

POWERTIP TECH. CORP.

DISPLAY DEVICES FOR BETTER ELECTRONIC DESIGN

M4 P05D00055-00 PROGRAMMING USER MANUAL

A design kit tailor-made for Cortex-M4 STM32F429IGT6 processors. It creates efficiency and reduces developing schedule.

- Support resolution to 1024 RGB x 768.
- Build in interface for Powertip 4 in 1 A series TFT - 3.5",4.3",5" and 7 with same pin assignment.
- Touch option- CTP/RTP.

Please refer to Powertip website for more detail.

https://www.powertip.com.tw/products_2.php?uID=323#tftd

一.所需硬體設備 (Equipment)

- A. 電腦一部 (PC Windows XP or Windows7 32 bit)

PC Windows XP or Windows7 32 bit

- B. J-Link (含 USB cable 與轉接線) 如圖 1 所示 (轉接線製作請參閱附件一)

J-Link (include USB cable and programming cable) please check Fig.1.

Programming cable please refer to Appendix 1

- C. 電源 cable(ψ2.0 or 2.1) 如圖 2 所示

Power cable (ψ2.0 or 2.1) please check Fig.2

- D. 電源供應器或是 DC 9V ~ 12V 的變壓器

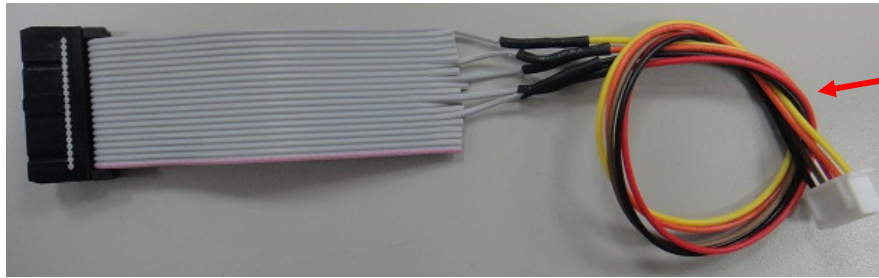
Power Supply or Power Adapter (DC 9V ~ 12V output)

圖 1 (Fig.1)



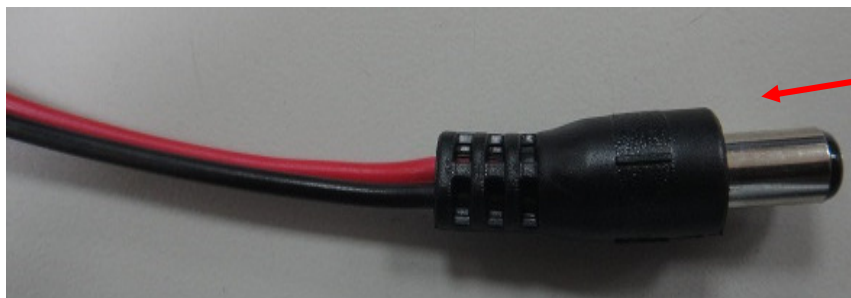


USB cable



轉接線
Programming cable

圖 2 (Fig.2)



電源 cable
Power cable

二.所需軟體程式 (Software)

A、J-LinkARM_V480 (PLM 上可以 download)

需先進行程式安裝,直接執行壓縮檔中的 Setup_JLinkARM_V480a.exe, 再依照軟體安裝指示進行 J-Link driver, you can download from website <https://www.segger.com/downloads/jlink>).

B、Keil5 (請連繫開發工程師協助處理)

Keil5 software

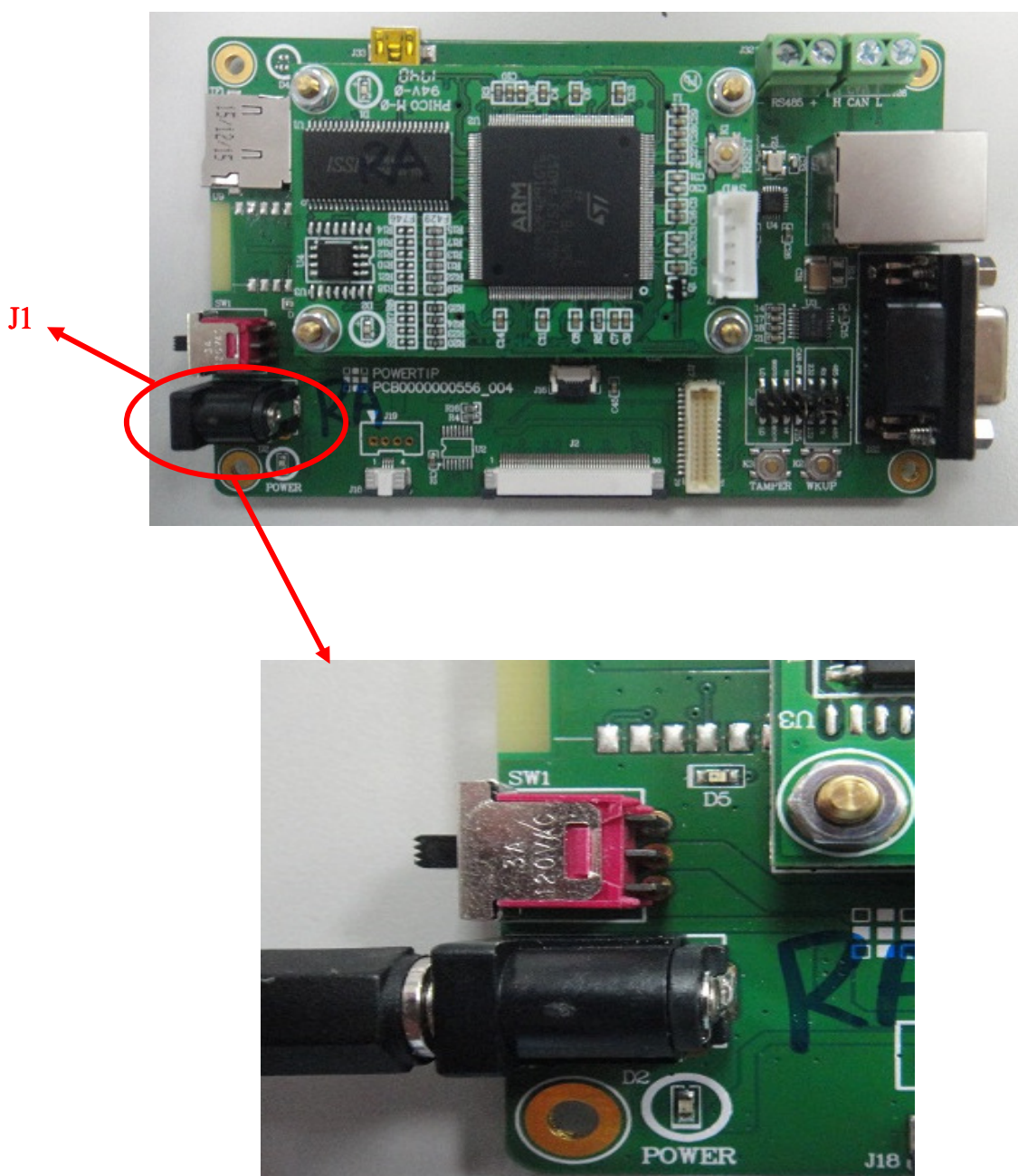
C、燒錄到 PCBA 的程式 --- P05D00055-00_001.uvprojx and P05D00055-00_001.axf (請至 PLM 上 download)

The developed firmware designed by customer which need to program on PCBA.

三.程式燒錄作法 (Programming procedure)

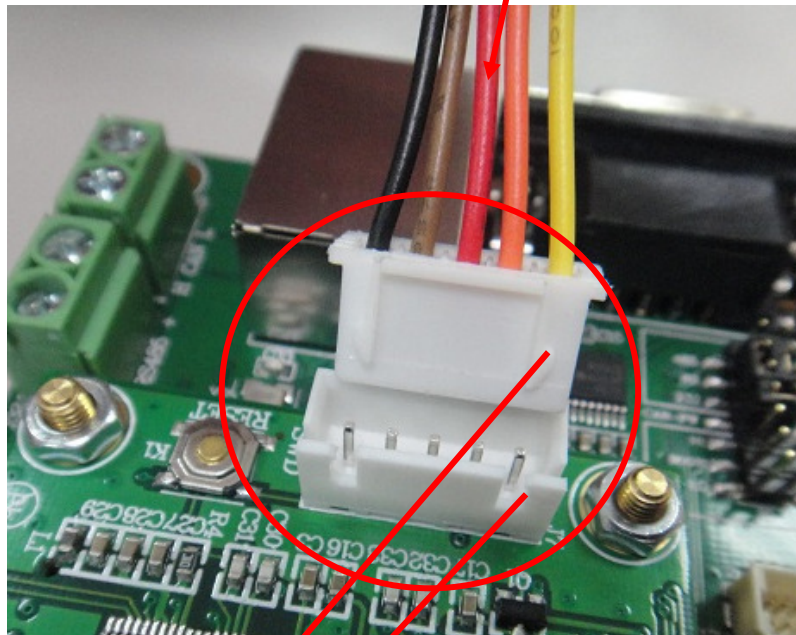
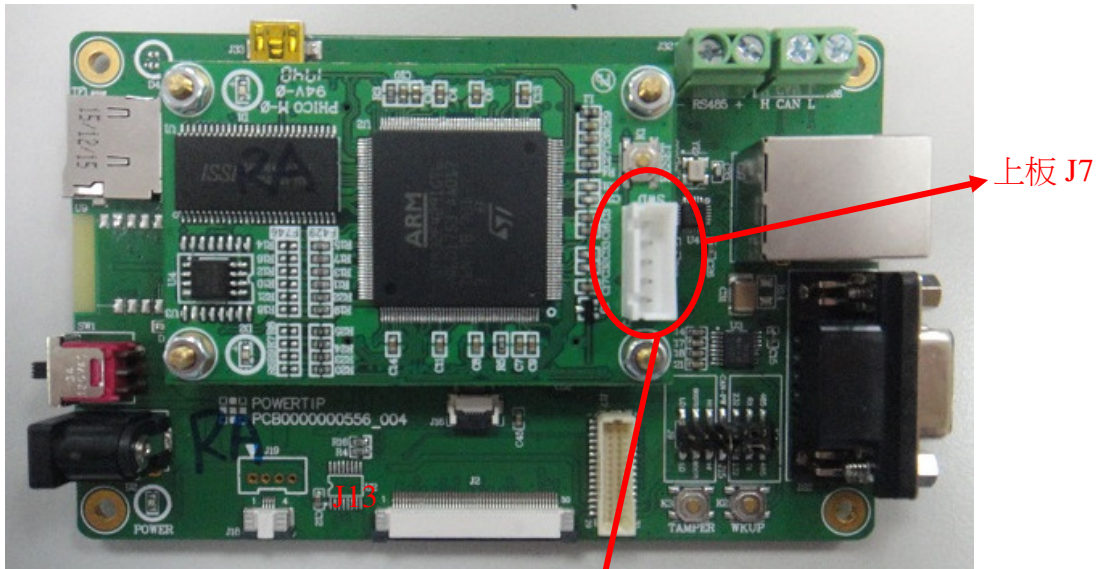
步驟一 (Step 1)

1. J-Link 接上轉接線，另一端接上 USB cable 後與 PC 連接
J-Link connect to programming cable. On the other end, J-Link connect to USB cable to link with PC.
2. 電源 cable 與待燒錄 PCBA 的 J1 連接, 如下圖
Power cable connect with J1 on PCBA as below.



