ARC IoTDK

- Environment Build -

Contents

Installation
- GNU Tollchain

Download Link :
https://github.com/foss-for-synopsys-dwc-arc-processors/toolchain/releases/tag/arc-2020.03-release

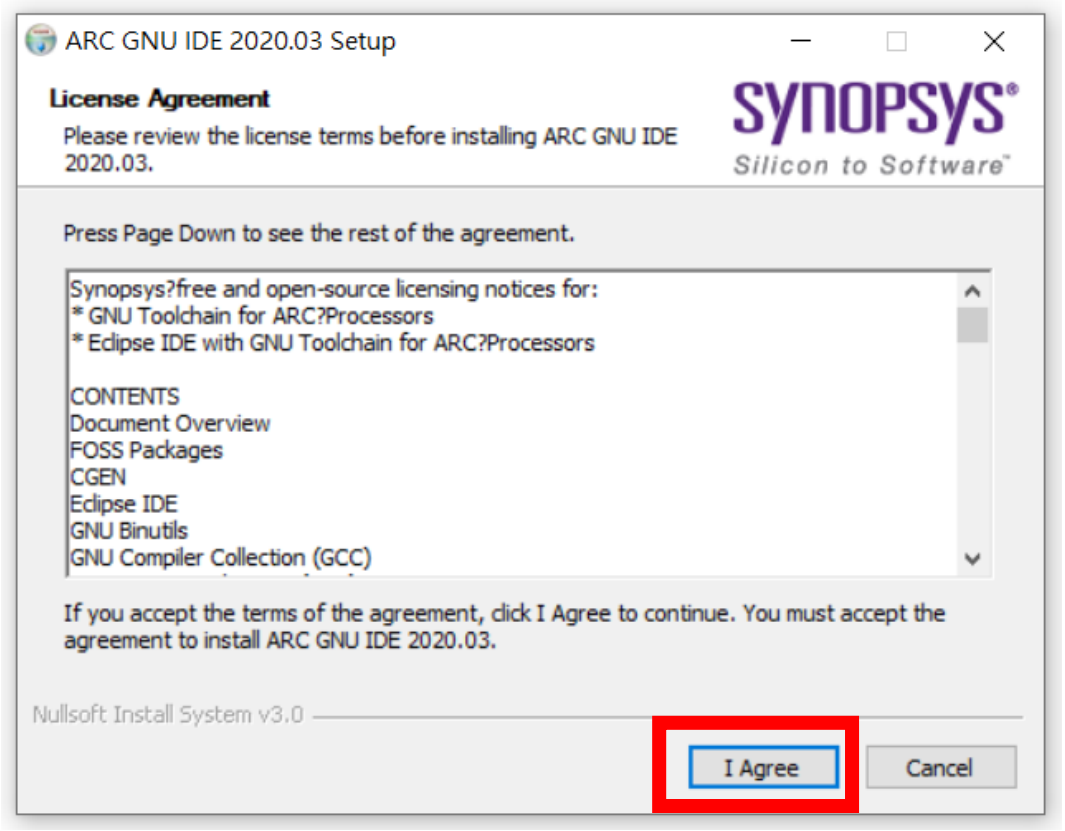
Version : 2020.03

	Linux x86_64	Windows x86_64	Linux ARC HS	macOS x86_64
Baremetal	Little endian \ Big endian			Little endian \ Big endian
Linux/uClibc ARC700	Little endian \ Big endian			
Linux/uClibc ARC HS	Little endian \ Big endian		Little endian	
Linux/glibc ARC HS	Little endian \ Big endian			
IDE	Download	Download		Download

