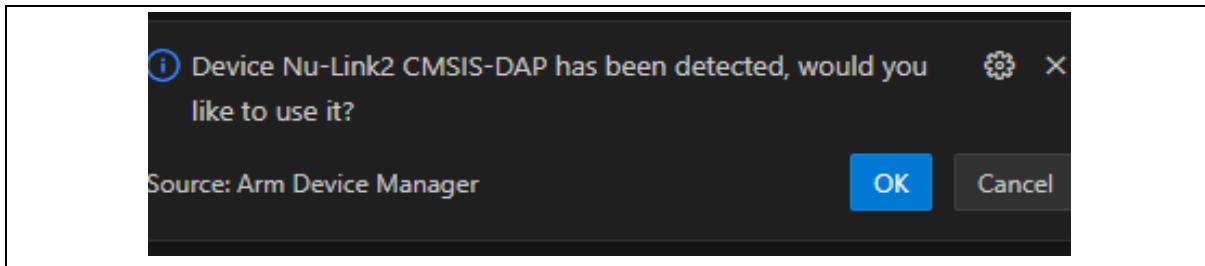
4. Click “Device Manager” icon in the Activity Bar to open the Device Manager.



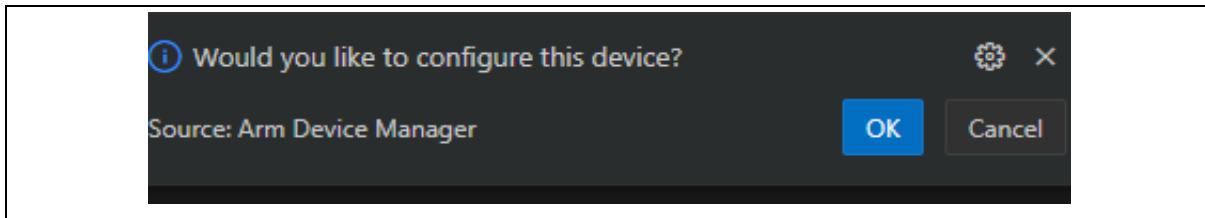
5. Connect device to your computer over USB.

The Device Manager detects the board and displays a pop-up message.

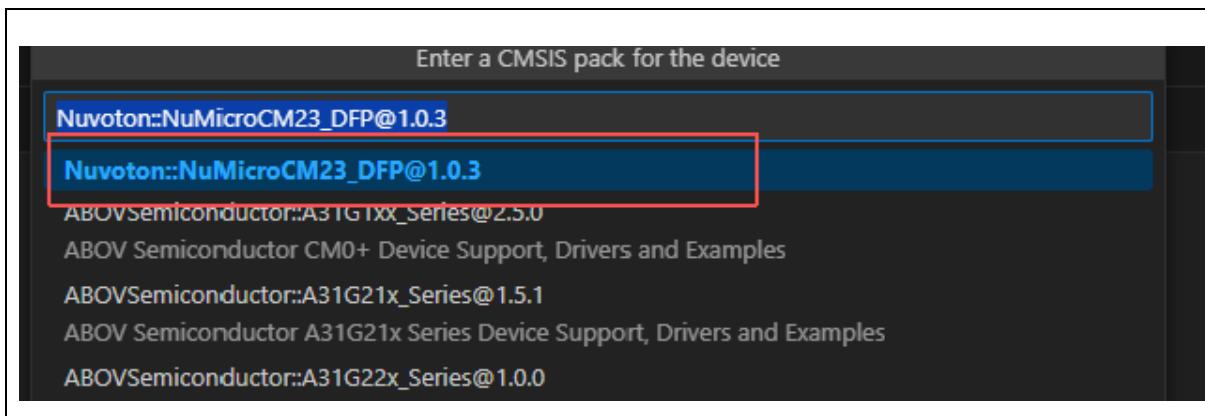
Press OK in the pop-up message and use it.