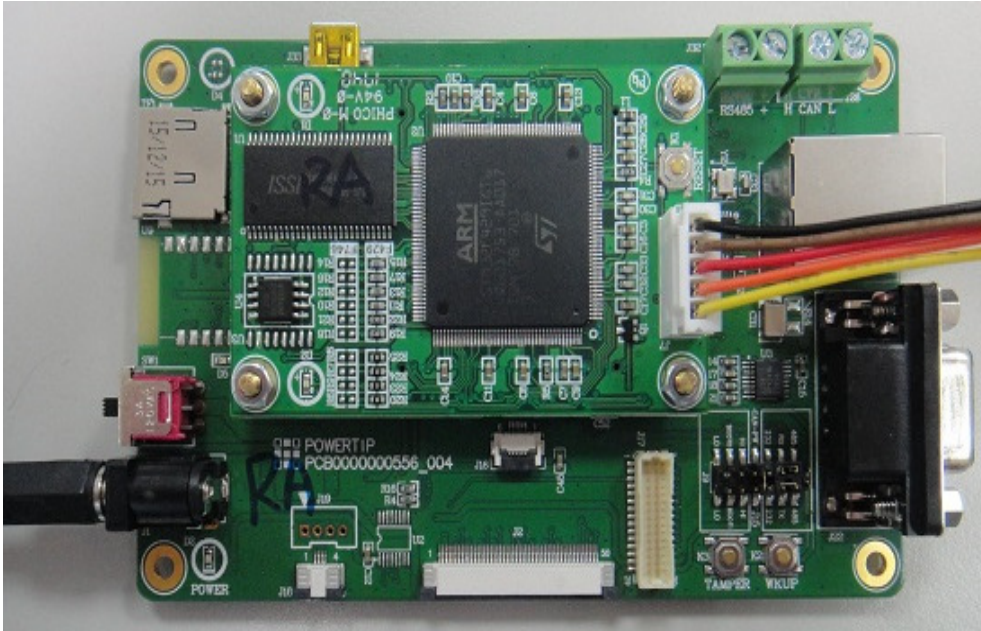
3. J-Link 轉接線與待燒錄 PCBA 上板的 J7 連接, 如下圖

J-Link programming cable connect to J7 on PCBA as below.



轉接線的凸出端與上板 J7 的缺口對齊後插入
Programming cable insert to J7 on PCBA

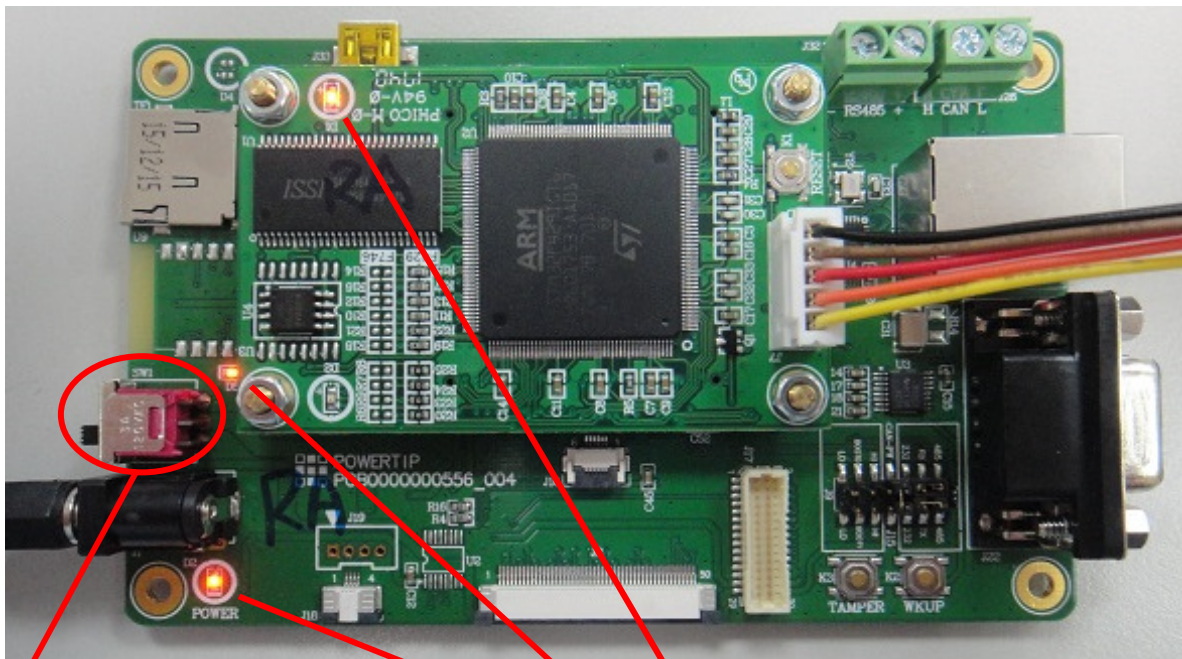
步驟一完成圖 Step 1 Finished



步驟二 (Step 2)

取完成步驟一的待燒錄 PCBA 並打開電源開關，開關位置如下圖所示

After step 1, turn ON the power (see the power switch as below)



電源開關
Power switch

電源開關打開後，會有三顆 LED 點亮
The 3 LEDs will turn on when the power is on.

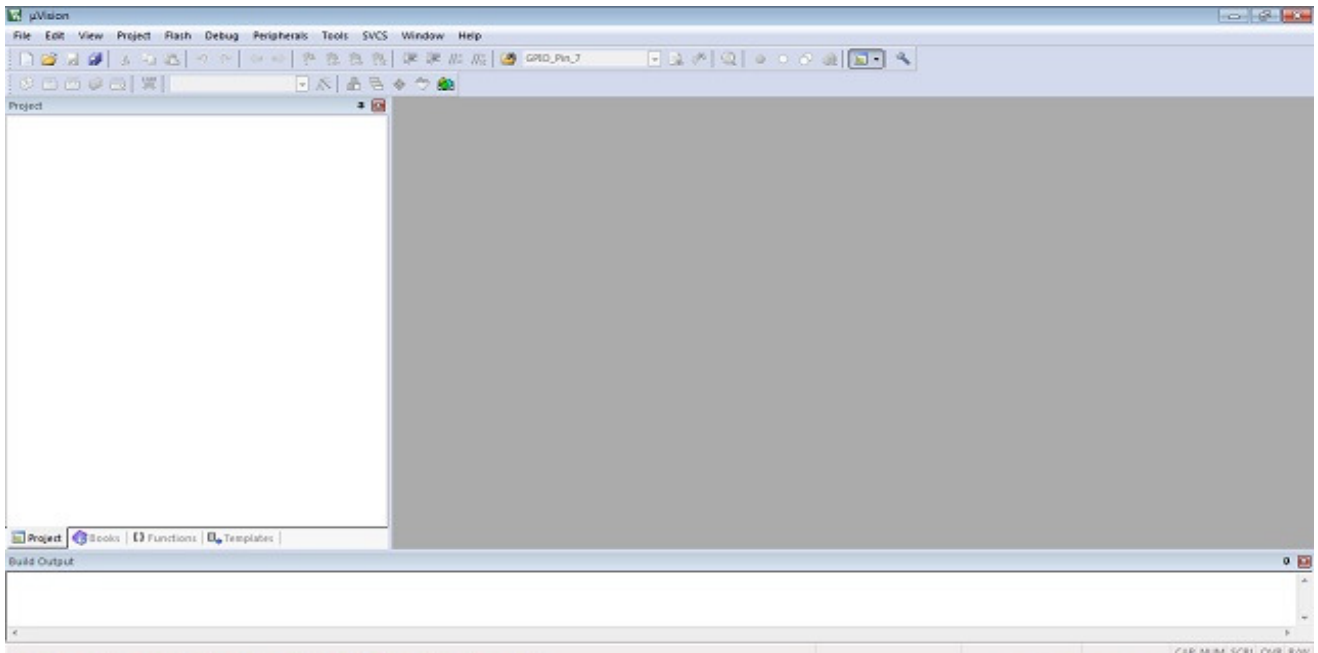
電源線另一頭請接 DC 9V ~ 12V

Power cable have to connect with DC 9V ~ 12V

步驟三 (Step 3)