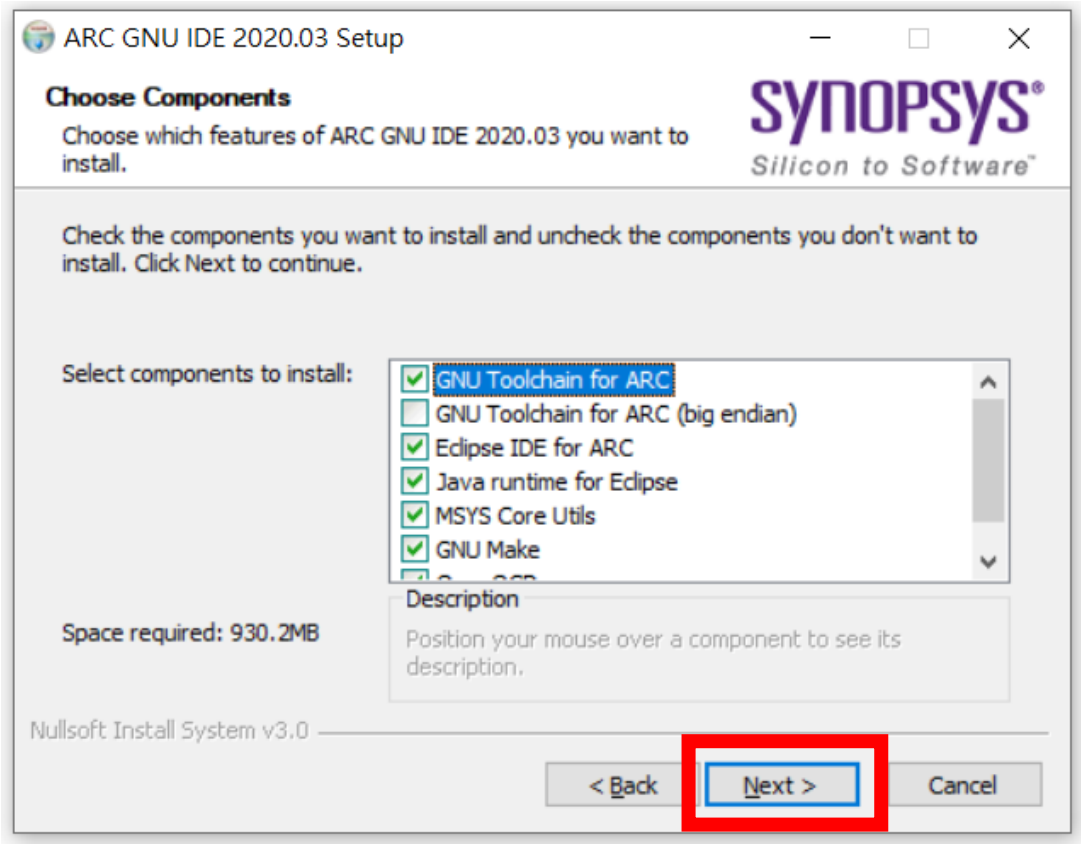
for windows

for mac

Installation
- GNU Tollchain

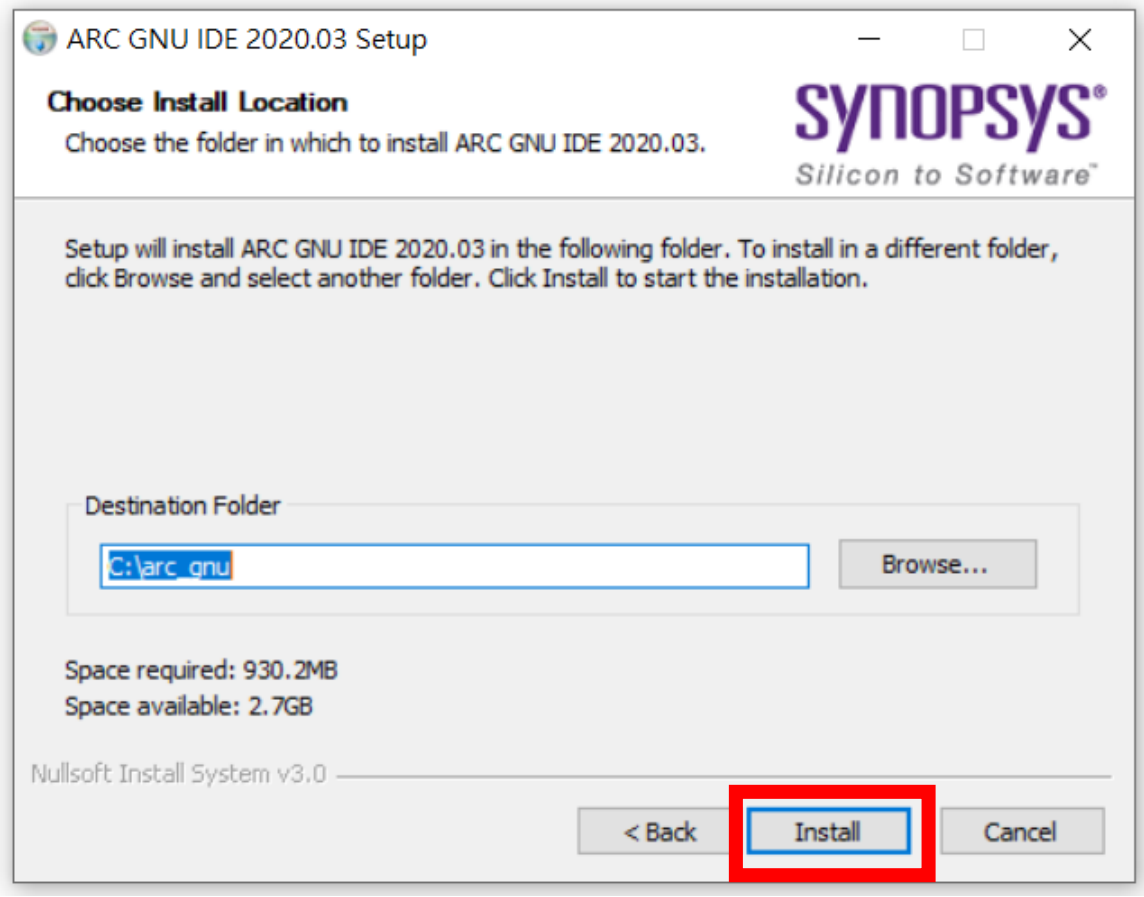


Installation
- GNU Tollchain

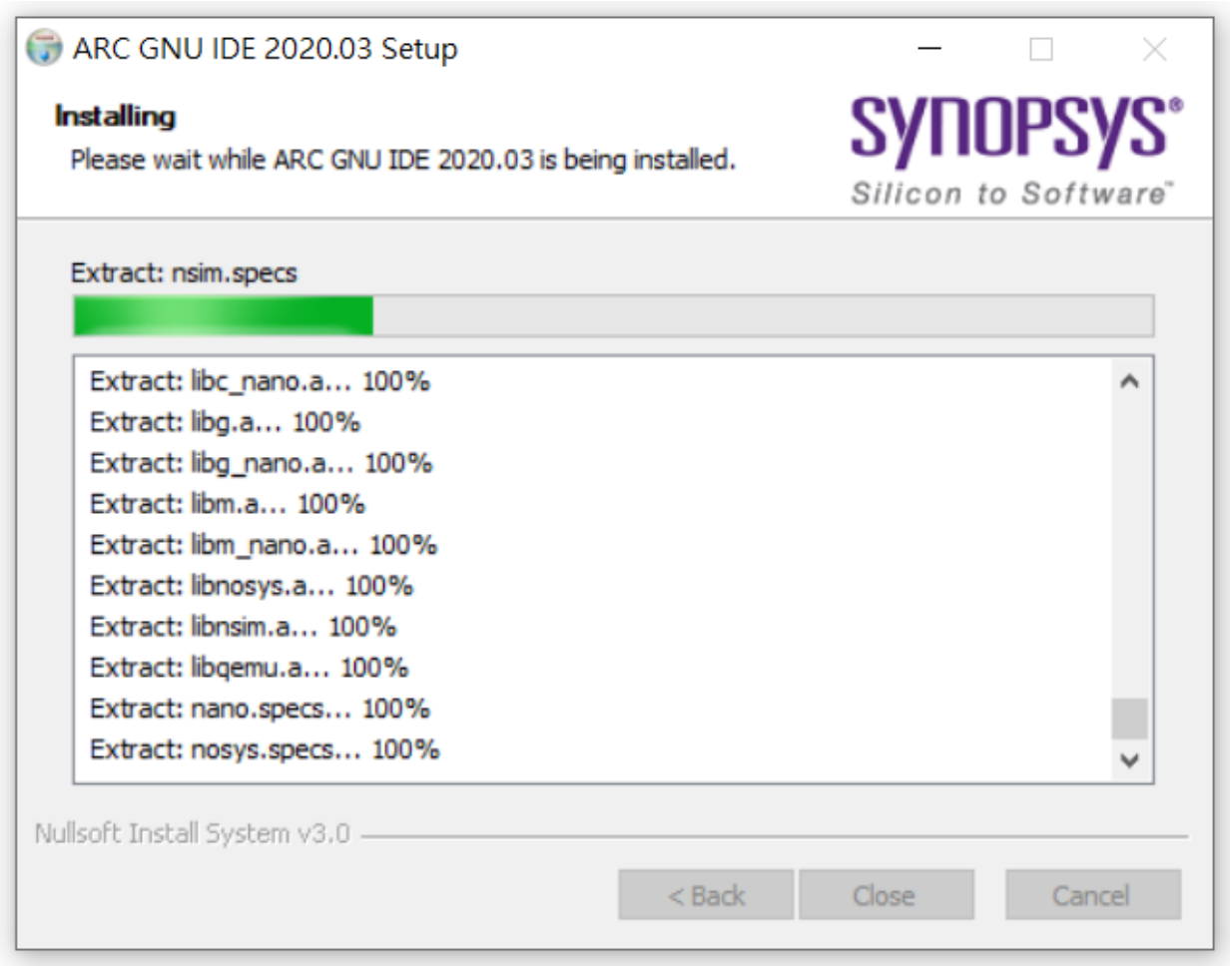


Installation
- GNU Tollchain

You can choose your own Destination Folder

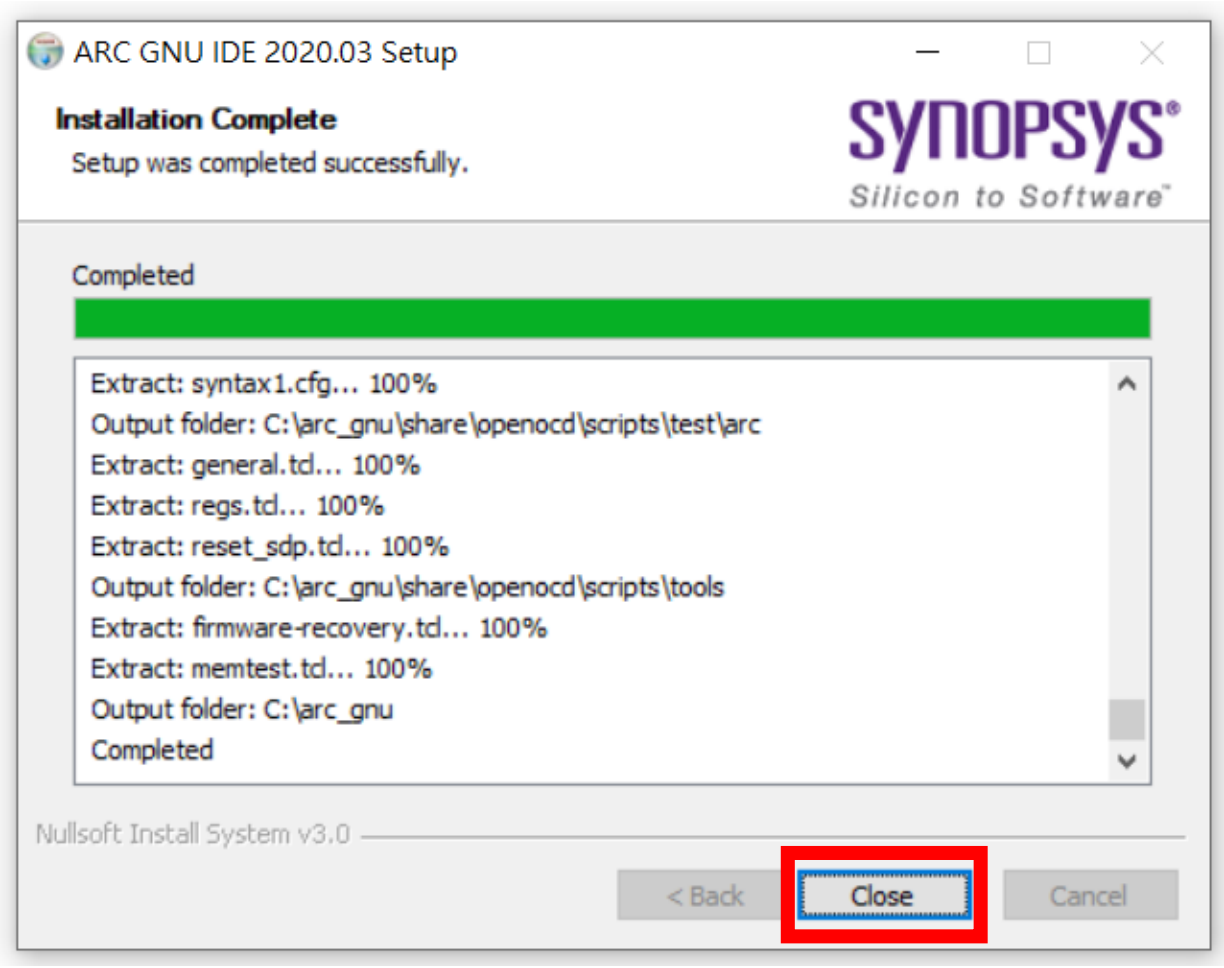


Installation
- GNU Tollchain



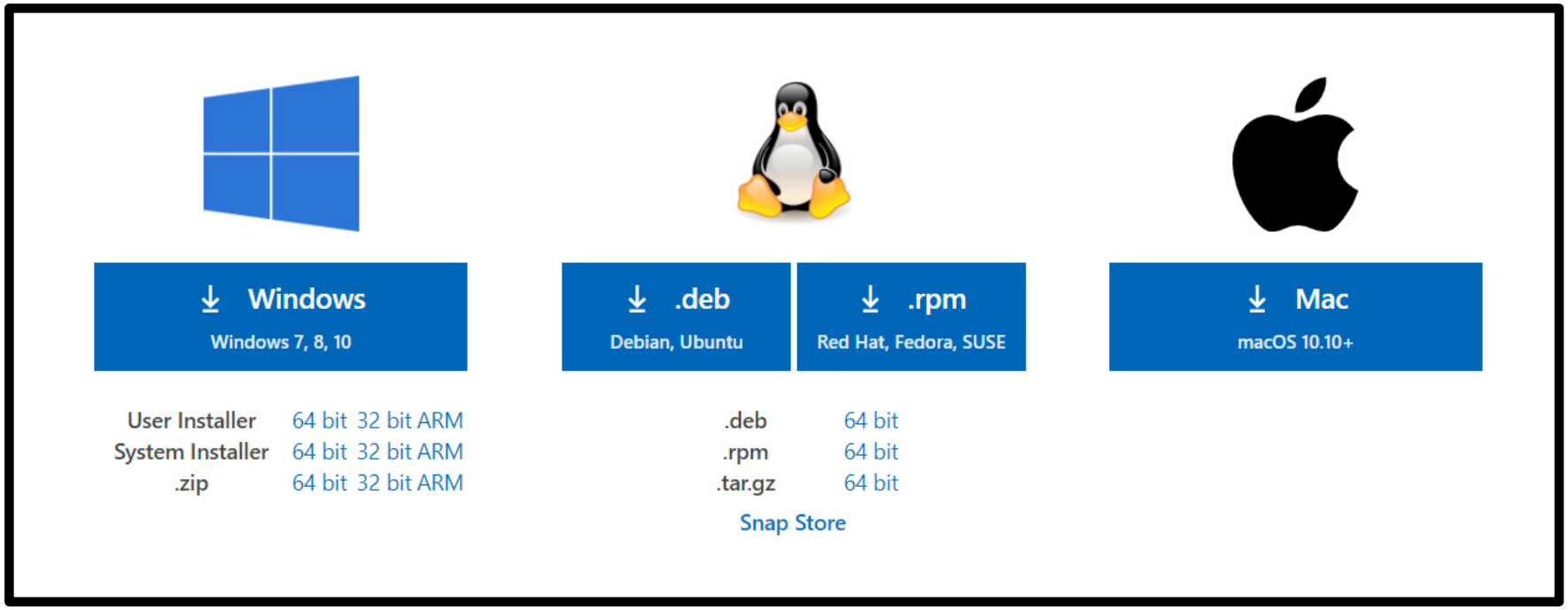
Installation
- GNU Tollchain

Done !



