ARM® Cortex®-M

32-bit Microcontroller

NuMicro® Family
NuTiny-M261 Board Quick Start Guide

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1 OVERVIEW

This document describes the firmware development environment used to build an application in the NuTiny-M261 board and how to use board supporting package (BSP) including necessary drivers to develop applications with M261. The guidelines on how to build the sample code of BSP are also included.

2 BOARD SUPPORTING PACKAGE (BSP)

The BSP contains M261 driver, library and sample code. The driver is based on CMSIS. The libraries are smart card library and USB host library. All peripheral sample codes are provided to help user to understand how they work and how to use them. The detailed information of the BSP materials can be found in a readme file in the BSP root directory.

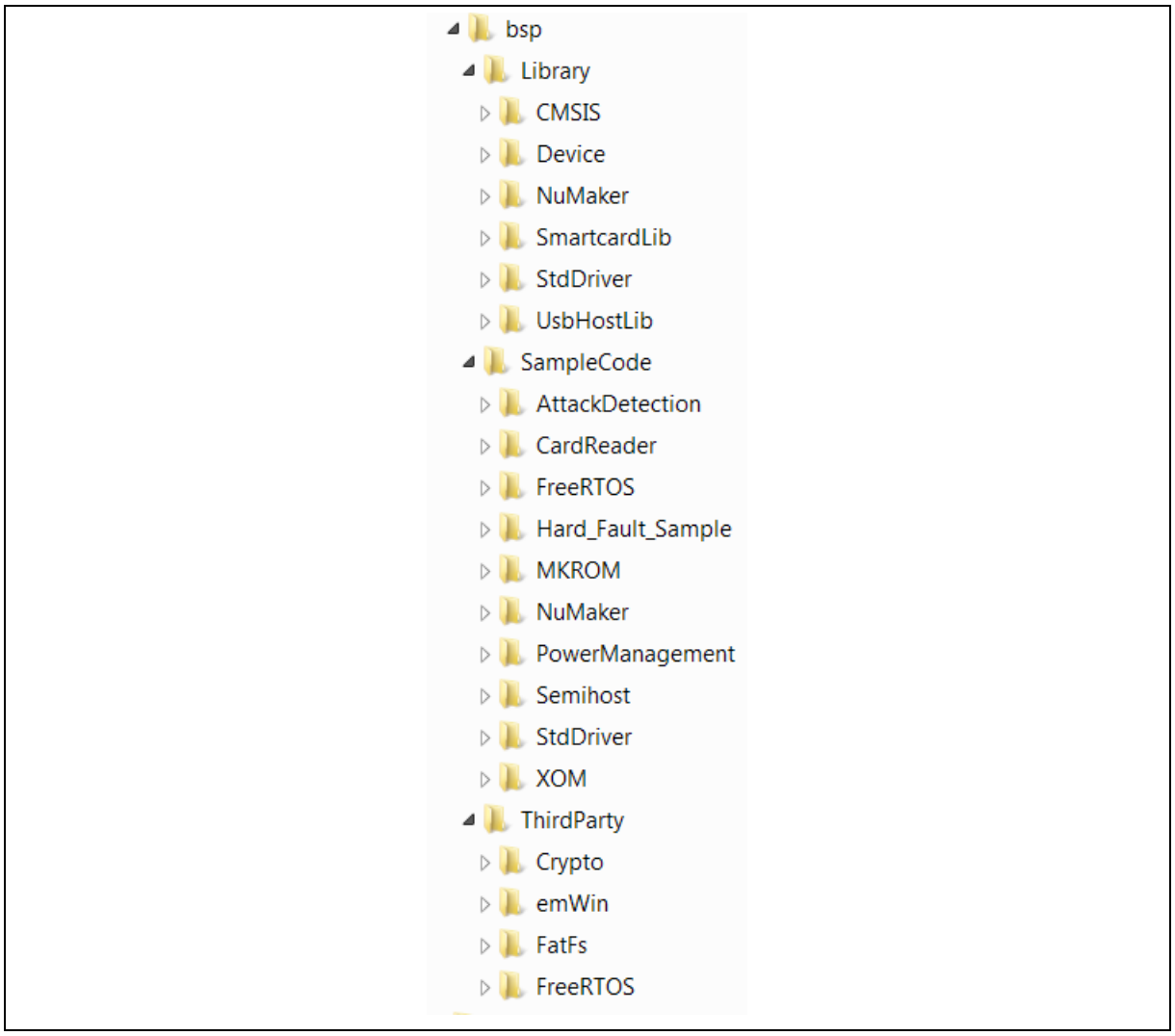


Figure 2-1 M261 BSP Folder Structure