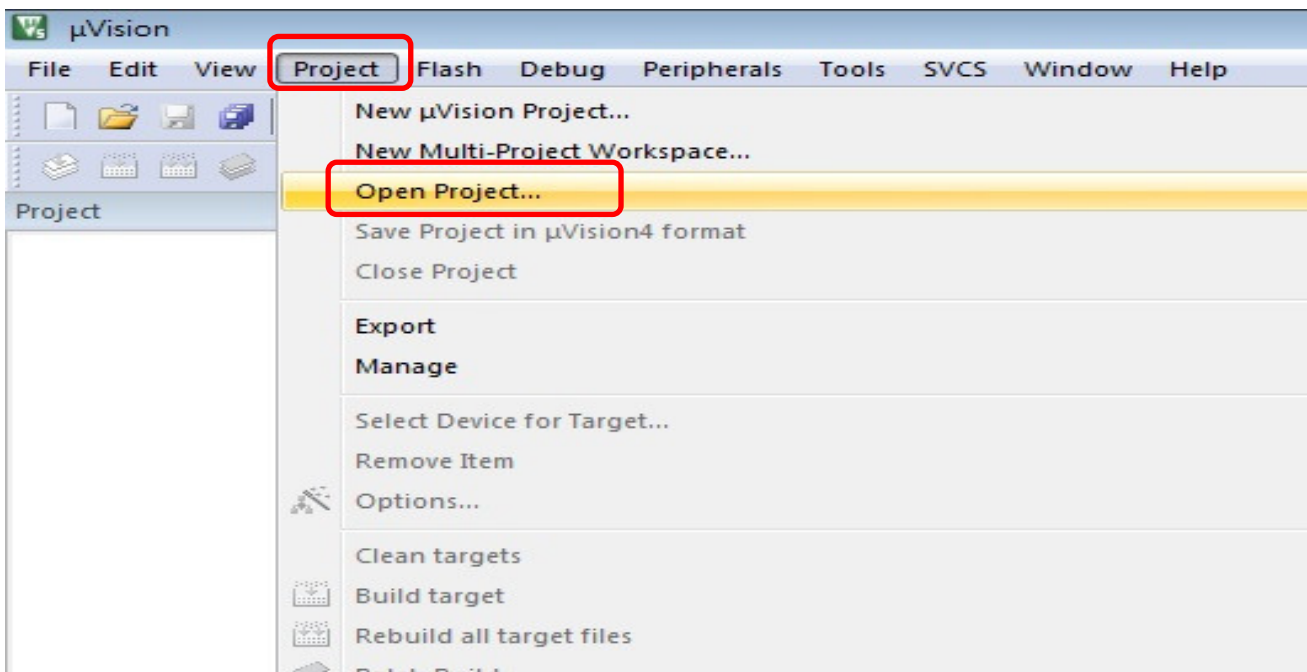
執行 Keil5 程式，執行後出現如下畫面

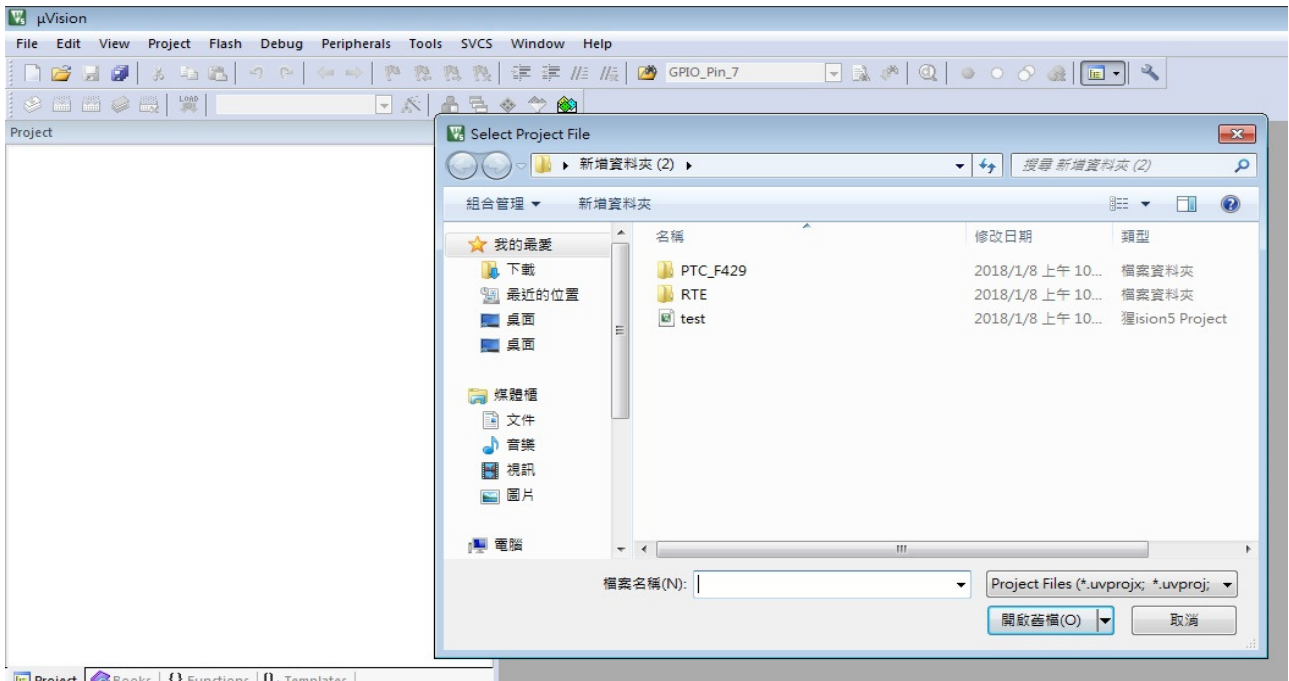
Open Keil 5 program as below



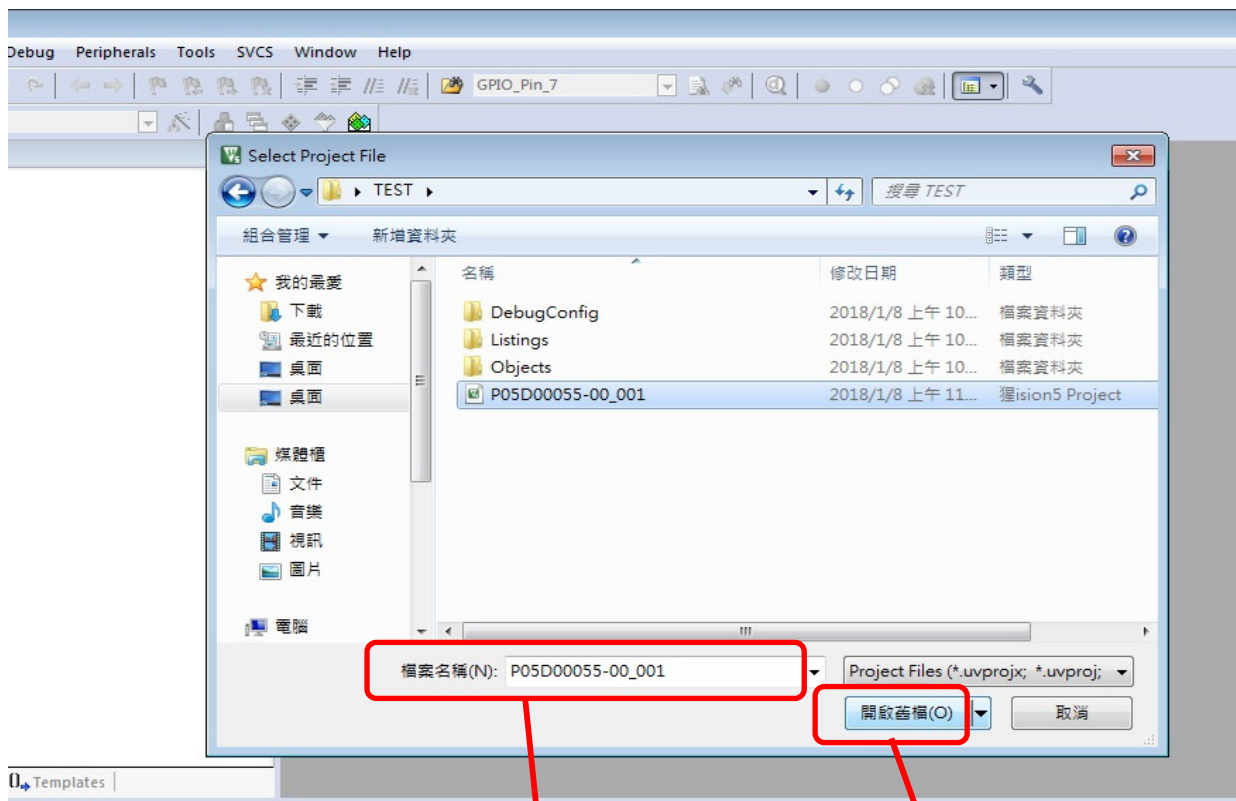
點選 Project → Open Project 後畫面如下

Click Project → Open Project as below





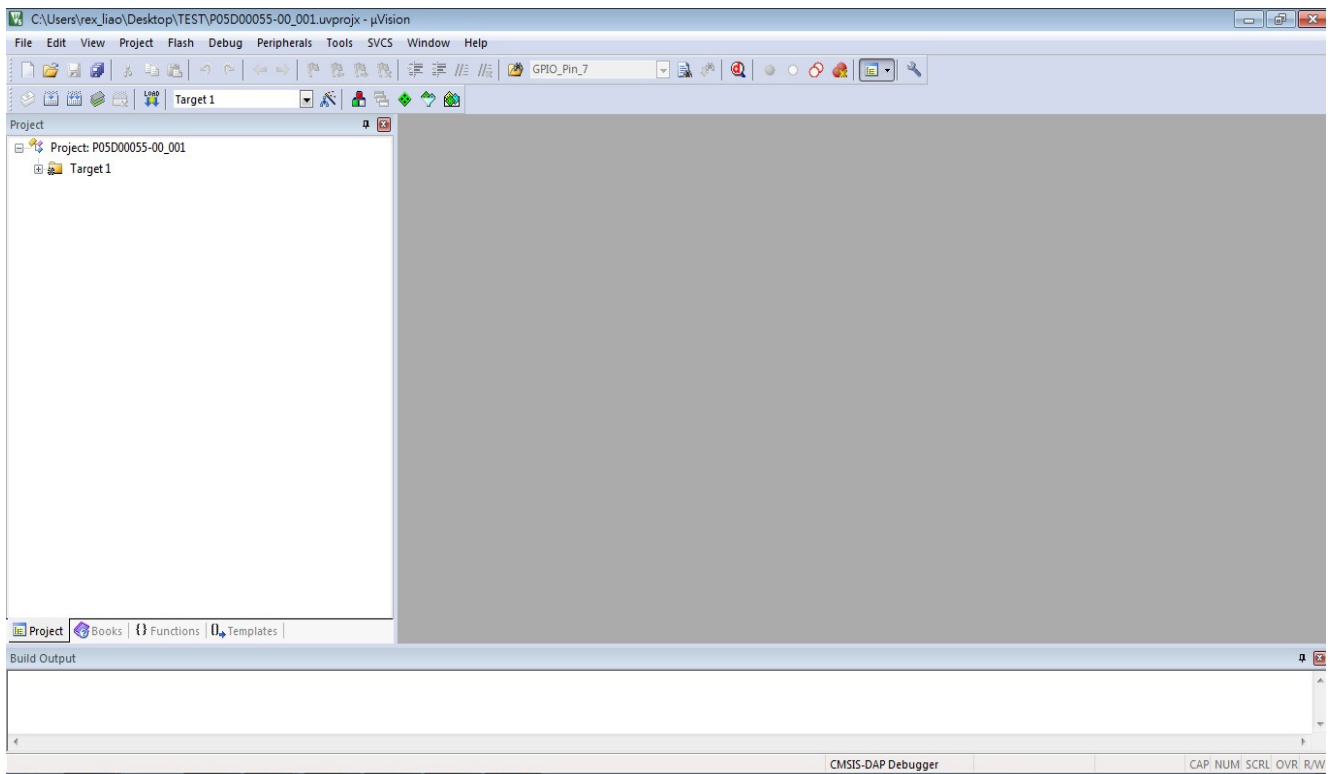
選擇 PLM 下載的 P05D00055-00_001.uvprojx , 然後按開起舊檔, 如下所示
 Select firmware project file and click open as below