Installation
- VSCode

Download Link :
https://code.visualstudio.com/#alt-downloads



Installation
- VSCode

Please learn how to use VSCode by yourself on the Internet

ex : 改中文介面、常用快捷鍵 … etc

簡單了解即可

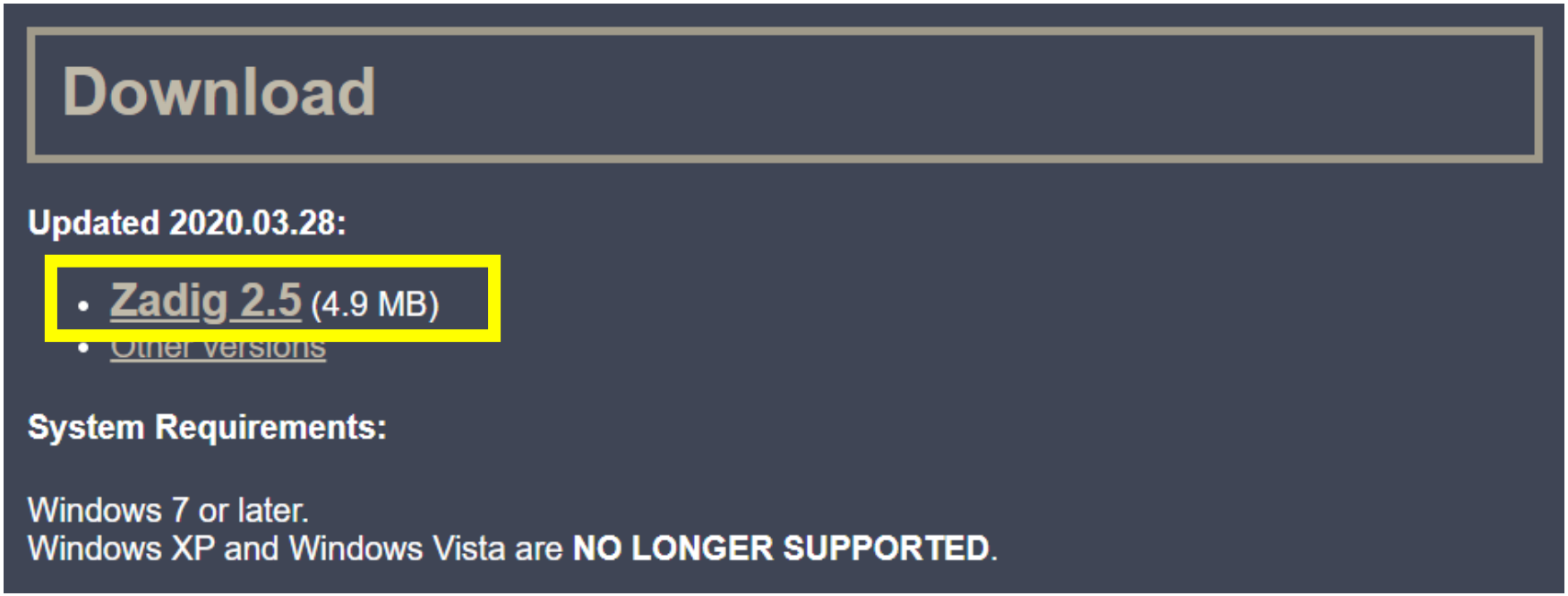
Installation
- Putty

Download Link :
https://www.puttygen.com/download-putty

Please follow the steps to install !