3 INSTALLING TOOL DRIVERS

The NuTiny-M261 board has built in with Nuvoton Nu-Link ICE on board. By default KEIL and IAR project settings, the Nu-Link ICE is used to download and debug the sample code once the Nu-Link KEIL/IAR driver is installed and the Nu-Link ICE is connected via the USB cable.

It is recommended to use KEIL MDK Plus/Pro v5.24 or IAR EWARM v8.30 and later version.

- Install Nu-Link KEIL/IAR driver:

  To use Nu-Link ICE with M261, please install the Nu-Link driver by double clicking the installer file.

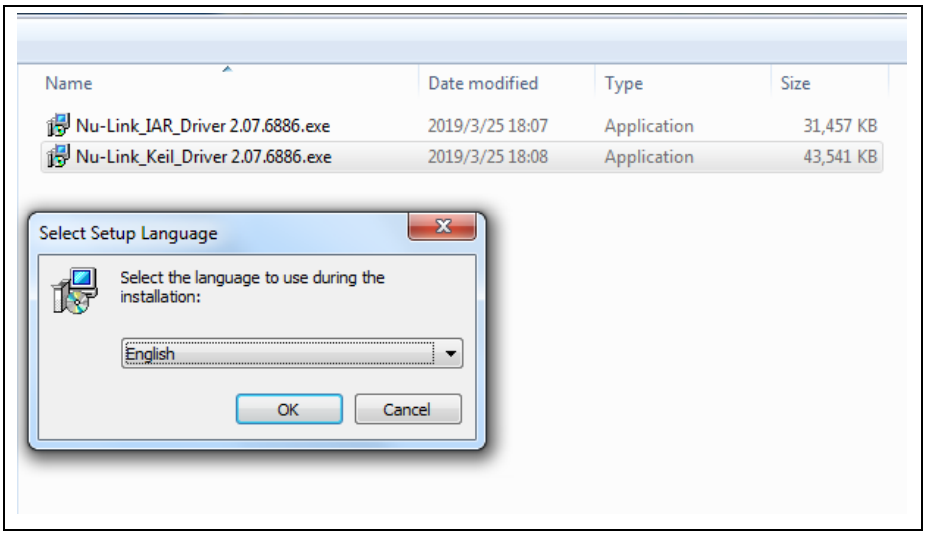


Figure 3-1 KEIL/IAR Driver Installer

- Install M261 KEIL Software Pack:

  In KEIL MDK, It is necessary to update Nuvoton KEIL Software Pack to support M261. In uVision IDE environment, click the "**Pack Installer**" icon to open the pack installer. Then, use "**File** -> **Import**…" to install Nuvoton KEIL software pack.