P05D00055-00_001.uvprojx
 Firmware project file

開起舊檔
 Open

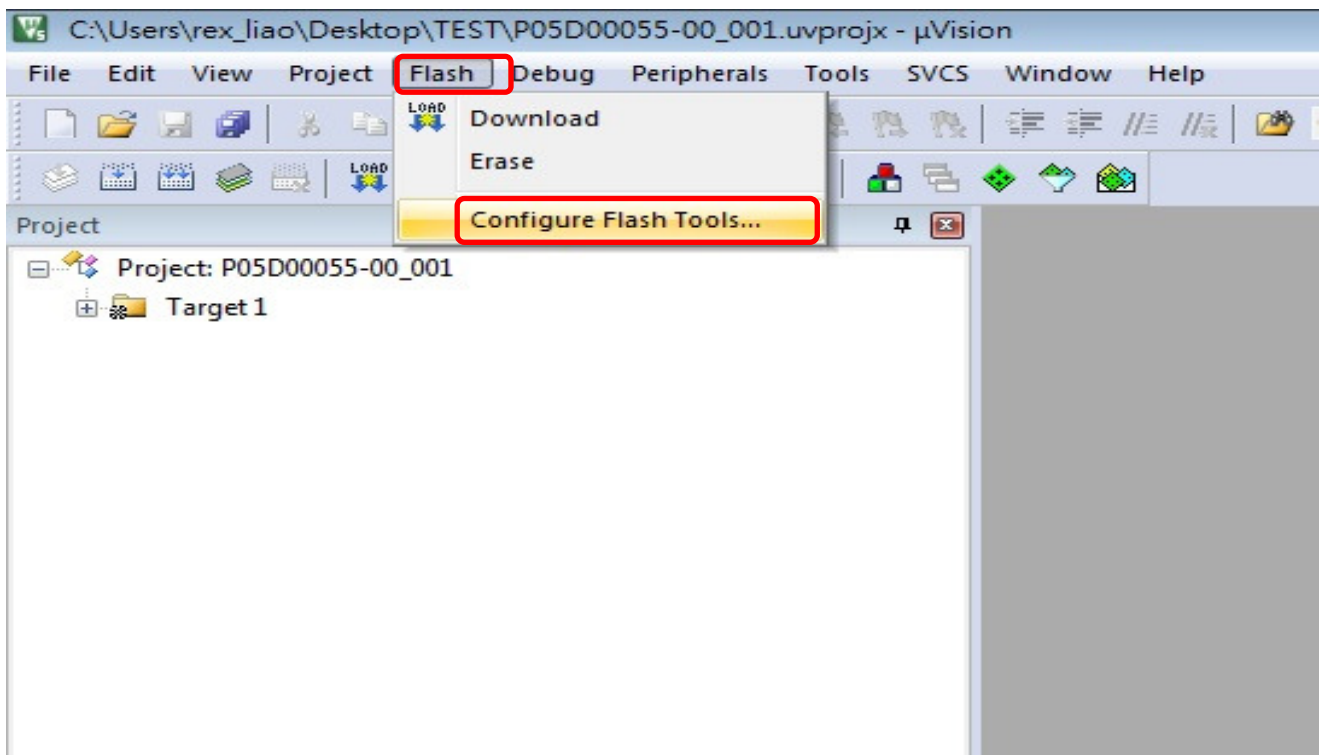


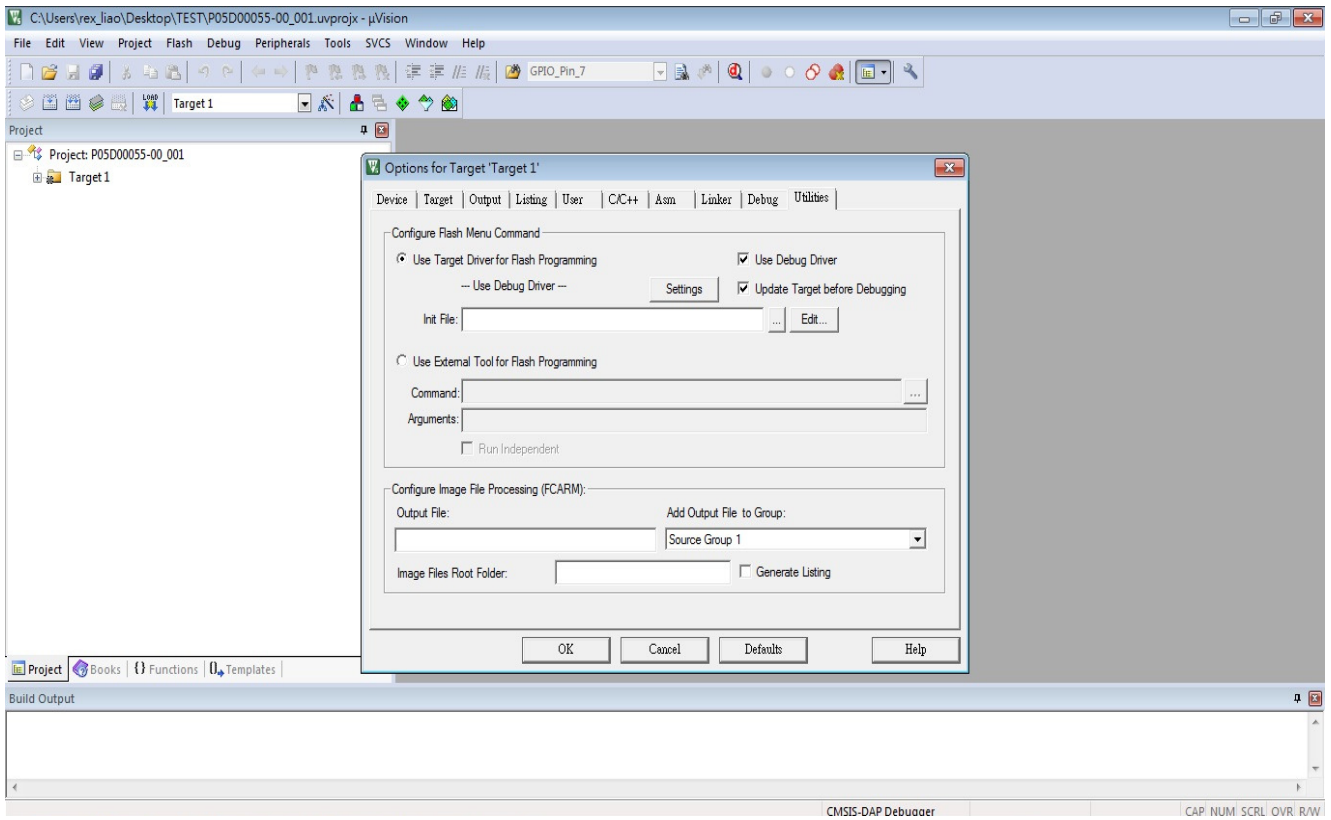


步驟四 (Step 4)