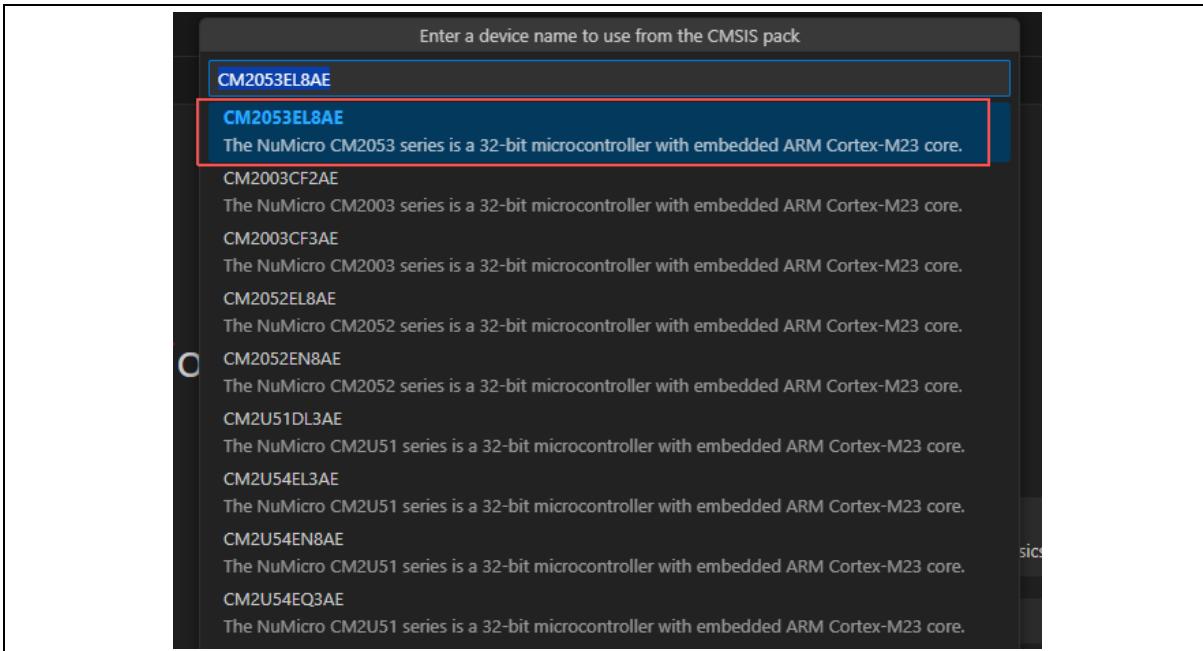
6. Press OK in the pop-up message and configure this device.