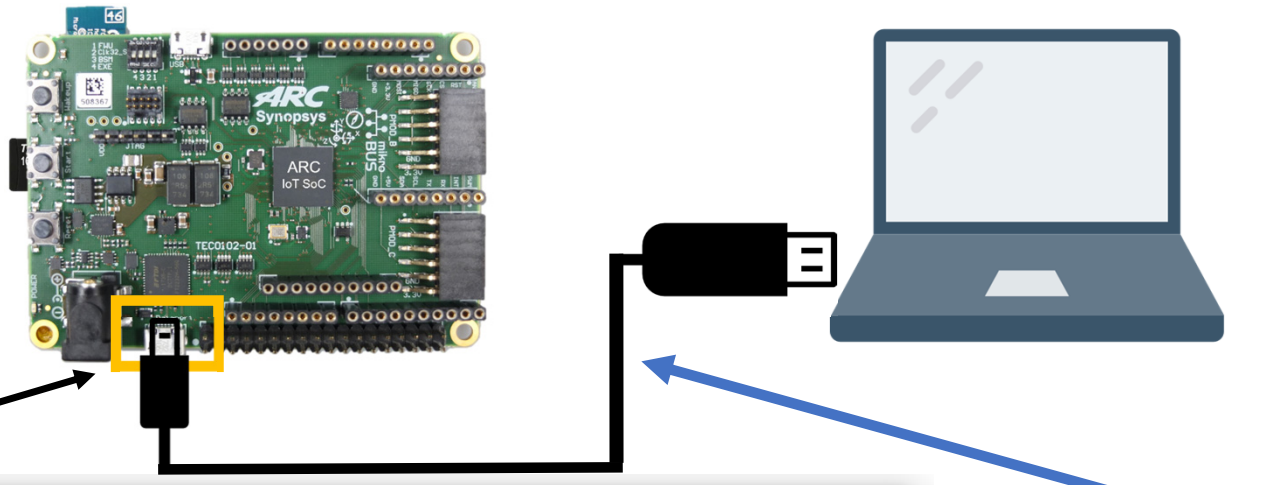
USB Driver Adjustment
- Download Zadig

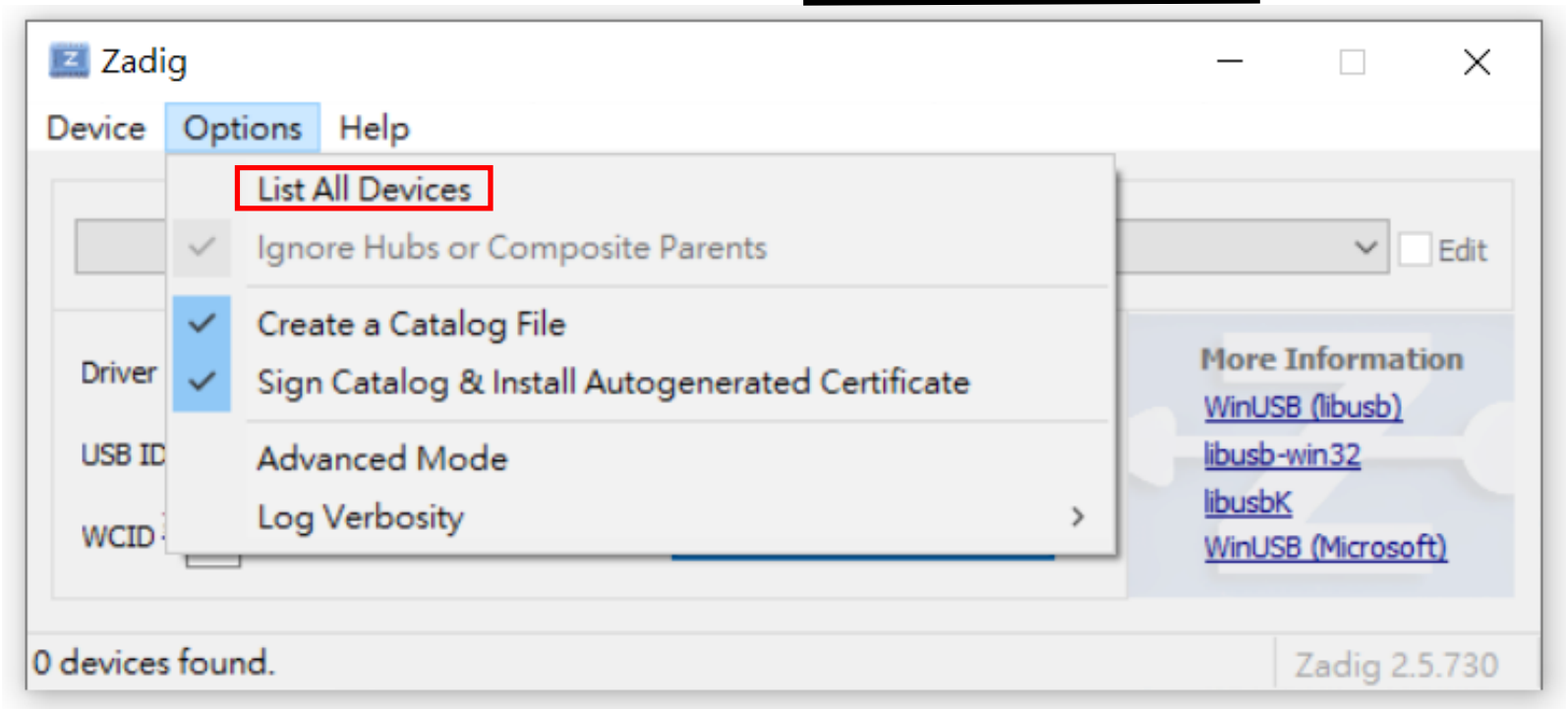
Download Link :
https://zadig.akeo.ie



USB Driver Adjustment

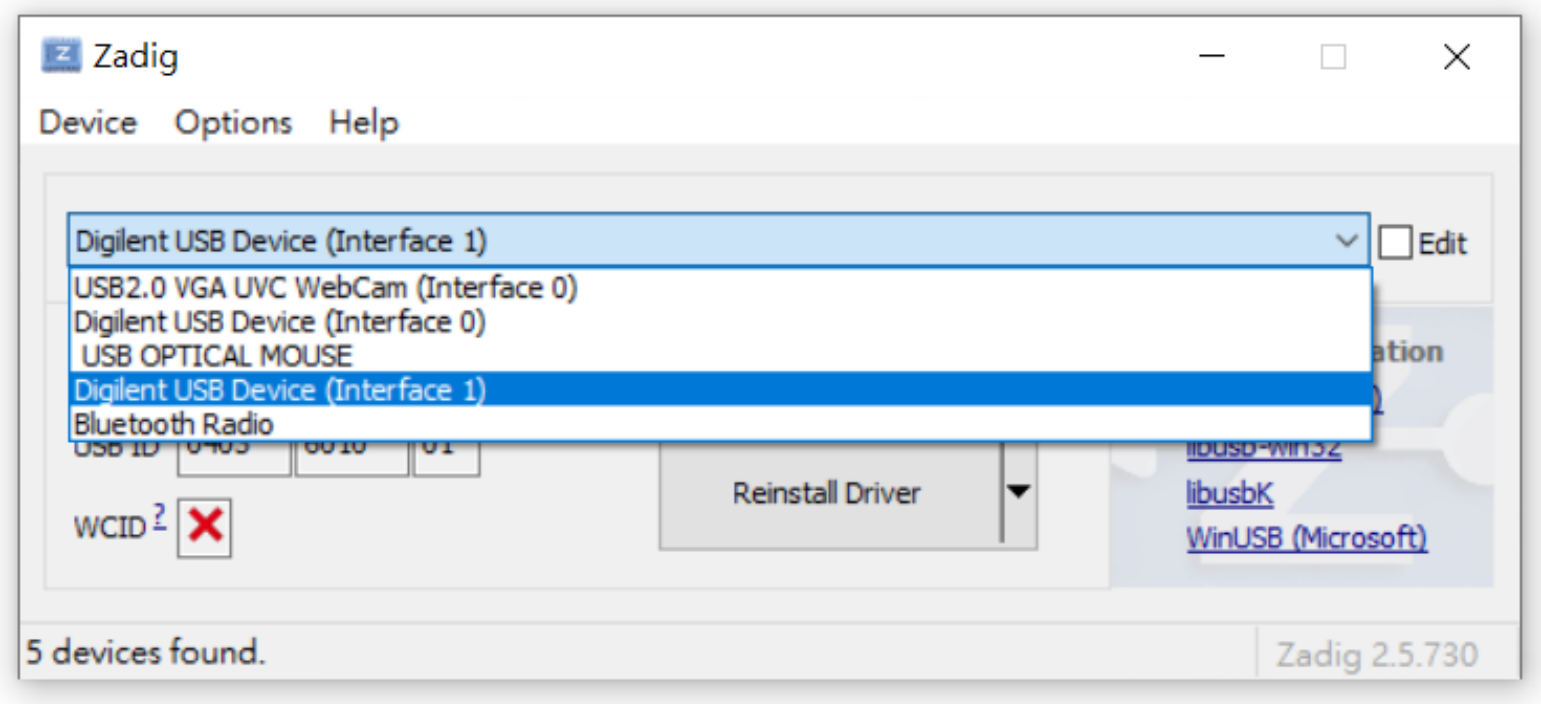
1. Connect PC & IoTDK (dataport)
2. Open Zadig-2.5.exe
3. Options -> List All Devices





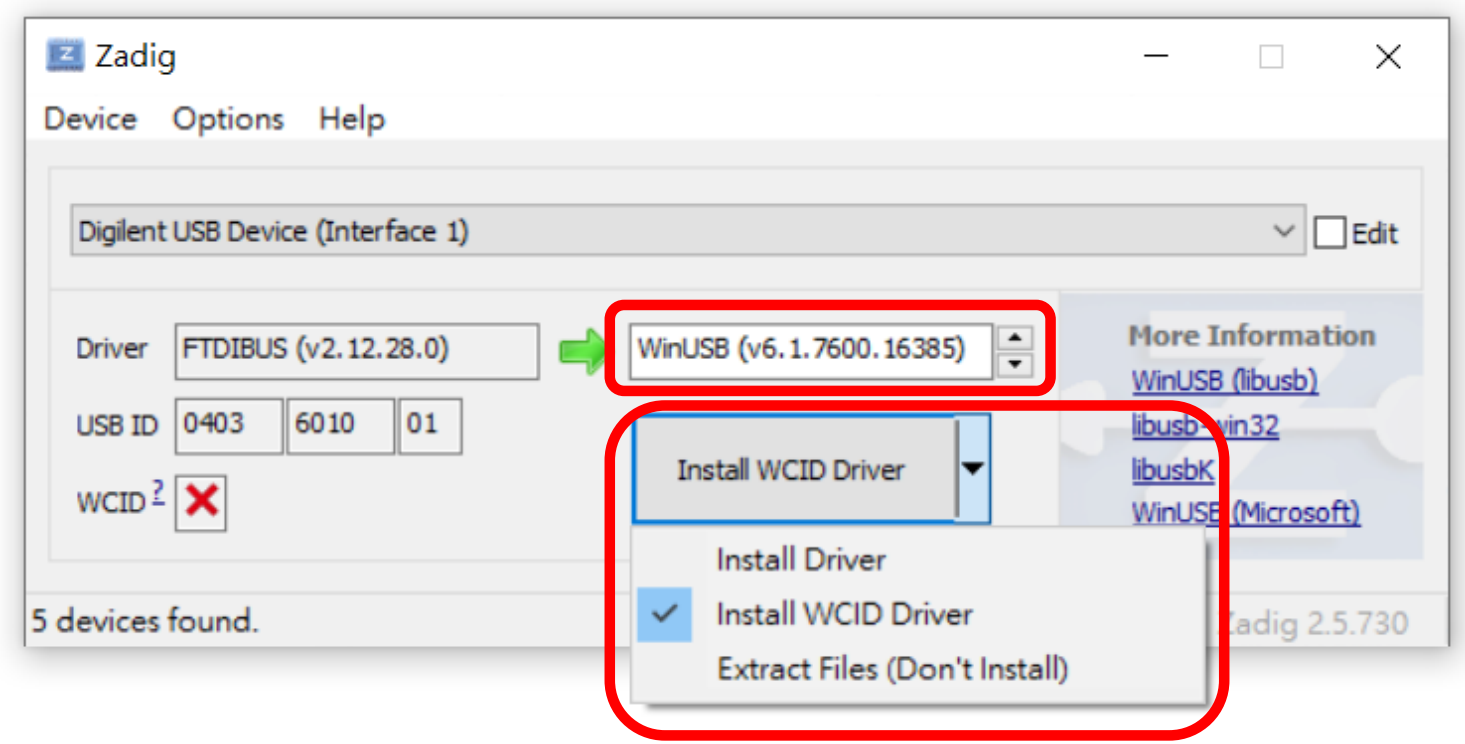
USB Driver Adjustment

Choose Digilent USB Device(Interface 1)



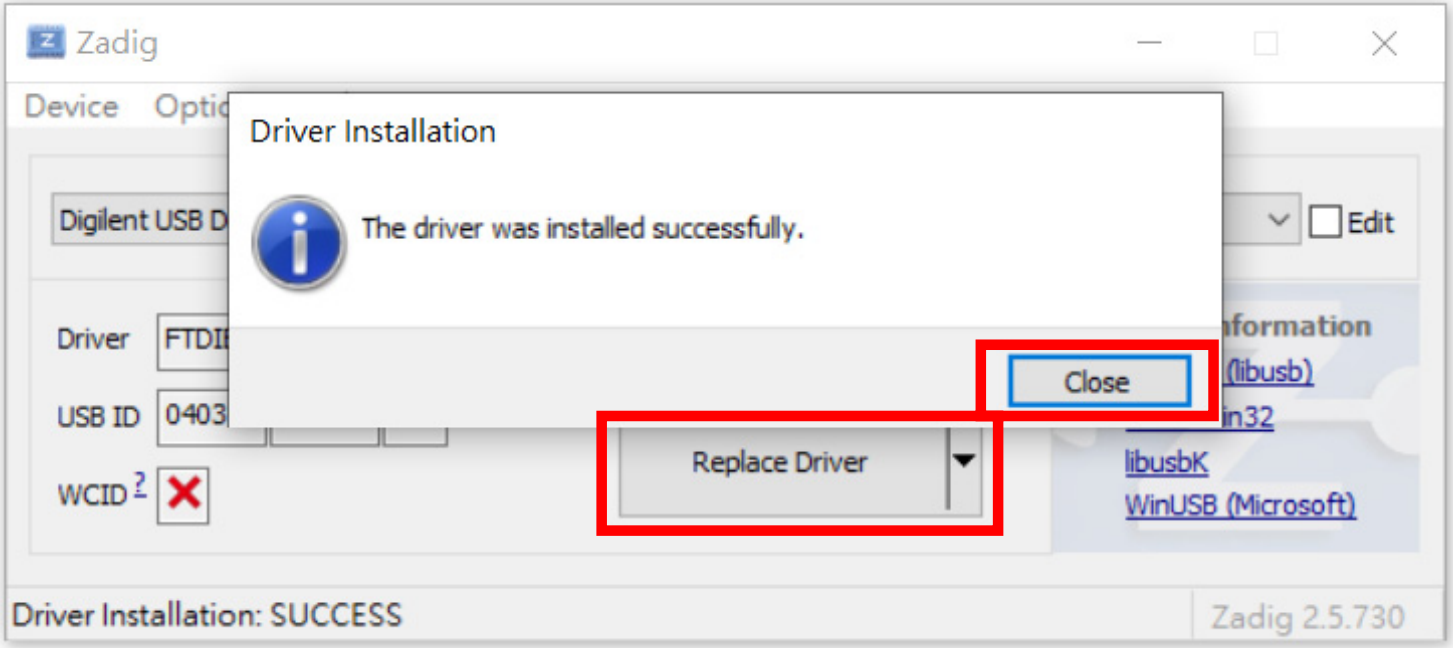
USB Driver Adjustment

1. Choose WinUSB (v6.1.7600.16385)
2. Install Driver or Install WCID Driver
   (※if you have installed this driver before, it will display Replace Driver, just click it)
3. Then, wait a second