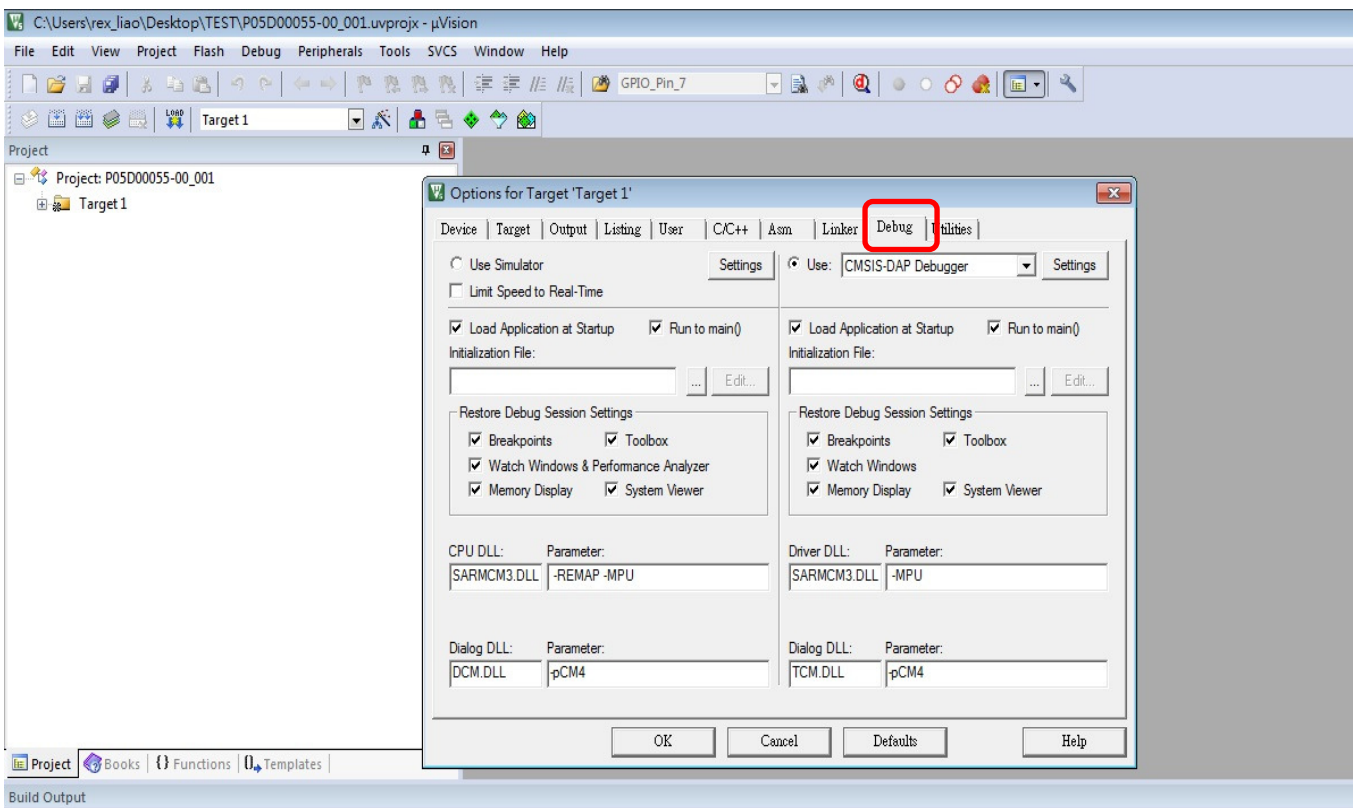
點選 Flash → Configure Flash Tool 後畫面如下

Click Flash → Configure Flash Tool, as below



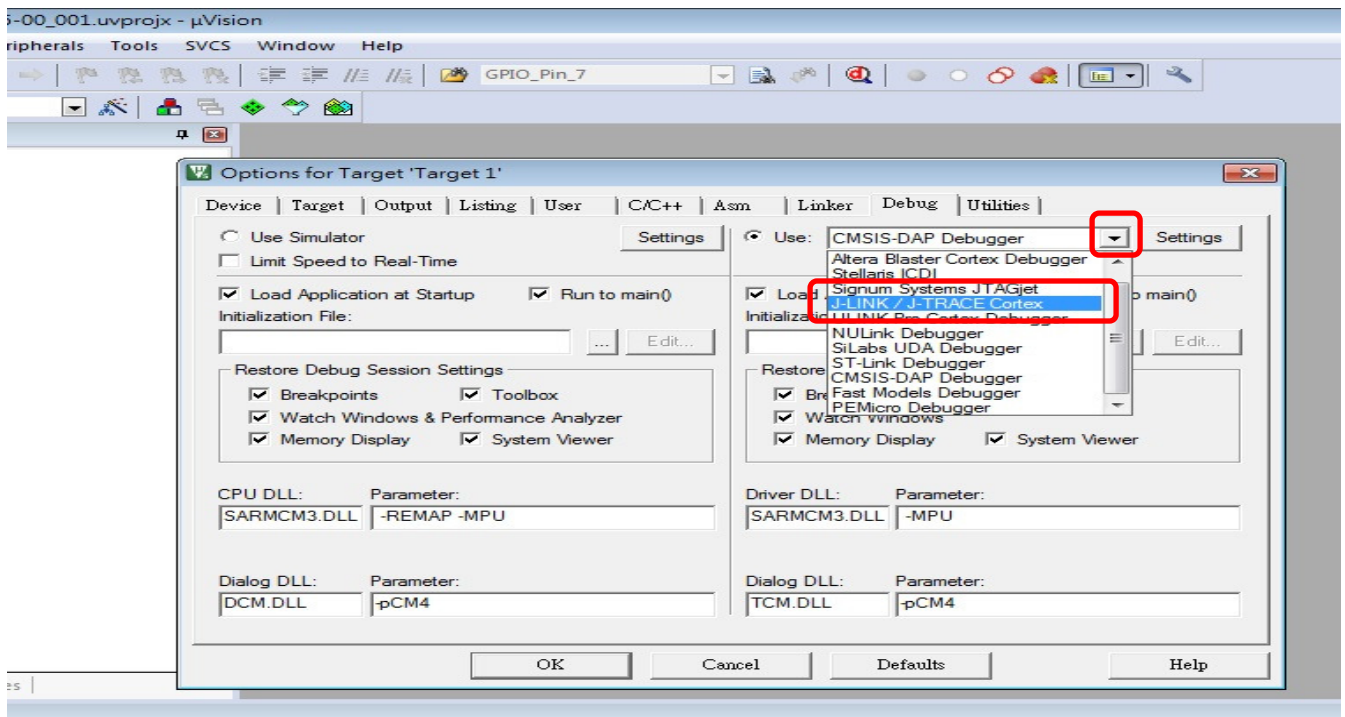


點選 Debug 後畫面如下
Click Debug, as below



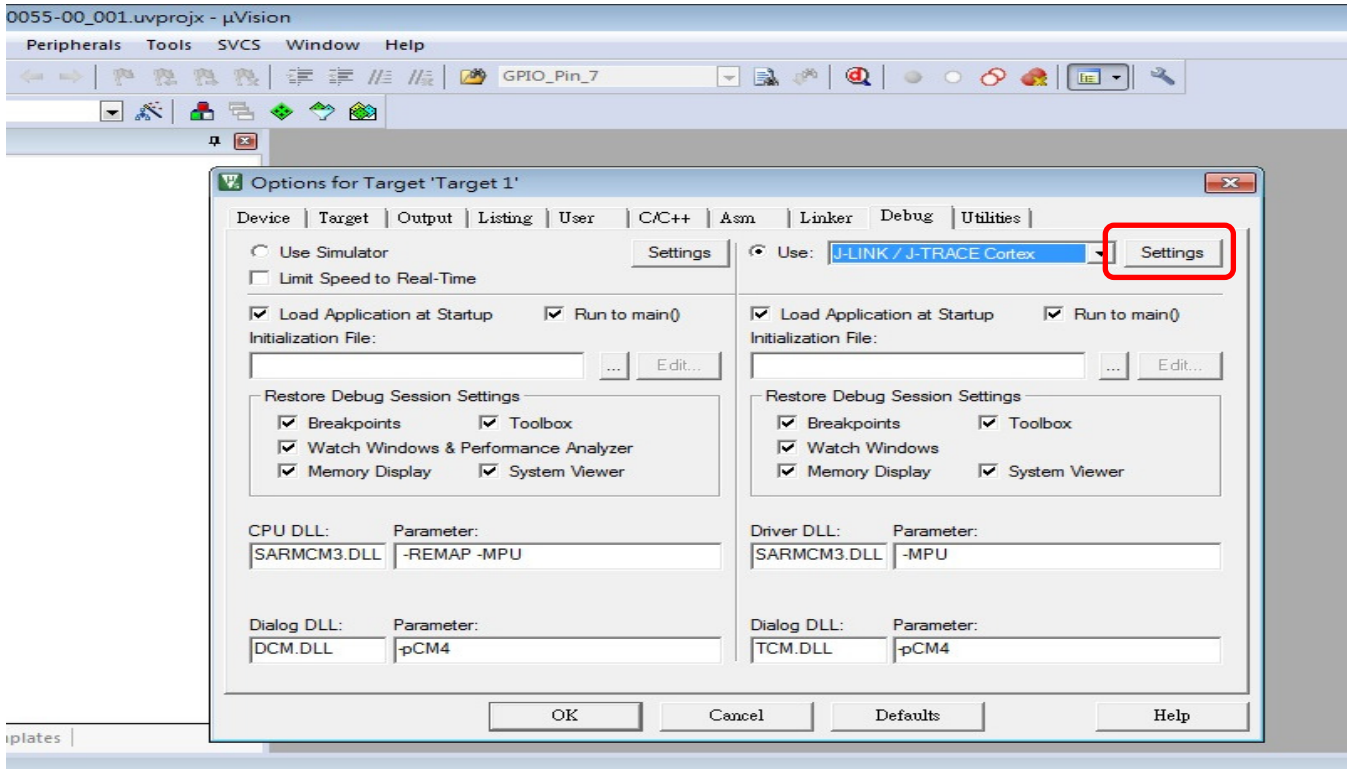
點選右' 上角 user 旁三角型選項後畫面如下

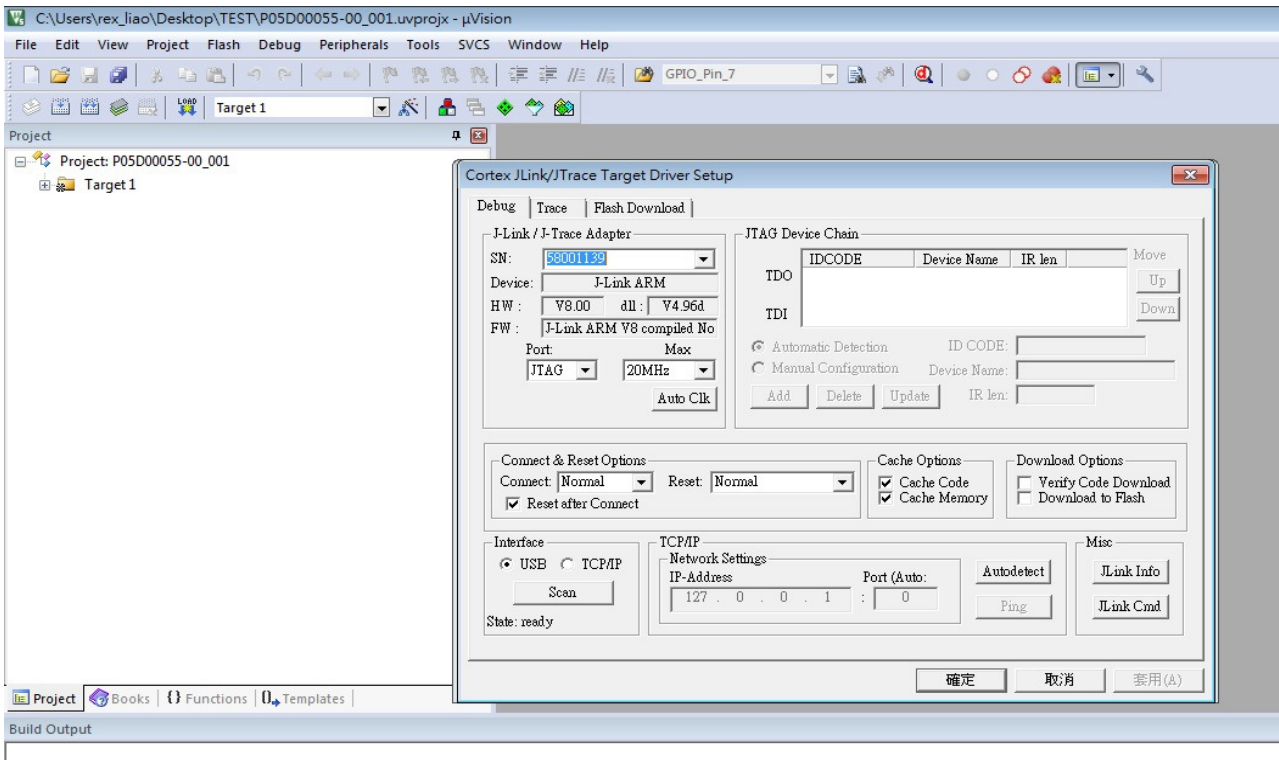
Click selection item as below



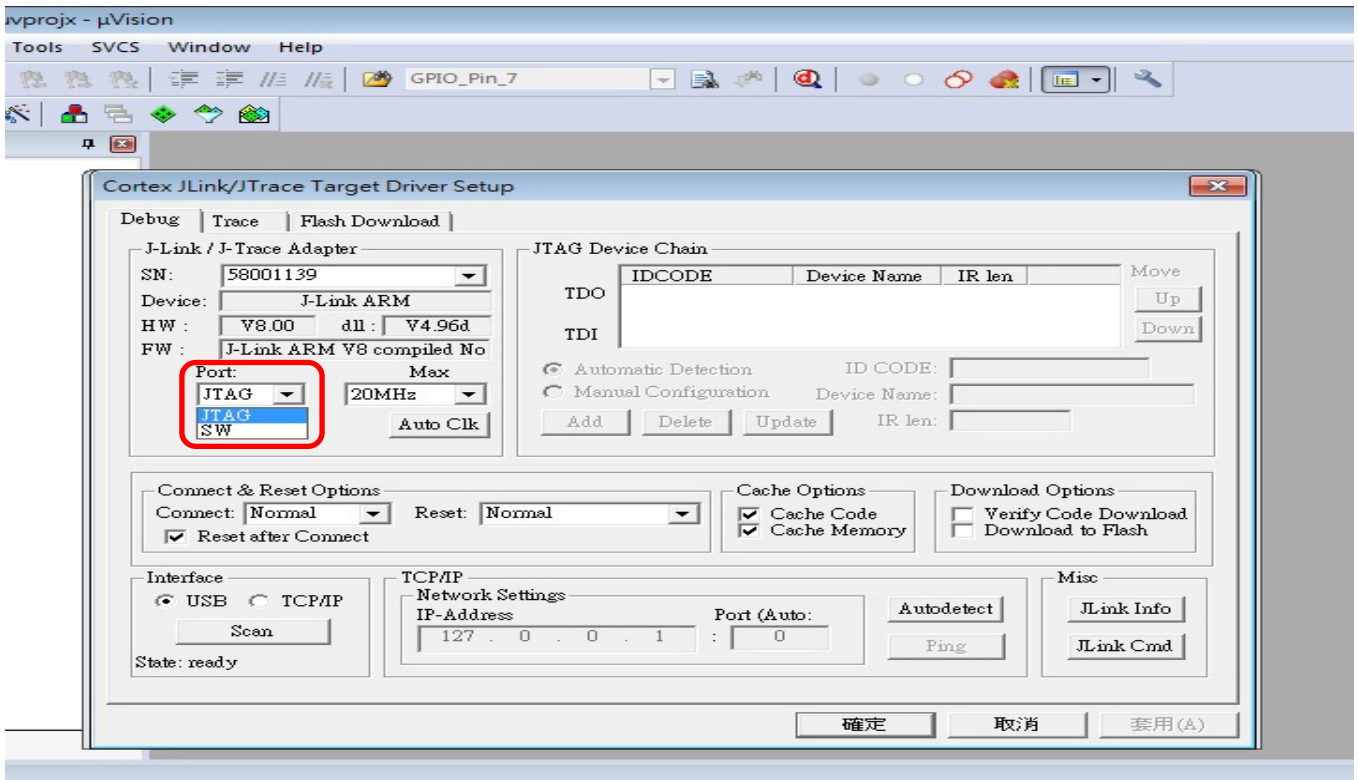
選取 J-LINK / J-TRACE Cortex 後按下旁邊的 Setting 畫面如下所示