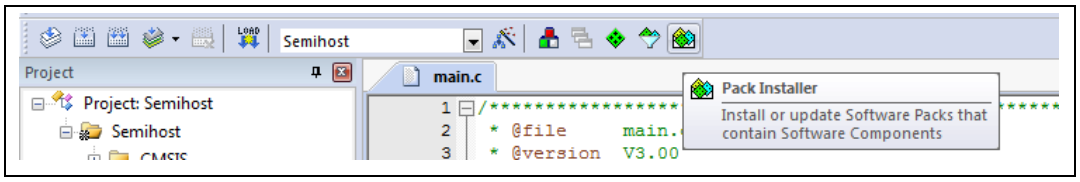


Figure 3-2 Pack Installer

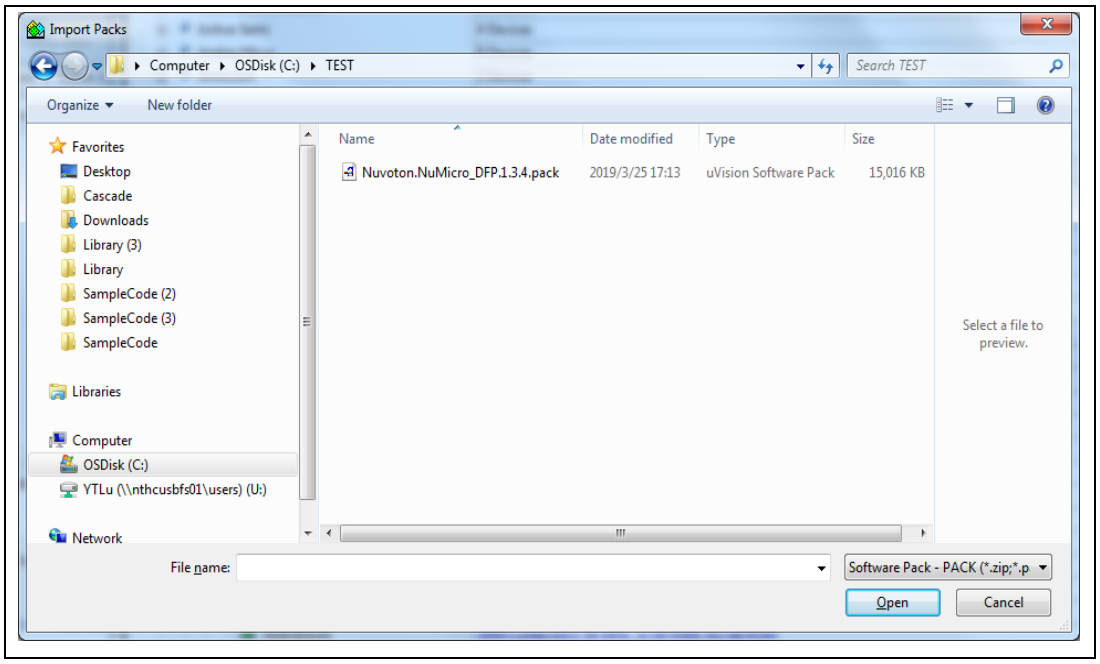


Figure 3-3 M261 Software Pack File

4 BLINKY SAMPLE CODE

The Blinky sample code is a simple code to toggle LED on/off around the NuTiny-M261 board.

The project file is located at:

bsp\SampleCode\NuMaker\Blinky\Keil\Blinky.uvprojx (For KEIL MDK)

or

bsp\SampleCode\NuMaker \Blinky\IAR\Blinky.eww (For IAR EWARM)