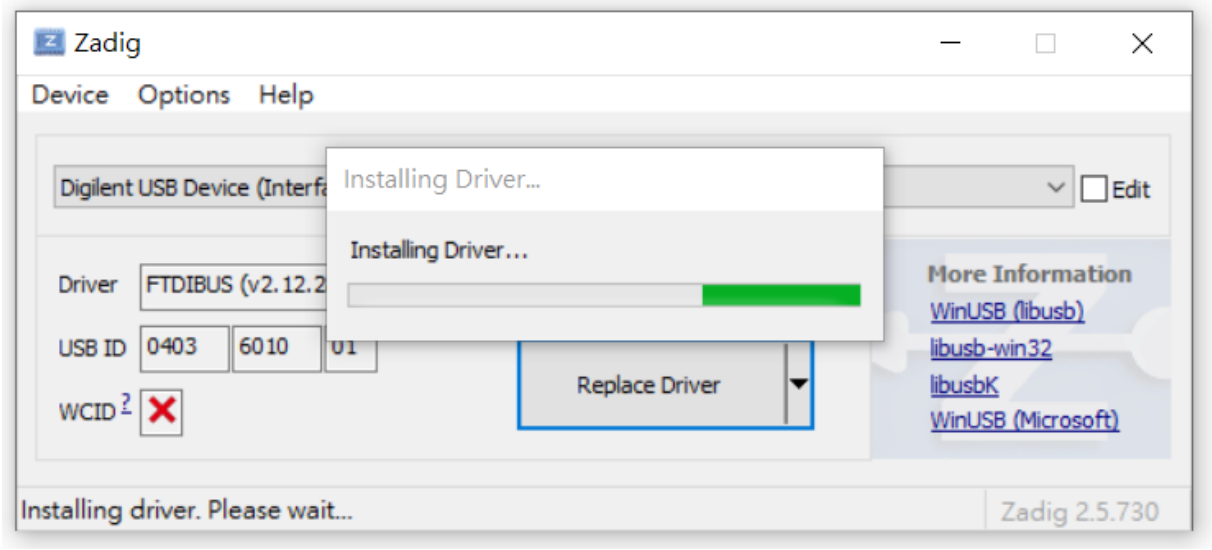
USB Driver Adjustment

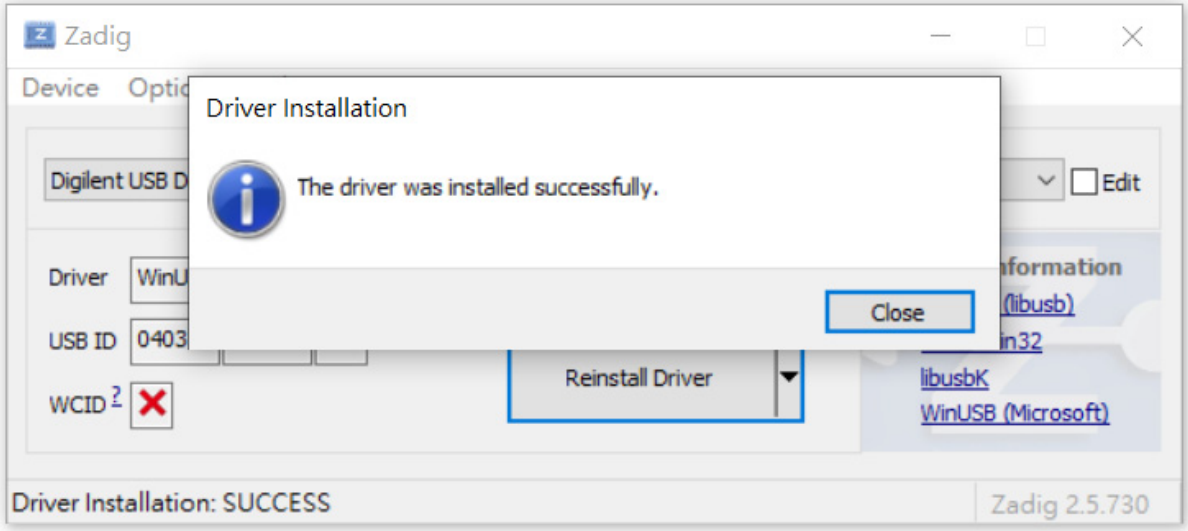
1. Click Close
2. Click Replace Driver



USB Driver Adjustment

Wait a second

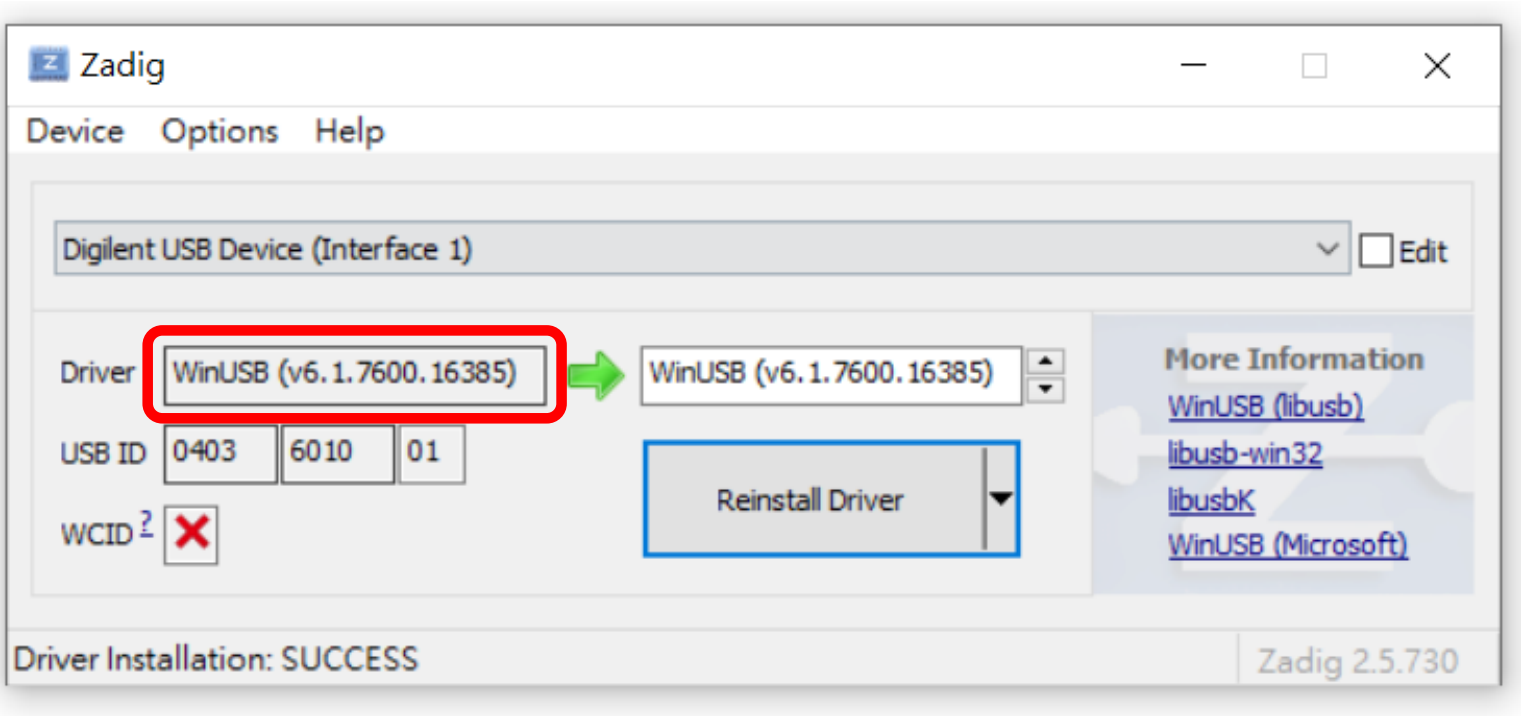




USB Driver Adjustment

Then you can find Driver is changed to WinUSB

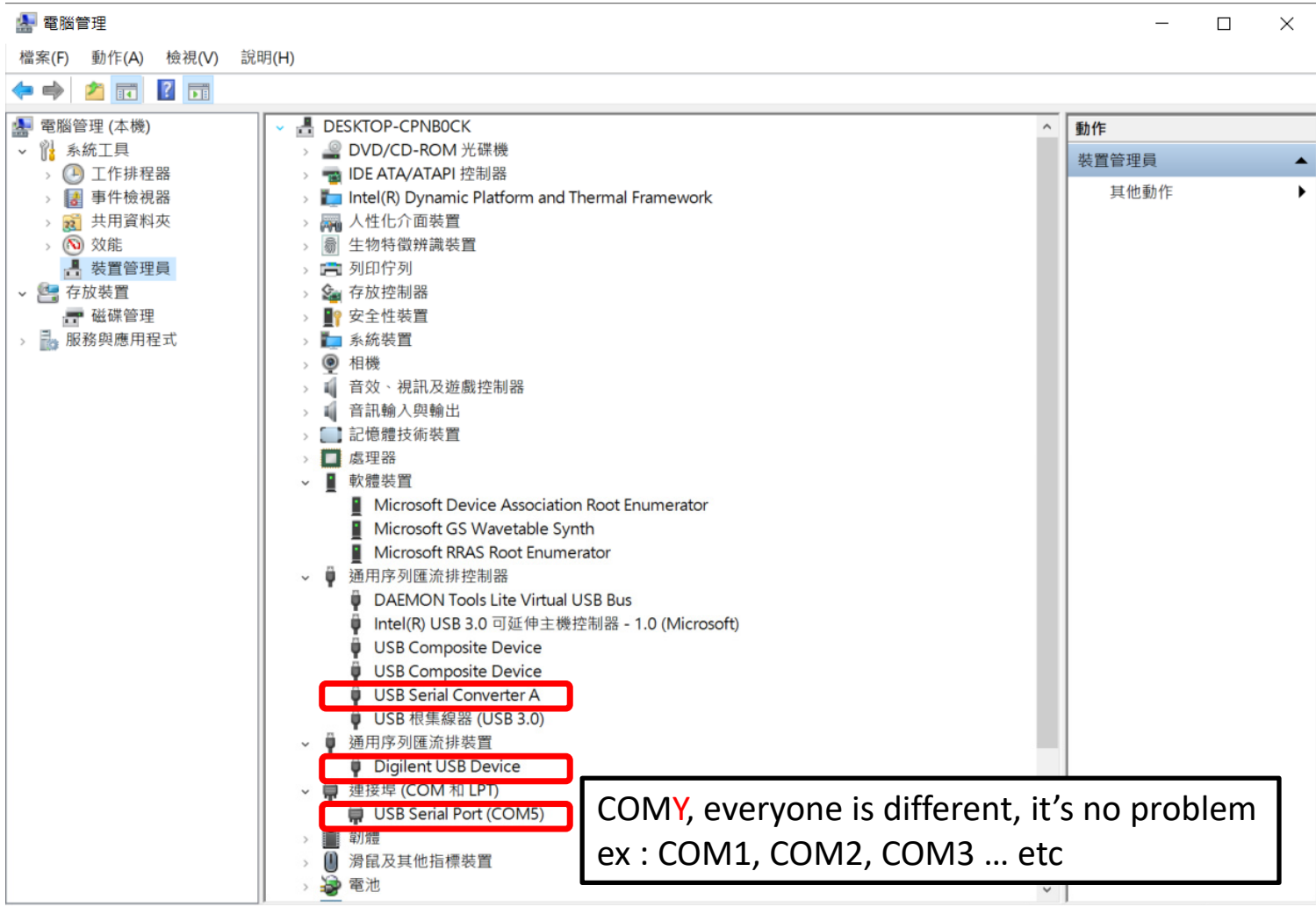
Now, please restart your pc



USB Driver Adjustment