Select J-LINK / J-TRACE Cortex and click Setting, as below





點選 Port 旁三角型選項後畫面如下
 Click Port selection as below

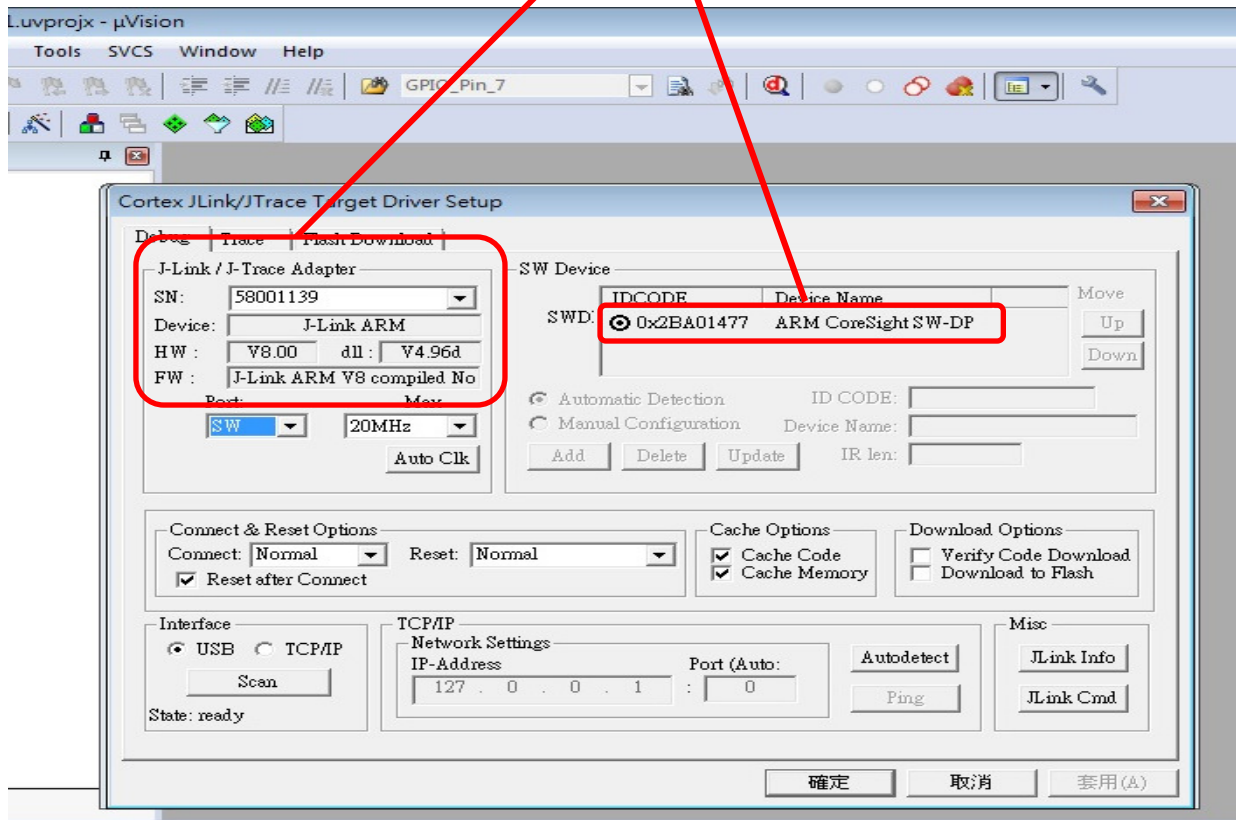


選取 SW 後，畫面如下

Select SW, as below

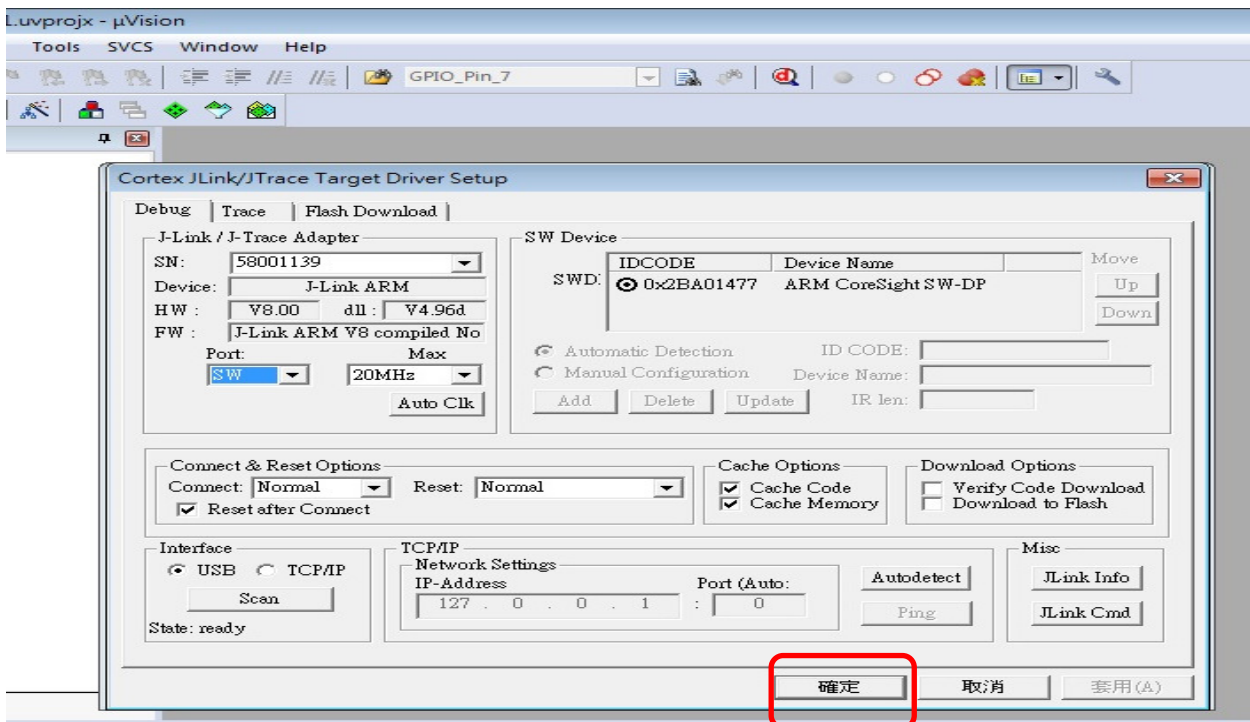
會出現抓取到的 J-Link 資料

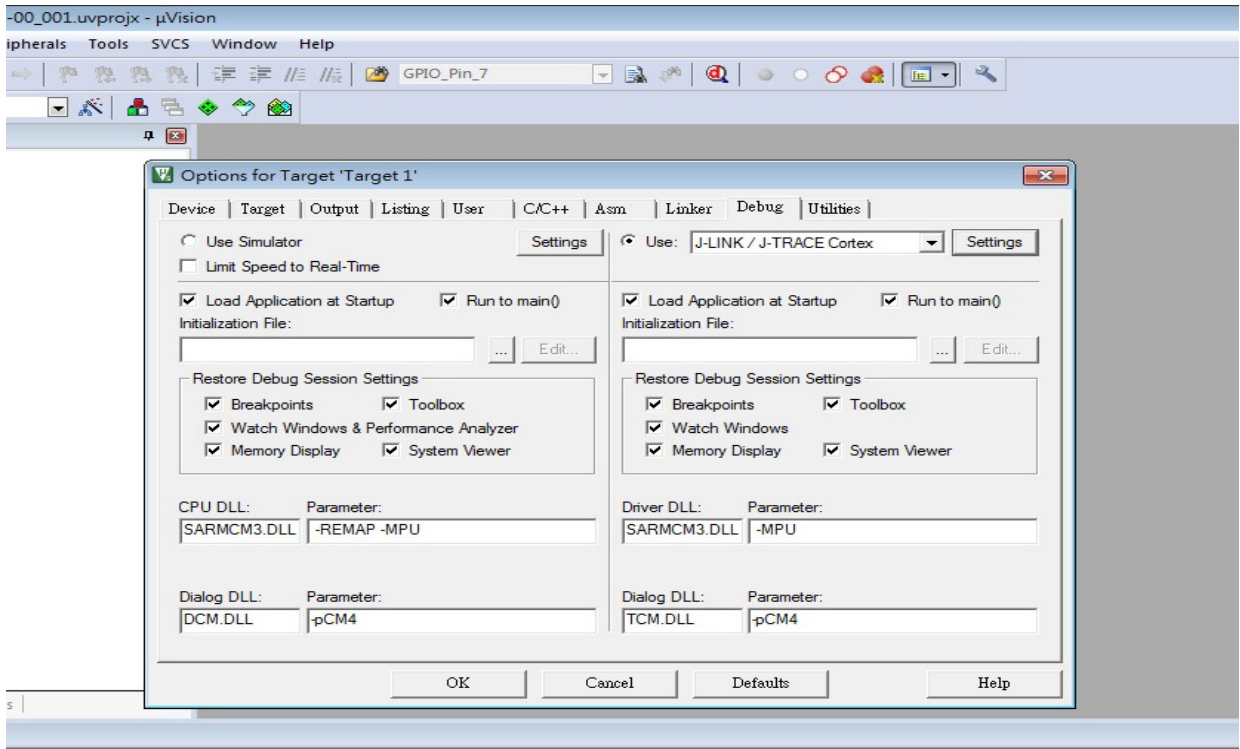
J-Link information



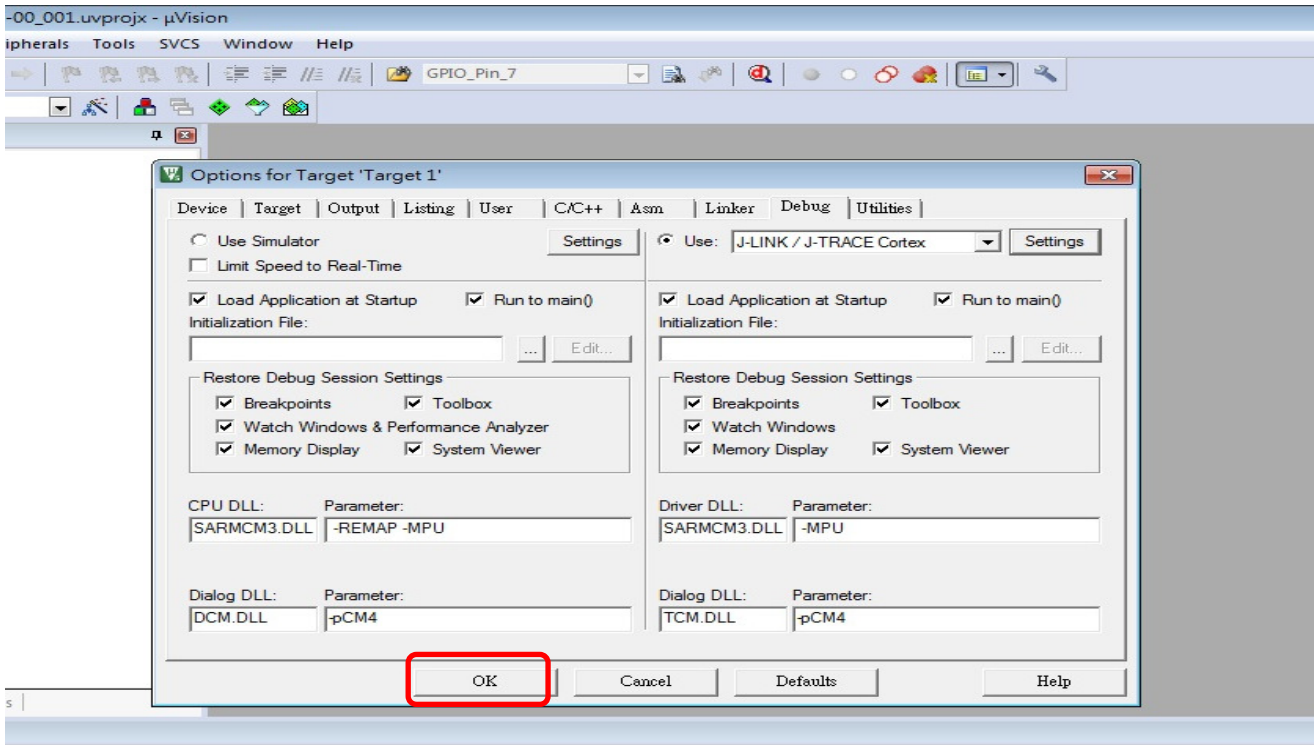
點選確定後畫面如下

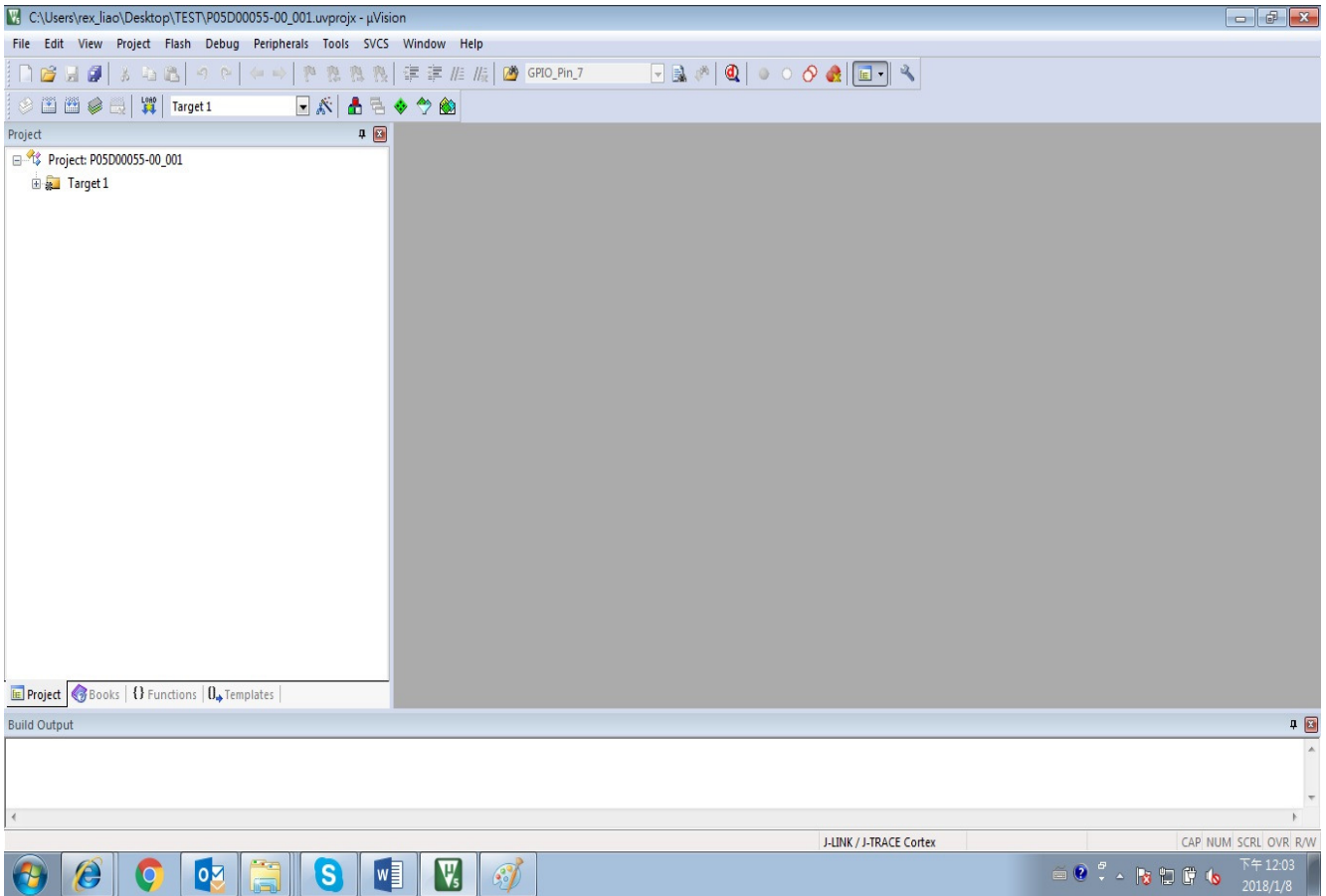