7. Text “**nuvoton**” in search bar and select corresponding CMSIS pack for the device.

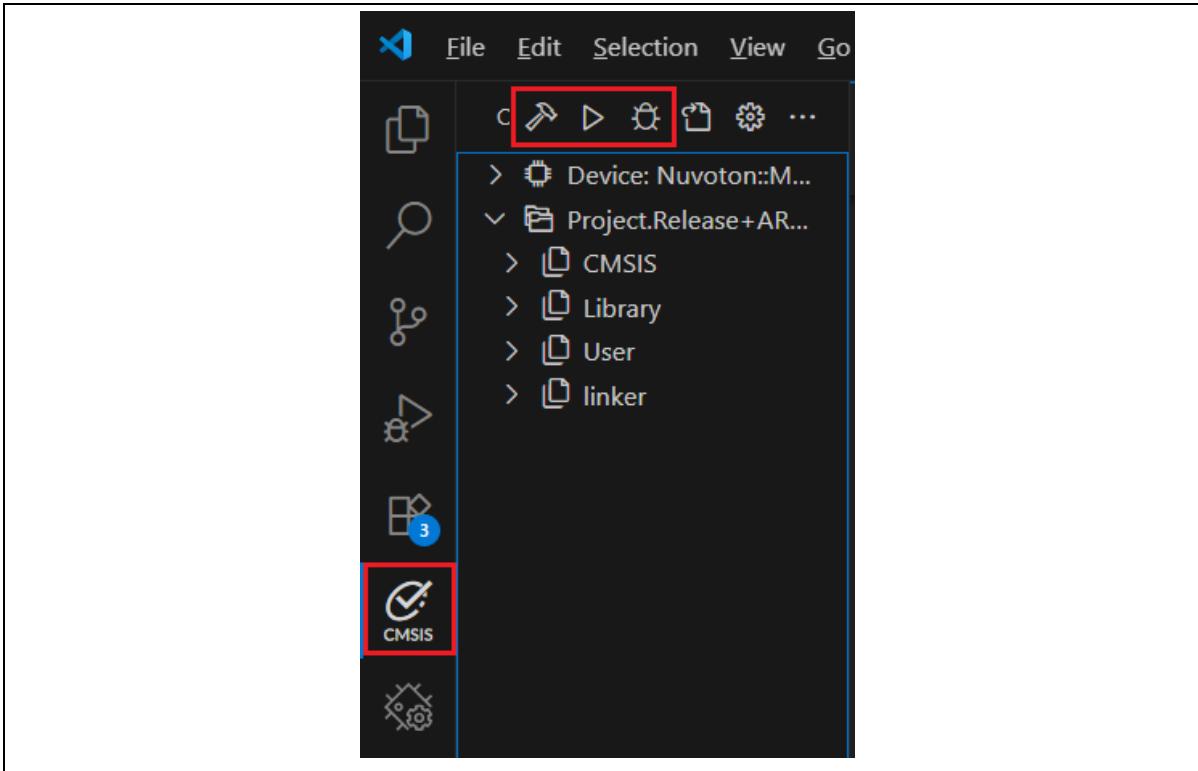


8. Text your “**device model number**” in search bar and select your target device.



## 5 RUN THE SAMPLE PROJECT

1. Click “**CMSIS**” icon in the Activity Bar.



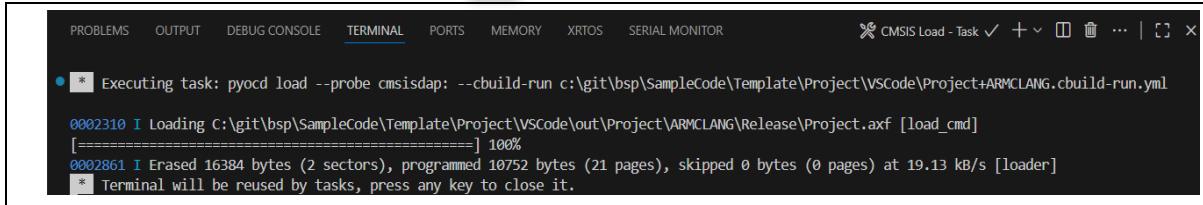
2. Click “**Build**” button.

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS MEMORY XRTOS SERIAL MONITOR
(1/1) Building context: "Project.Release+ARMCLANG"
Using AC6 V6.24.0 compiler, from: 'c:/users/klchiu0/.vcppkg/artifacts/2139c4c6/compilers.arm.armclang/6.24.0/bin/'
Building CMake target 'Project.Release+ARMCLANG'
[1/8] Building C object CMakeFiles/Group_Library.dir/c:/git/bsp/Library/StdDriver/src/sys.o
[2/8] Building C object CMakeFiles/Group_CMSIS.dir/c:/git/bsp/Library/Device/Nuvoton/M55M1/Source/startup_M55M1.o
[3/8] Building C object CMakeFiles/Group_User.dir/c:/git/bsp/SampleCode/Template/Project/main.o
[4/8] Building C object CMakeFiles/Group_Library.dir/c:/git/bsp/Library/StdDriver/src/retarget.o
[5/8] Building C object CMakeFiles/Group_CMSIS.dir/c:/git/bsp/Library/Device/Nuvoton/M55M1/Source/system_M55M1.o
[6/8] Building C object CMakeFiles/Group_Library.dir/c:/git/bsp/Library/StdDriver/src/uart.o
[7/8] Building C object CMakeFiles/Group_Library.dir/c:/git/bsp/Library/StdDriver/src/clk.o
[8/8] Linking C executable c:/git/bsp/SampleCode/Template/Project\VsCode\out\Project\ARMCLANG\Release\Project.axf
Program Size: Code=9220 RO-data=1064 RW-data=16 ZI-data=4104