- Connect the Nu-Link ICE on the NuTiny-M261 board to PC with USB

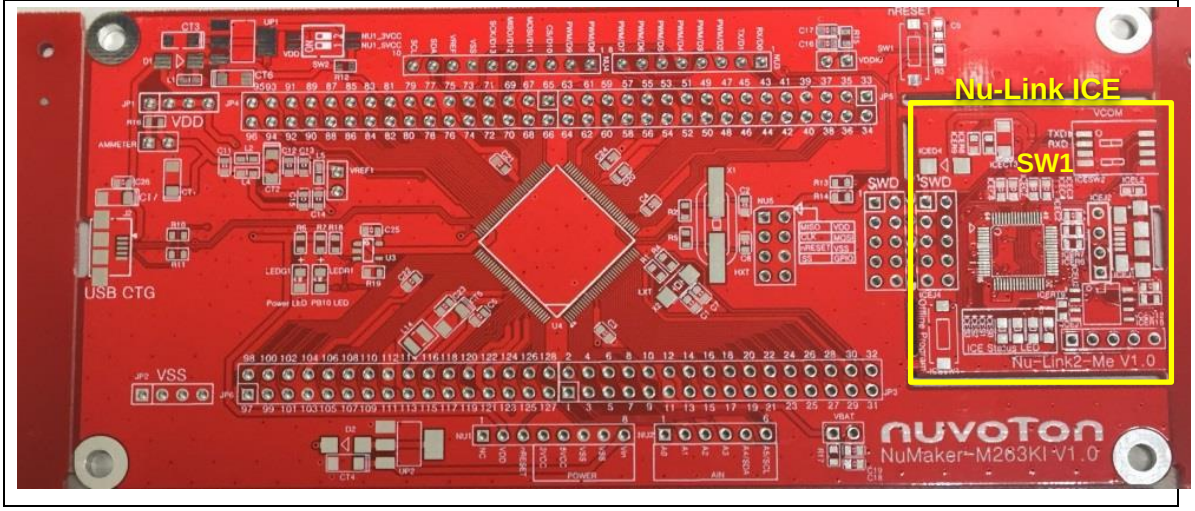


Figure 4-1 NuTiny-M261 Board

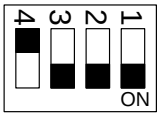
The Nu-Link ICE has a Virtual COM port function for debug messages. After connecting Nu-Link, user can find VCOM on hardware manager in Windows PC.

Note1:

Nu-Link driver (KEIL or IAR) should be installed first before using the VCOM.

Note2:

The SW1 needs to be set as below to enable VCOM function of Nu-Link ICE.



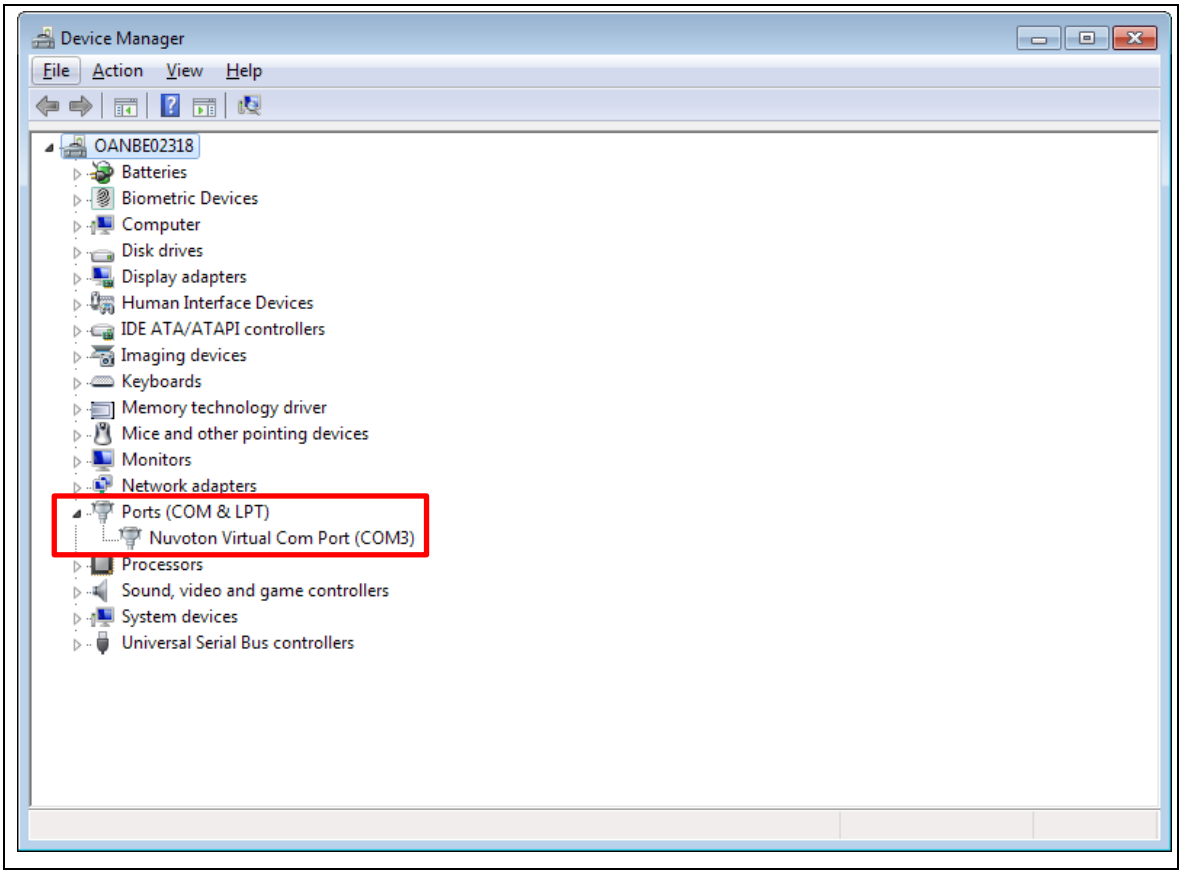


Figure 4-2 Nuvoton Virtual Com Port

A terminal tool can be used to open the virtual COM port to monitor the M261 debug message.