Click YES, as below



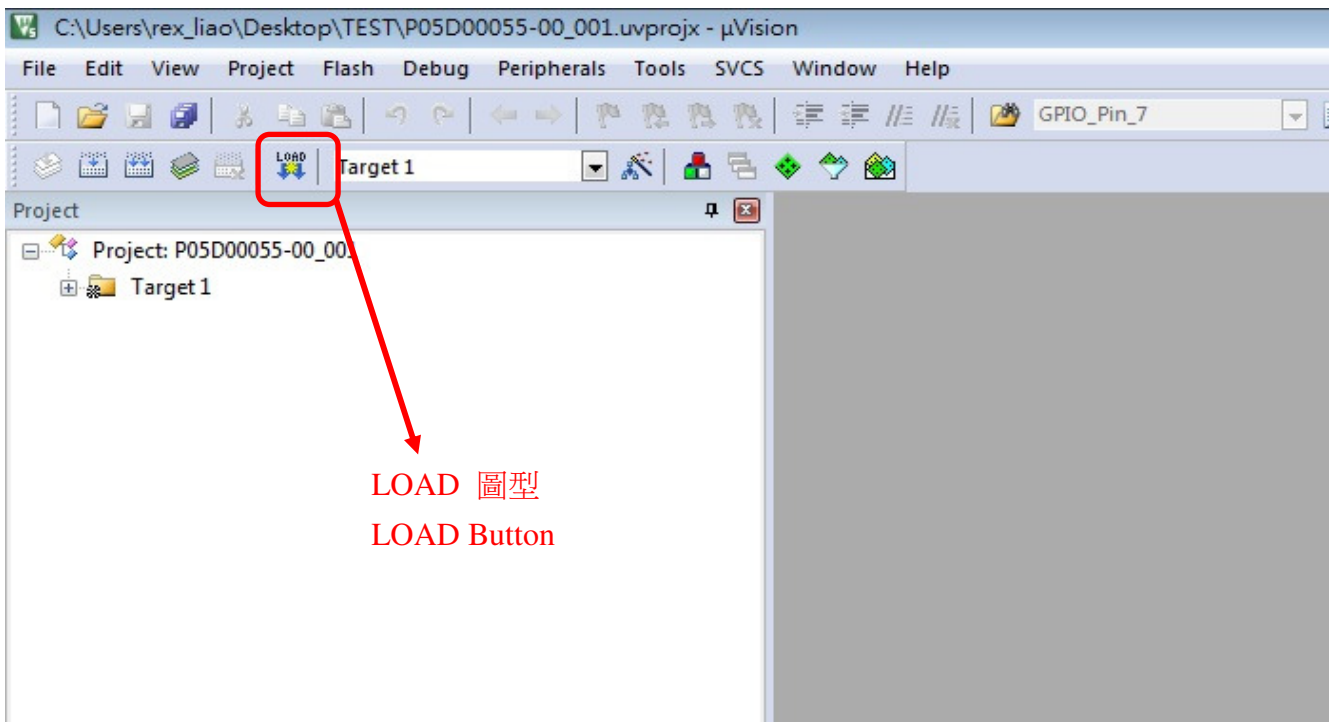


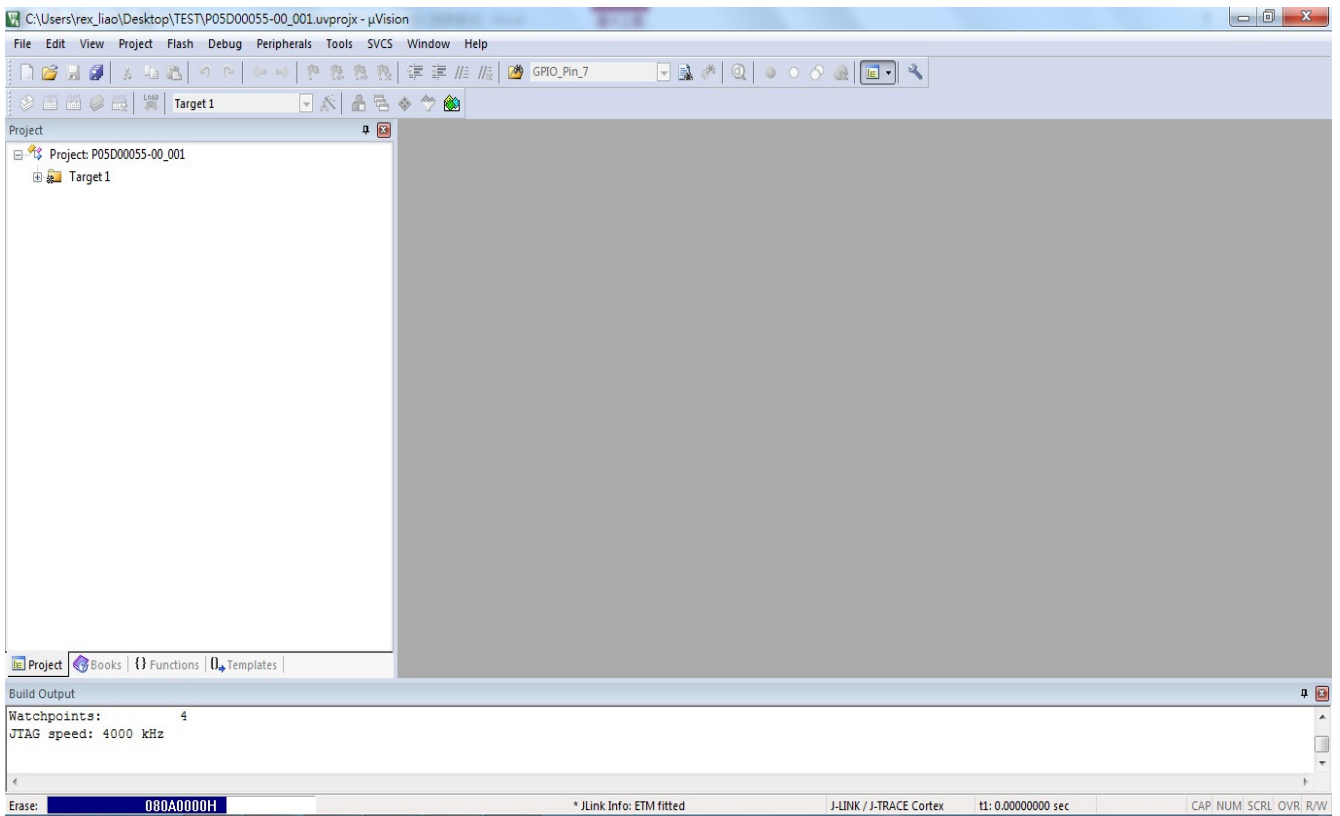
點選 OK 後畫面如下
Click OK, as below



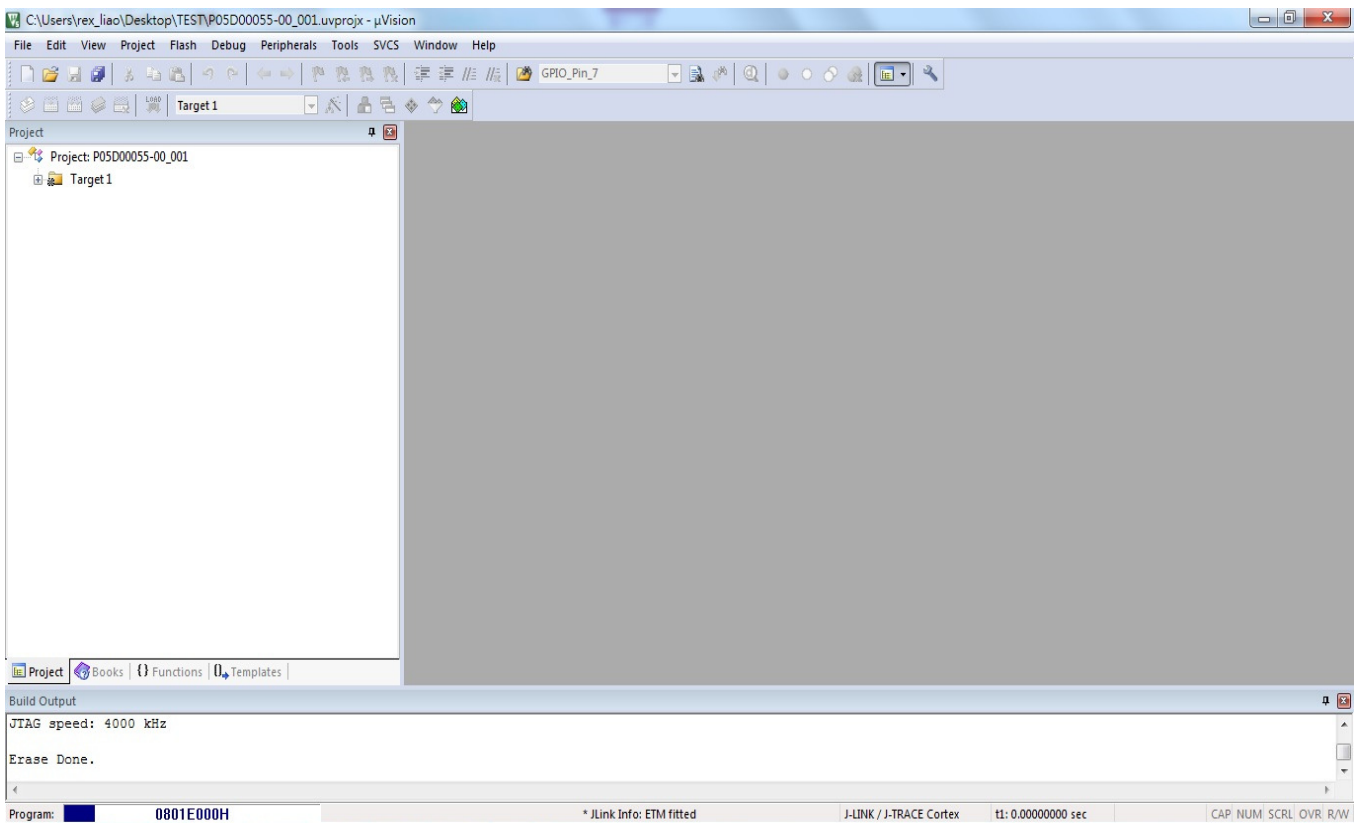


點選 LOAD 圖型後，程式將會開始進行燒錄，需要花費數分鐘，畫面如下
Click LOAD button to upload firmware into PCBA automatically



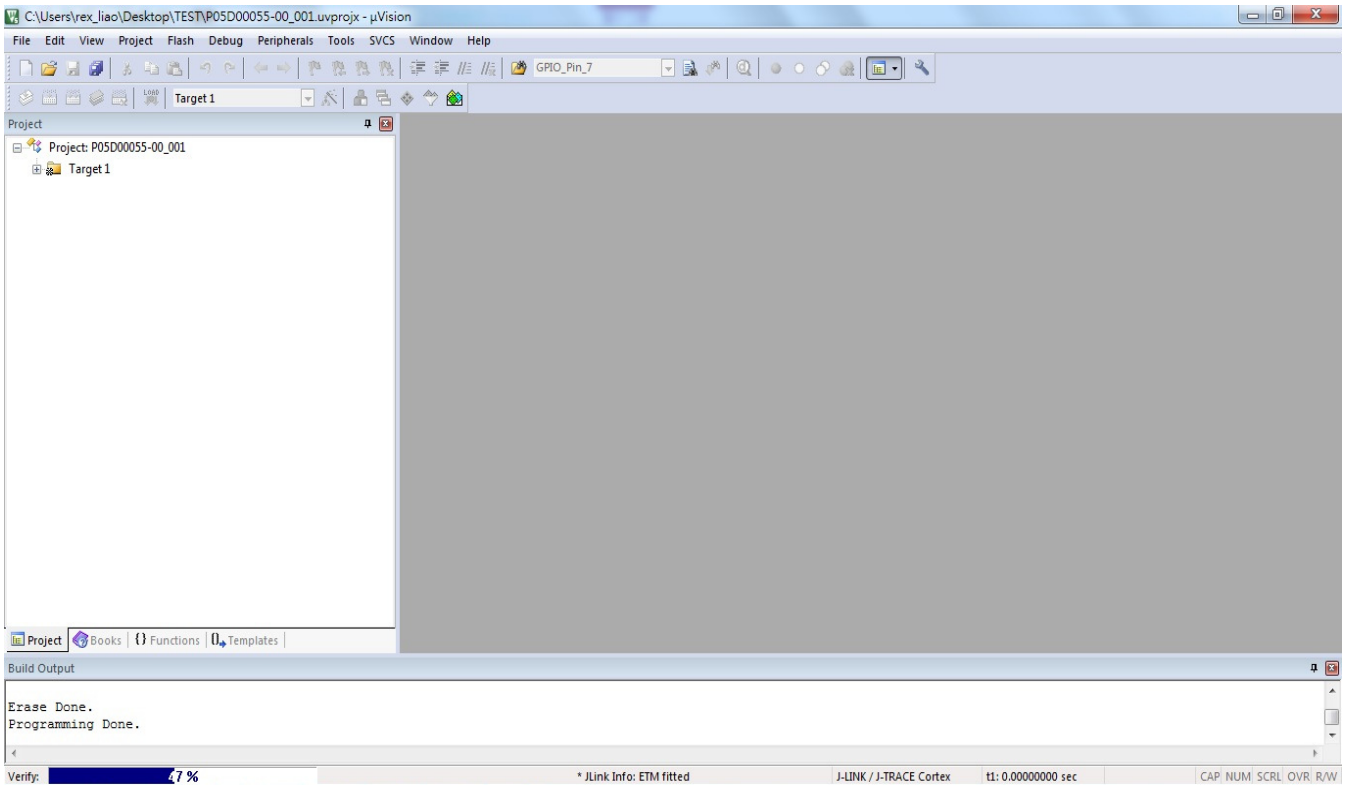


Erase (清除)

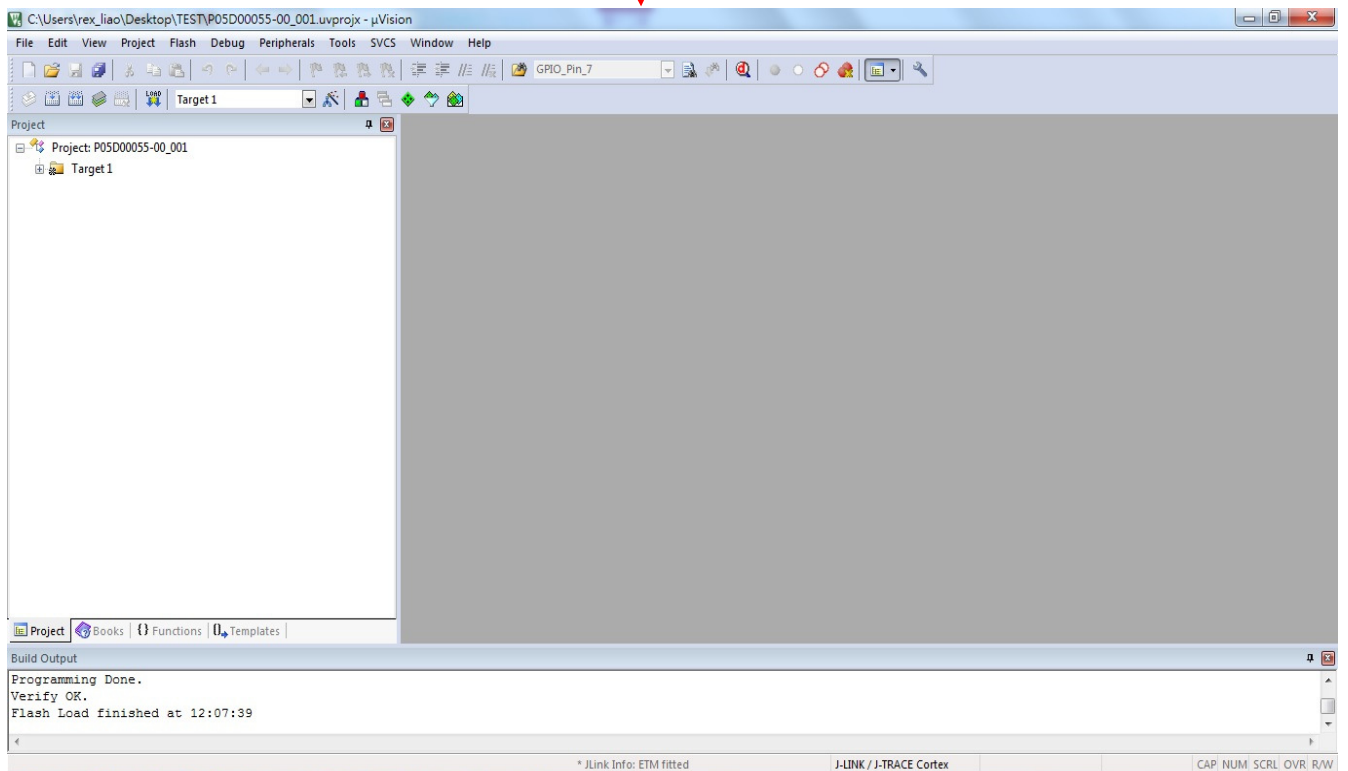


Program (燒錄)





Verify (確認)