Executing: Project.Release+ARMCLANG-HelloPython
Python 3.12.4

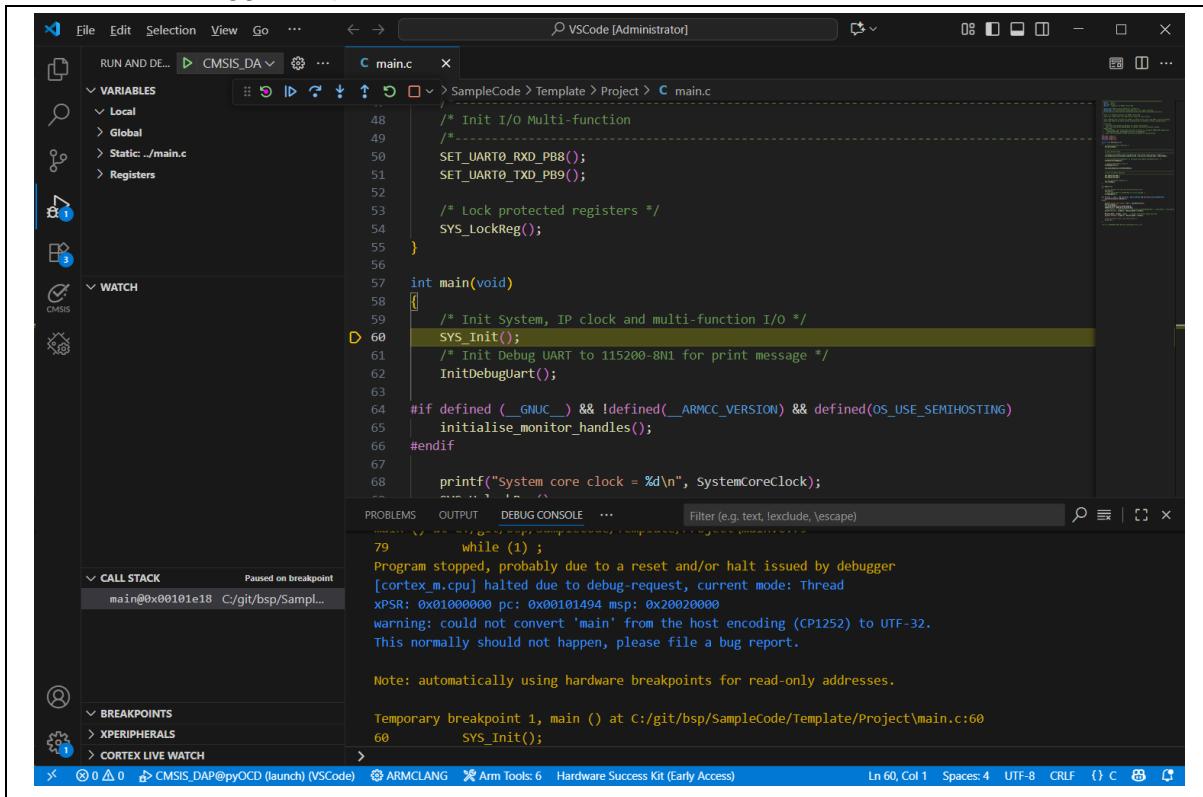
+-----
Build summary: 1 succeeded, 0 failed - Time Elapsed: 00:00:09
+=====
Completed: cbuild succeed with exit code 0
Build complete
* Terminal will be reused by tasks, press any key to close it.
```

3. Click “Load & Run” button.

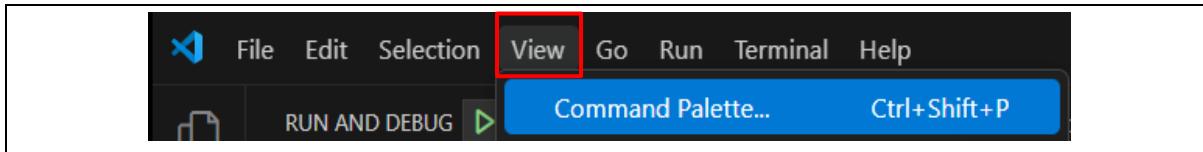


4. Click “Load & Debug” button.

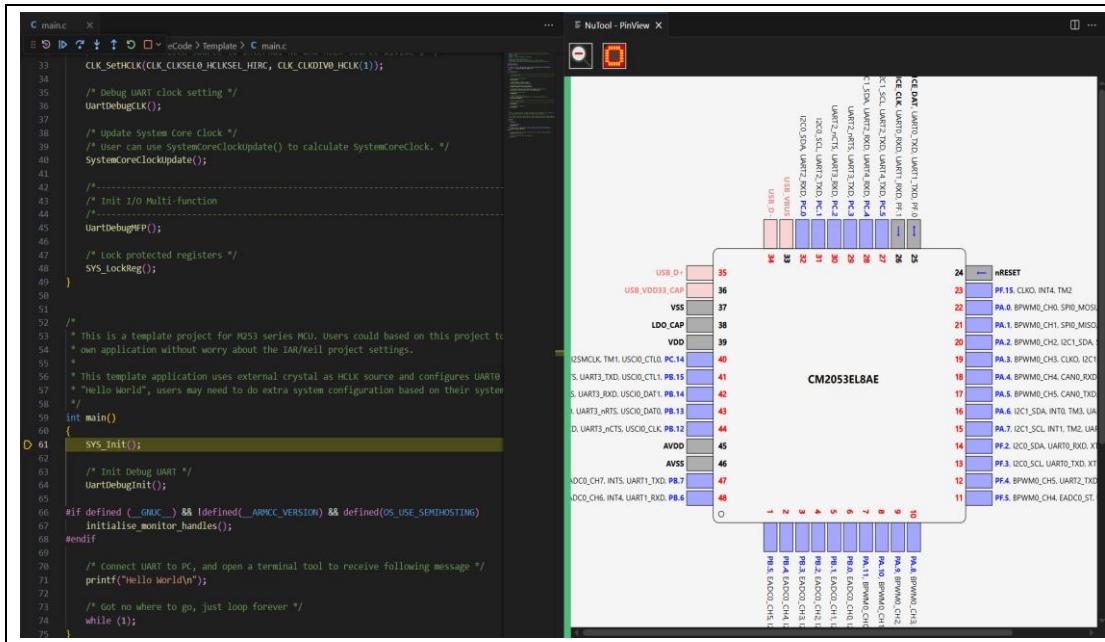
The debugger stops at the main function.



5. Click “View” menu and select “**Command palette**” item in the toolbar.



## 6. Text “Nuvoton:Open PinView” in search bar to open PinView tool.



**REVISION HISTORY**

Date	Revision	Description
2025.12.25	1.00	1. Initial version.

### Important Notice

Nuvoton Products are neither intended nor warranted for usage in systems or equipment, any malfunction or failure of which may cause loss of human life, bodily injury or severe property damage. Such applications are deemed, "Insecure Usage".

Insecure usage includes, but is not limited to: equipment for surgical implementation, atomic energy control instruments, airplane or spaceship instruments, the control or operation of dynamic, brake or safety systems designed for vehicular use, traffic signal instruments, all types of safety devices, and other applications intended to support or sustain life.

All Insecure Usage shall be made at customer's risk, and in the event that third parties lay claims to Nuvoton as a result of customer's Insecure Usage, customer shall indemnify the damages and liabilities thus incurred by Nuvoton.

---

Please note that all data and specifications are subject to change without notice.  
All the trademarks of products and companies mentioned in this datasheet belong to their respective owners.