- Open the sample code:
  User can open the sample code with KEIL uVision by double clicking the project file.

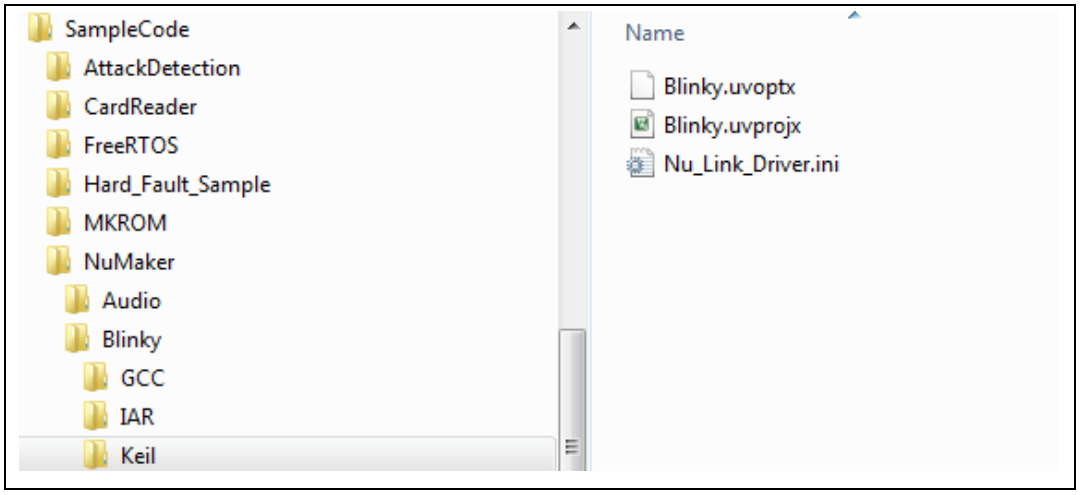


Figure 4-3 Blinky KEIL Project File

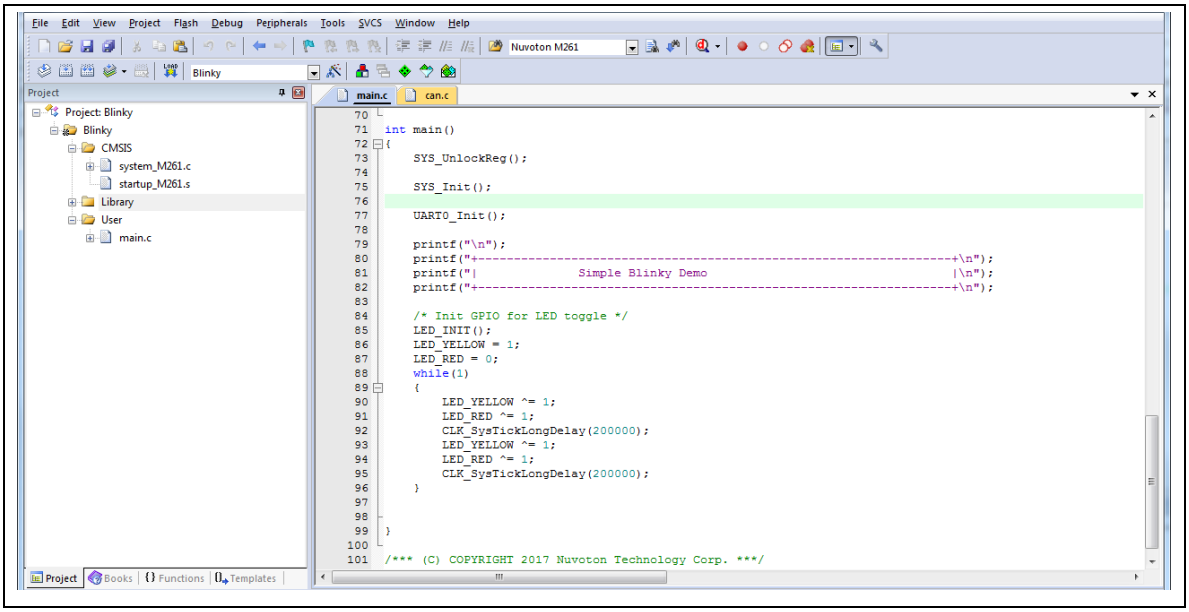
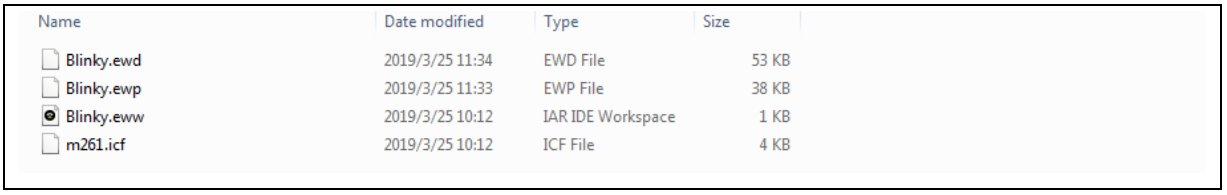