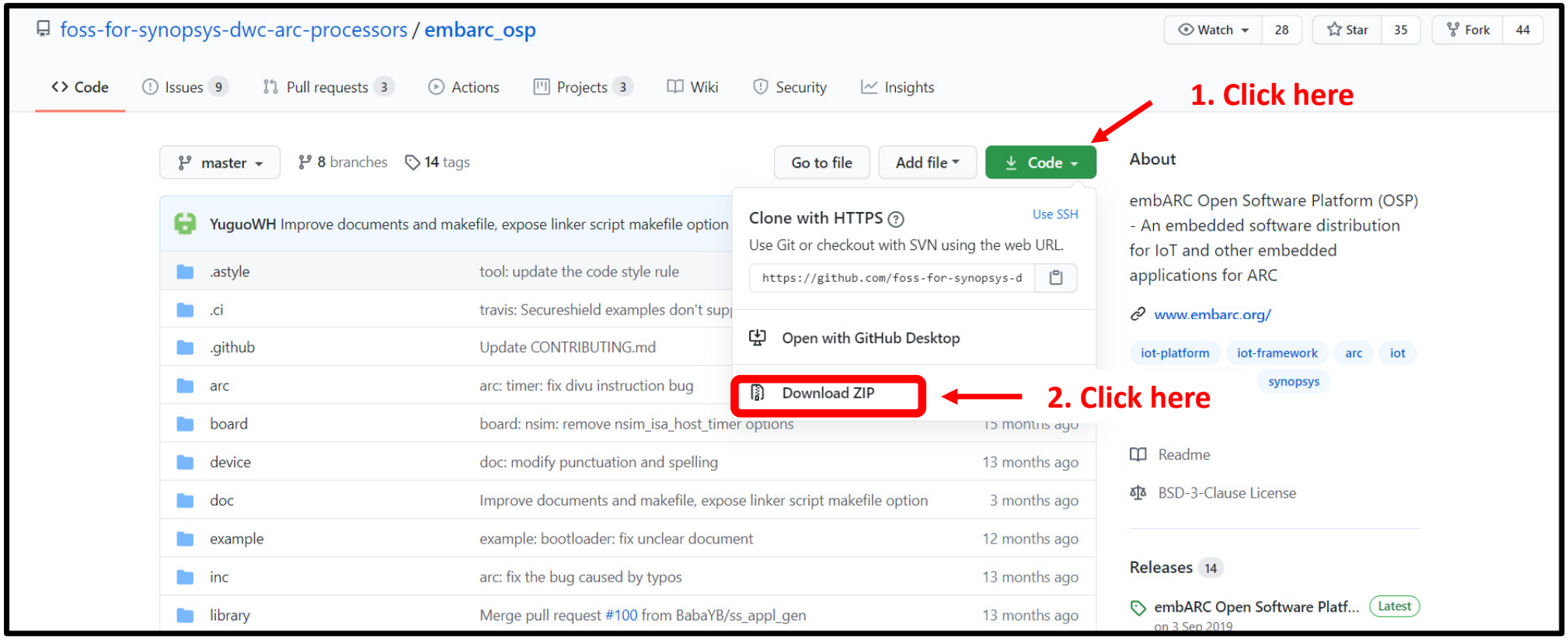
After restart,
you can check your USB
Driver in “Device Manager”

Done !



Test
- Download embarc_osp

Download Link :
https://github.com/foss-for-synopsys-dwc-arc-processors/embarc_osp

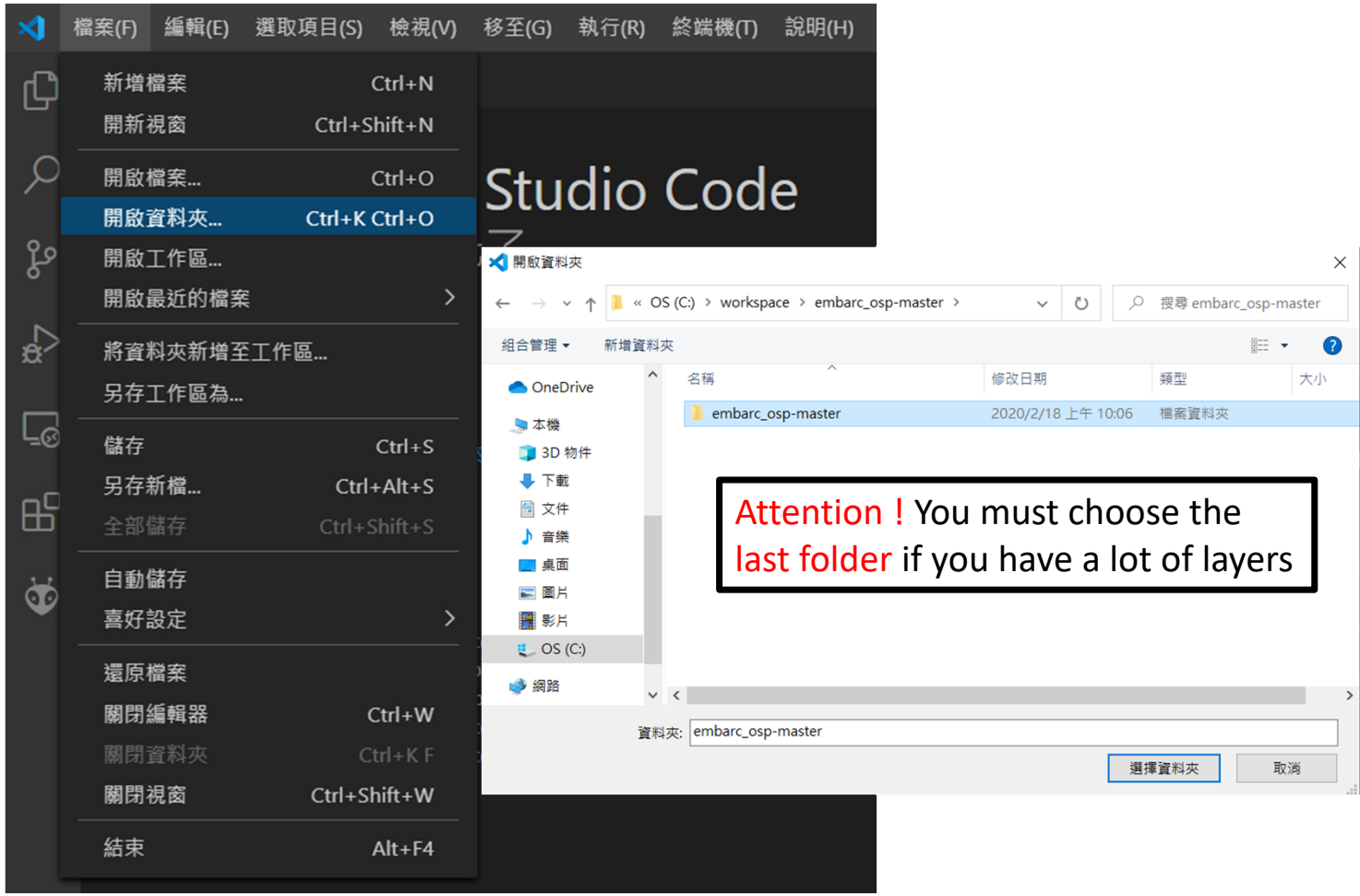


Test

1. unzip embarc_osp-master.zip
2. Open with VSCode

Open with VSCode

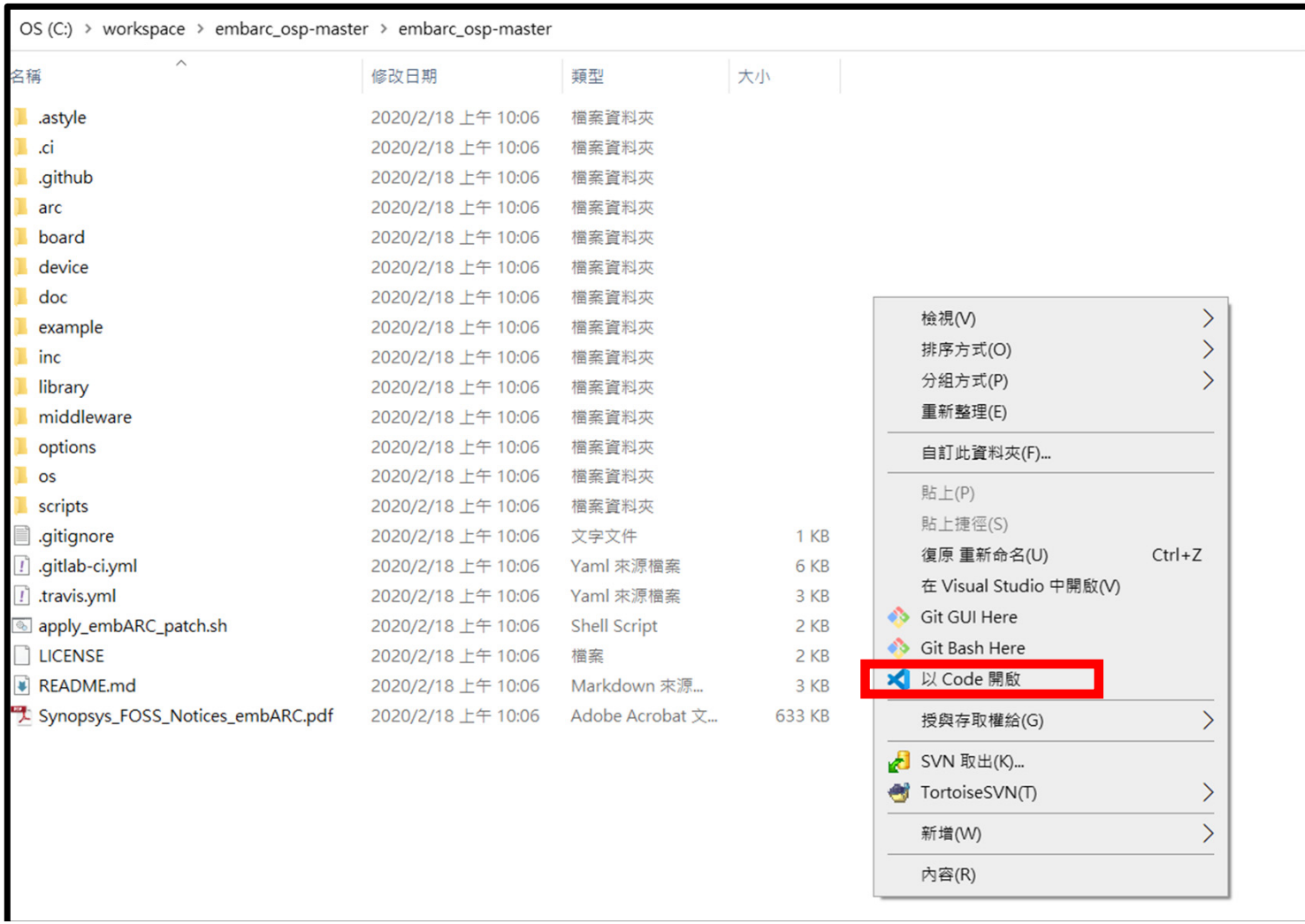
First way :