Figure 4-4 Blinky Sample Code KEIL Project Screenshot

If IAR EWARM is used, user can open the project by double clicking the Blinky.eww file.



Name	Date modified	Type	Size
Blinky.ewd	2019/3/25 11:34	EWD File	53 KB
Blinky.ewp	2019/3/25 11:33	EWP File	38 KB
Blinky.eww	2019/3/25 10:12	IAR IDE Workspace	1 KB
m261.icf	2019/3/25 10:12	ICF File	4 KB

Figure 4-5 Blinky IAR Project File

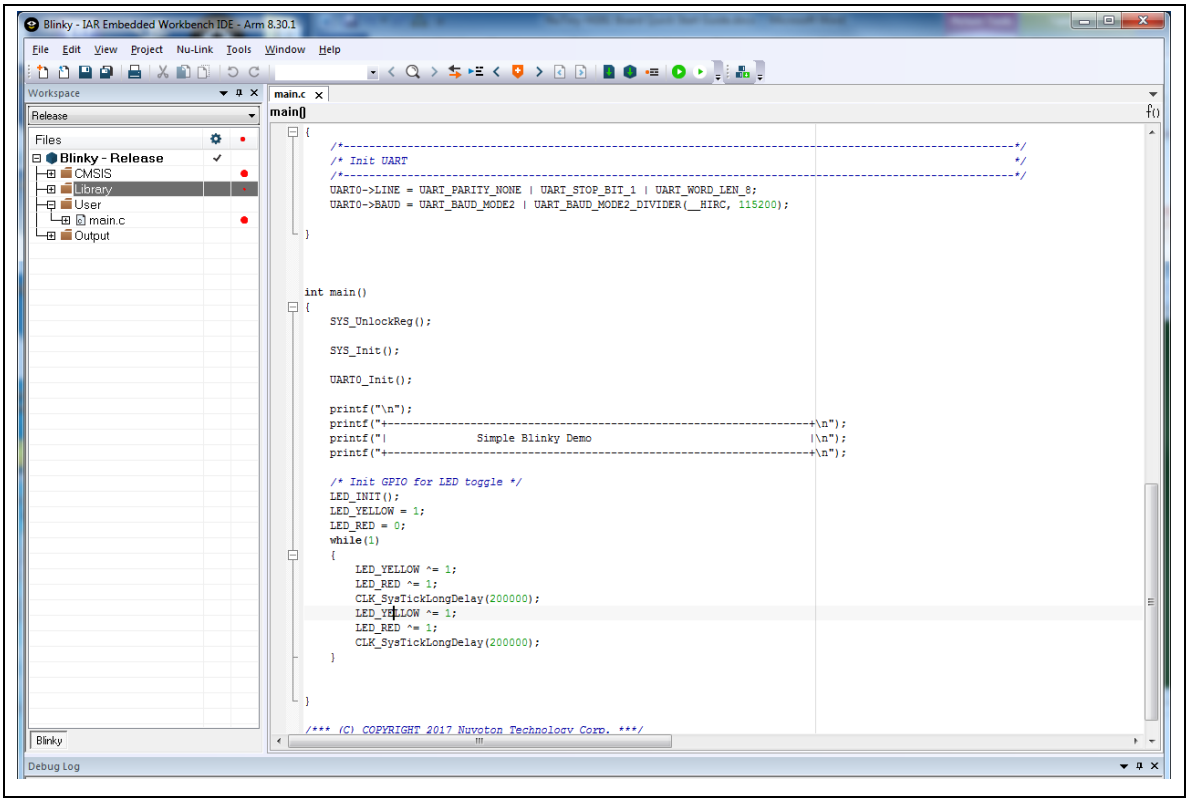


Figure 4-6 Blinky Sample Code IAR Project Screenshot

- Build the sample code:
  User can click the "**Rebuild**" icon to build the sample code in KEIL MDK.

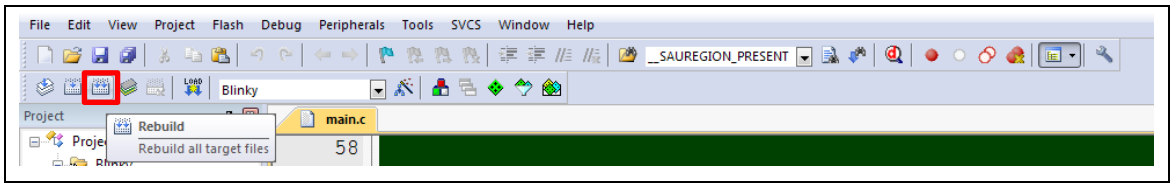


Figure 4-7 Rebuild with KEIL MDK

Or click “**Project ->** **Rebuild All**” in IAR EWARM.

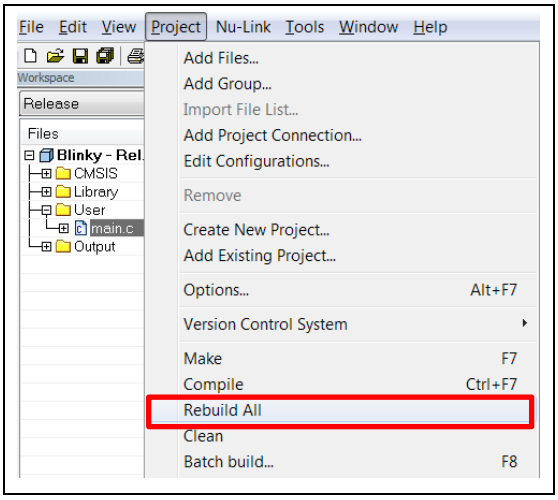


Figure 4-8 Rebuild with IAR EWARM

- Download firmware to M261:
  User can click the “**Download**” icon to download the code to M261.

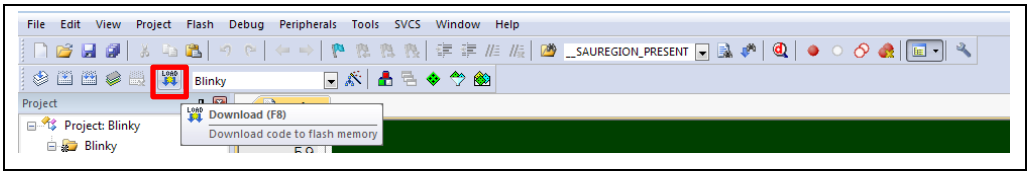


Figure 4-9 Firmware Download with KEIL

Or click “**Project** -> **Download** -> **Download active application**” to download the code to M261.

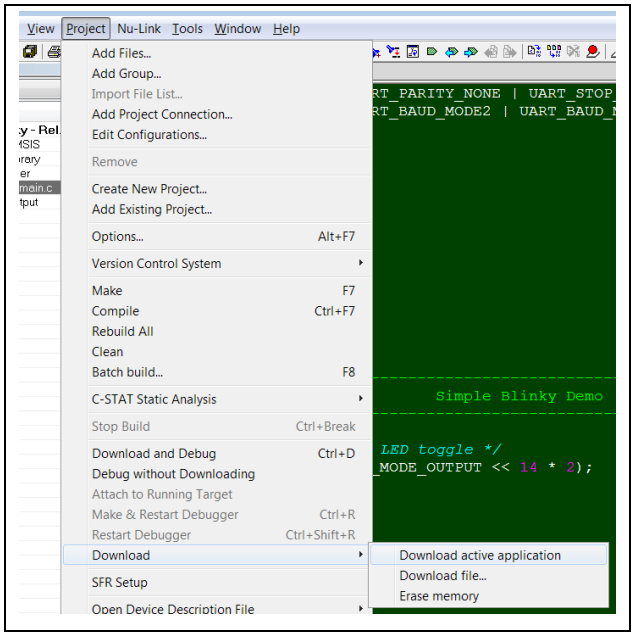


Figure 4-10 Firmware Download with IAR

- Press reset on the board to execute the code
  After downloading the code, user can press reset to execute the firmware. The IO_LED on the board will blink and a sample code message will be shown on the debug port.

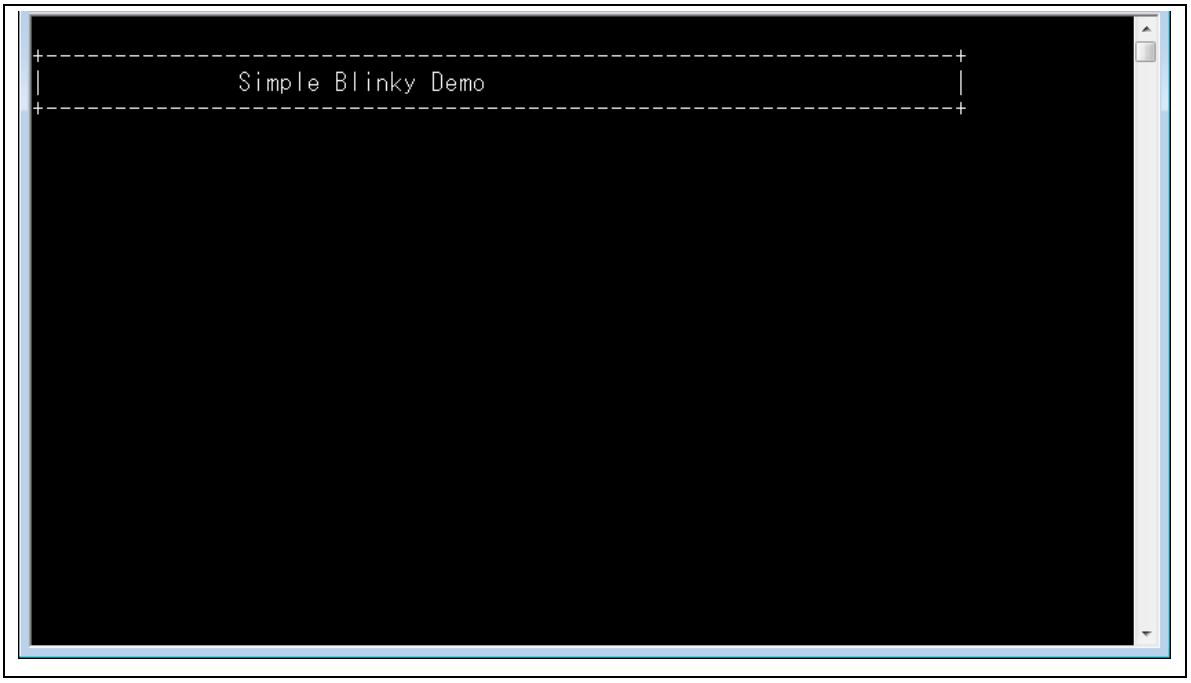


Figure 4-11 Blinky Sample Code Screenshot

5 REVISION HISTORY

Date	Revision	Description
2019.3.29	1.00	1. Initially issued.

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