Test

Open with VSCode

Second way :

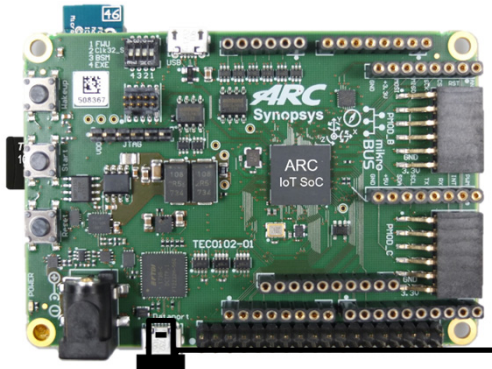


Test

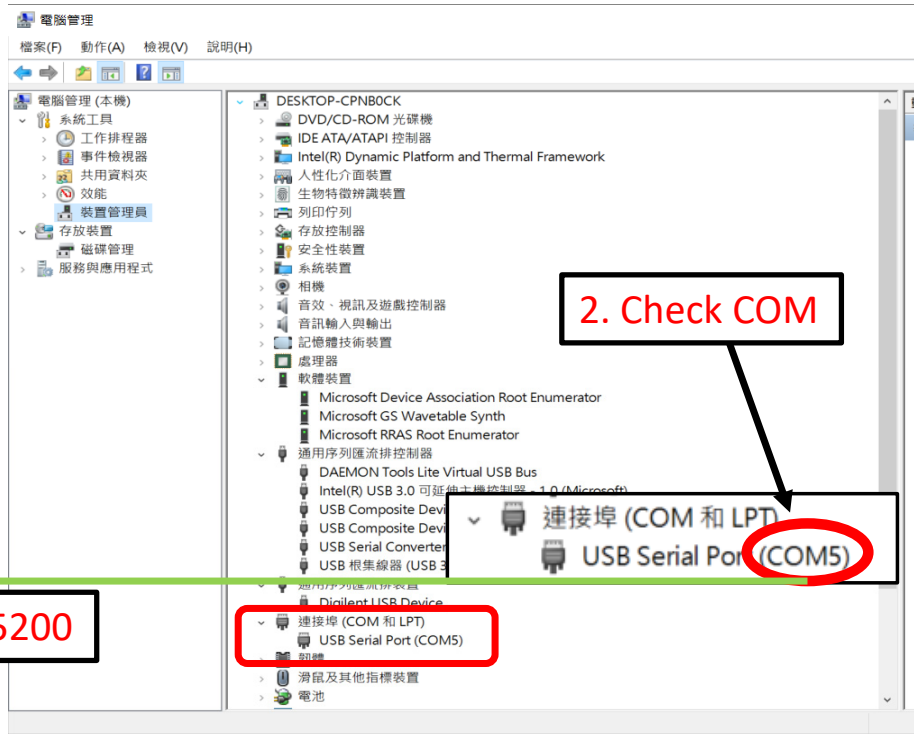
This is begin page, you can see embarc_osp file at left side

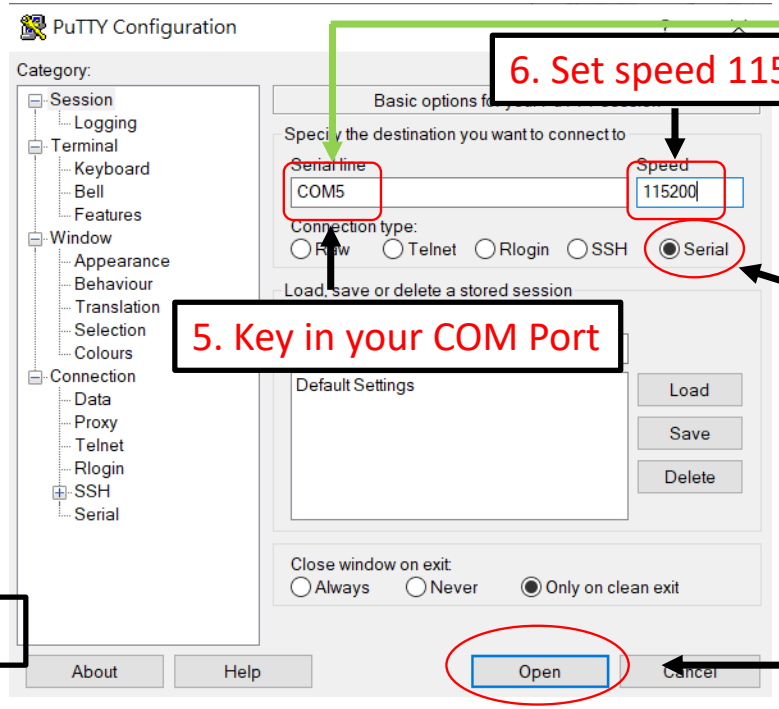
Test

1. Connect PC & IoTDK (dataport)
2. Check COM Port Number in “Device Manager”
3. Open Putty
4. Click Serial
5. Key in your COM Port Number
6. Set Speed to 115200
7. Click Open



1. Connect with PC





6. Set speed 115200

5. Key in your COM Port

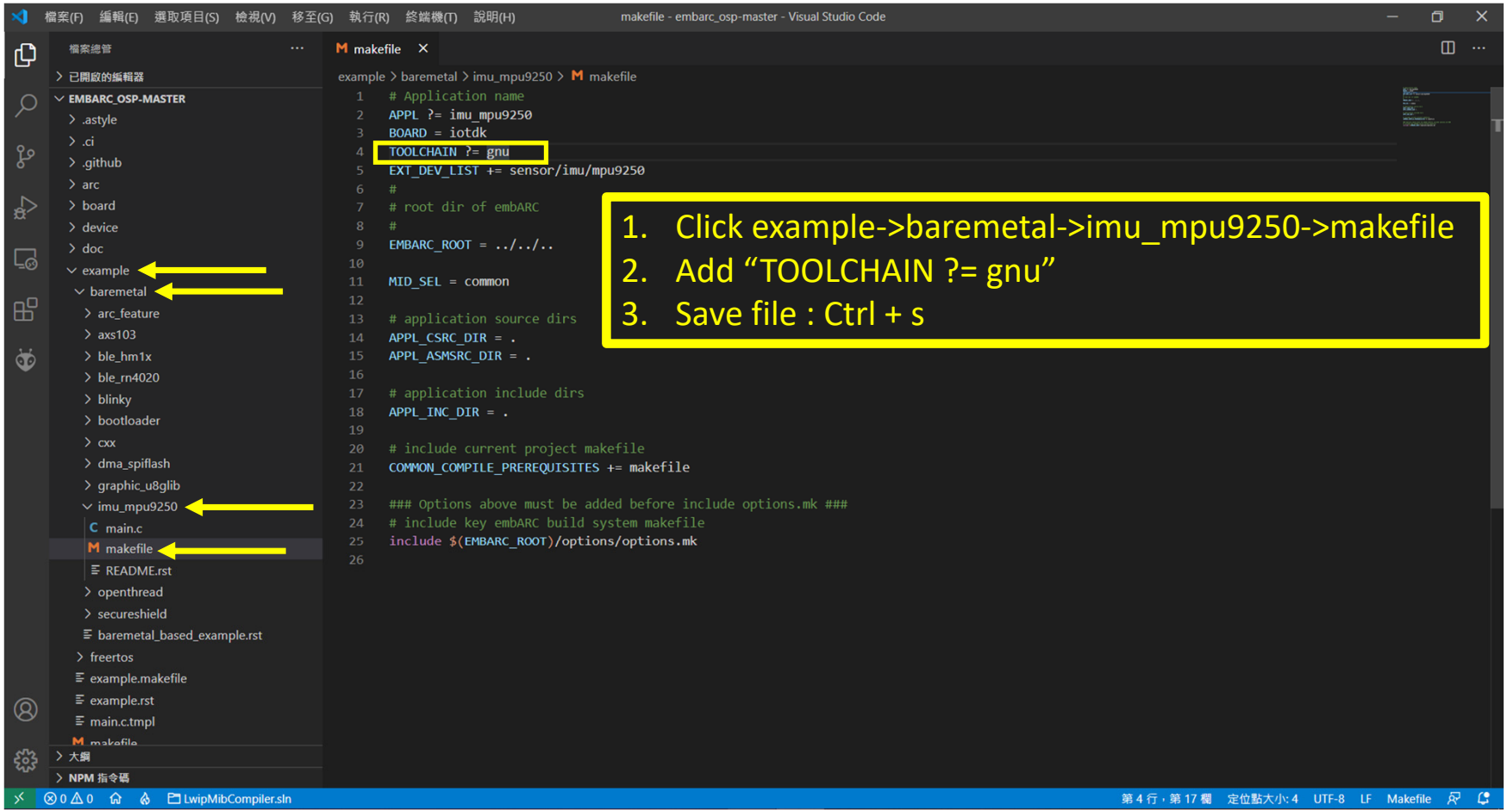
4. Click Serial

7. Click Open

Test

You will see this window
Then turn back to VSCode

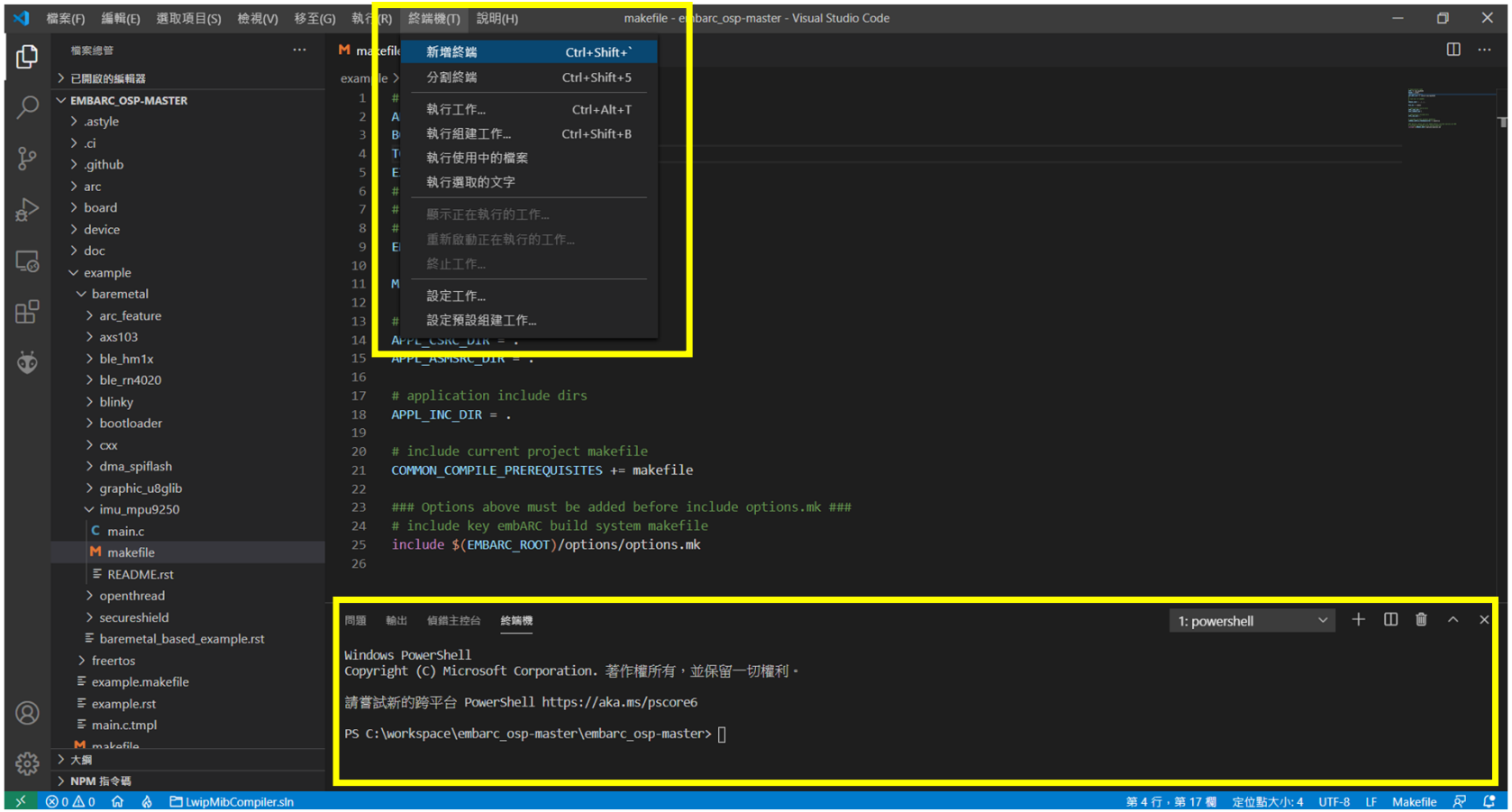
Test


makefile - embarc_osp-master - Visual Studio Code
example > baremetal > imu_mpu9250 > makefile
Application name
APPL ?= imu_mpu9250
BOARD = iotdk
TOOLCHAIN ?= gnu
EXT_DEV_LIST += sensor/imu/mpu9250
#
root dir of embARC
#
EMBARC_ROOT = ../../..
MID_SEL = common
# application source dirs
APPL_CSRC_DIR = .
APPL_ASMSRC_DIR = .
# application include dirs
APPL_INC_DIR = .
# include current project makefile
COMMON_COMPILE_PREREQUISITES += makefile
Options above must be added before include options.mk
include key embARC build system makefile
include $(EMBARC_ROOT)/options/options.mk
1. Click example->baremetal->imu_mpu9250->makefile
2. Add “TOOLCHAIN ?= gnu”
3. Save file : Ctrl + s

Test

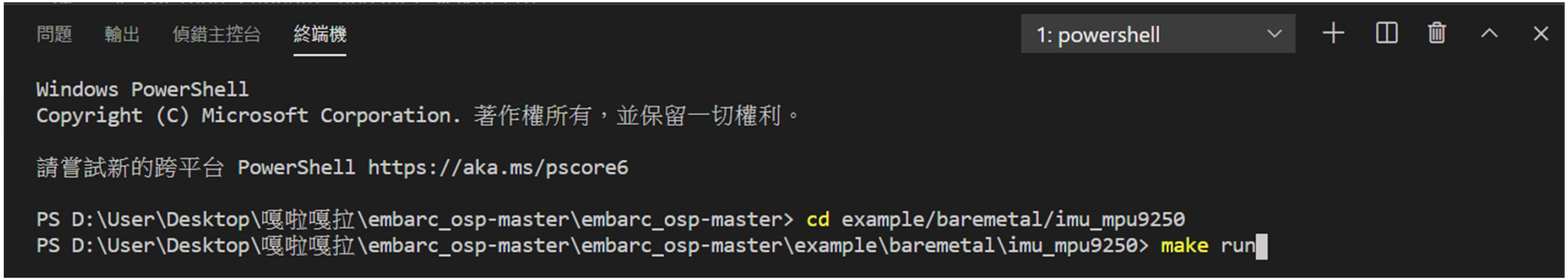
Hot Key : Ctrl + Shift + `

Then you can find a new terminal appearing at bottom



Test

1. Key in “cd example/baremetal/imu_mpu9250”
2. Key in “make run”
3. Wait a second, it is compiling file and preparing to run now

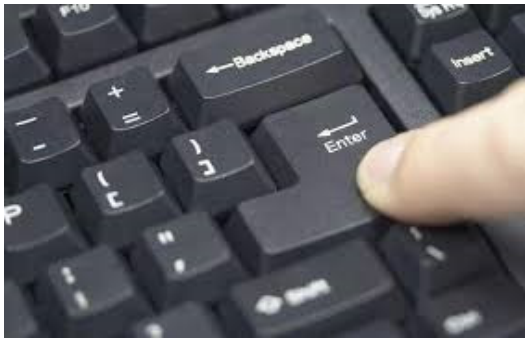


Test

1. If you see the line

   --Type <RET> for more, q to quit, c to continue without paging--

   just key in “Enter”

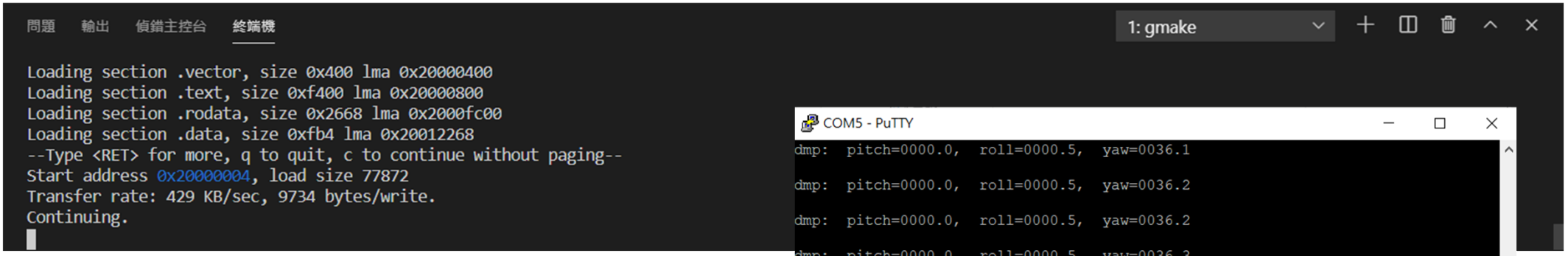


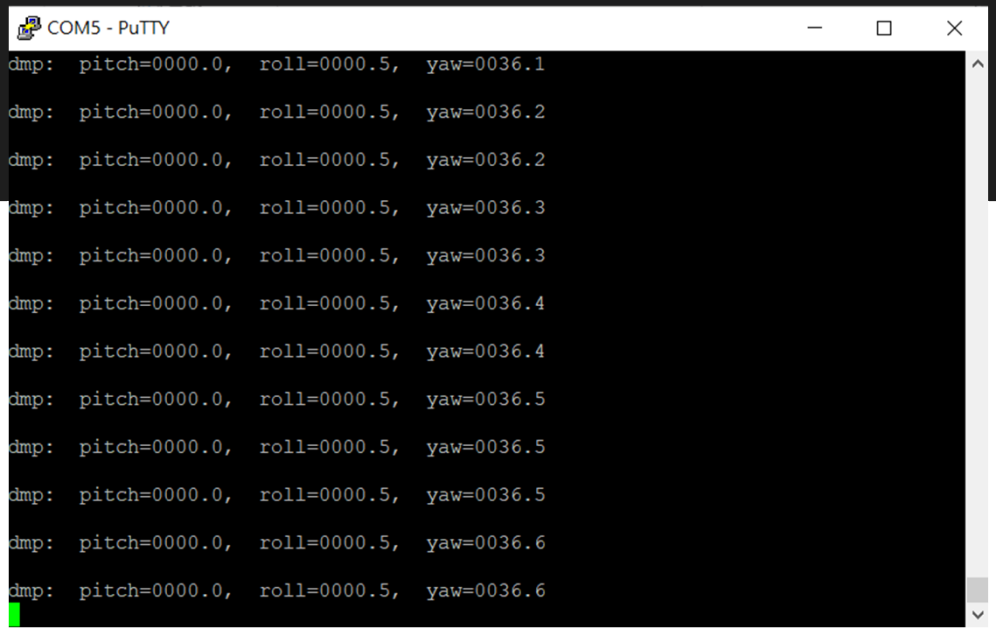

```
問題  輸出  偵錯主控台  終端機                                    1: gmake

GNU gdb (ARCompact/ARCv2 ISA elf32 toolchain 2020.03) 10.0.50.20200307-git
Copyright (C) 2020 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
Type "show copying" and "show warranty" for details.
This GDB was configured as "--host=i686-w64-mingw32 --target=arc-elf32".
Type "show configuration" for configuration details.
--Type <RET> for more, q to quit, c to continue without paging--
```

Test

After a lot of “Enter” (about two or three), you will see “Continuing.”
Then, Open Serial COM Port window, you will see like below





If you see a lot of “dmp: … … … “ is printed in the window, this is that you succeed !

If not, please ask TA for help
Thanks ~

Test

If you want to stop the program

1. Go back to terminal
2. Hot Key : Ctrl + c, then you will see (gdb)

3. Key in “q”

```
(gdb) q
```

4. Key in “y”

```
Quit anyway? (y or n) y
```

5. Key in “y”

```
要終止批次工作嗎 (Y/N)? y
```

6. You will see bellow represented that you stop the program succeed !

```
gmake: *** [run] Error 255
PS C:\workspace\embarc_osp-master\embarc_osp-master\example\baremetal\imu_mpu9250>
```

Done !

If you have any question, please ask TA for help ~