Finished (完成)

程式已經燒錄完成，關閉電源並移除 J-Link 轉接線與電源 cable

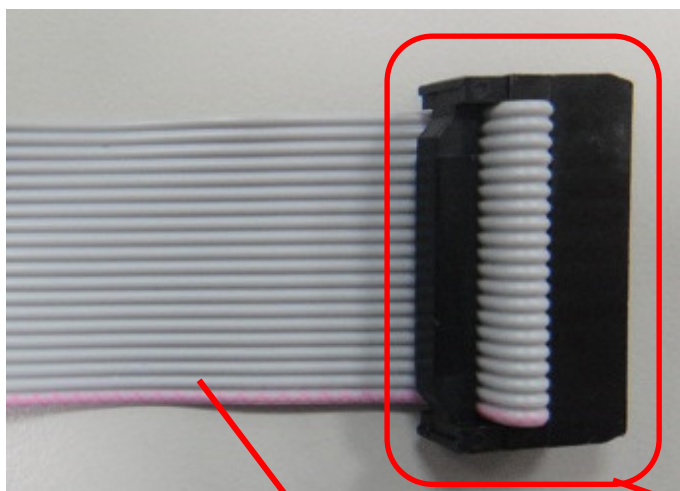
Designed firmware loaded finished and turn off power, remove programming cable and power cable.

附件一 -- J-Link 轉接線製作說明

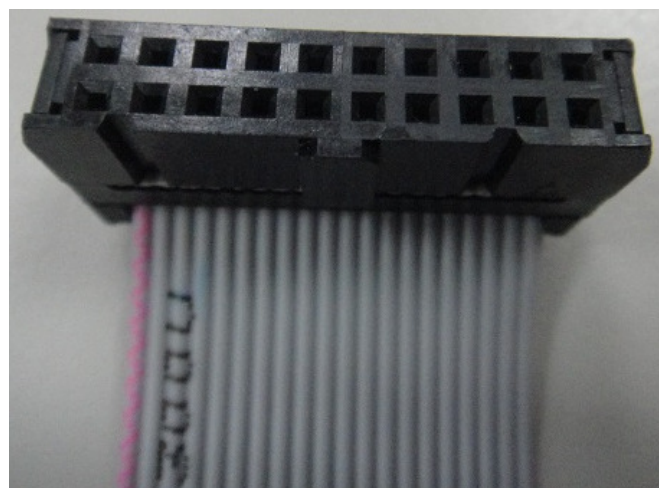
Appendix 1-- Programming Cable

一、準備物料 (Material)

1. pitch 2.54mm 雙排(2*10 pin) 壓排母座接頭(含線材壓著完成), 如下圖所示
Pitch 2.54mm (2*10pin) IDC connector with cable, as below

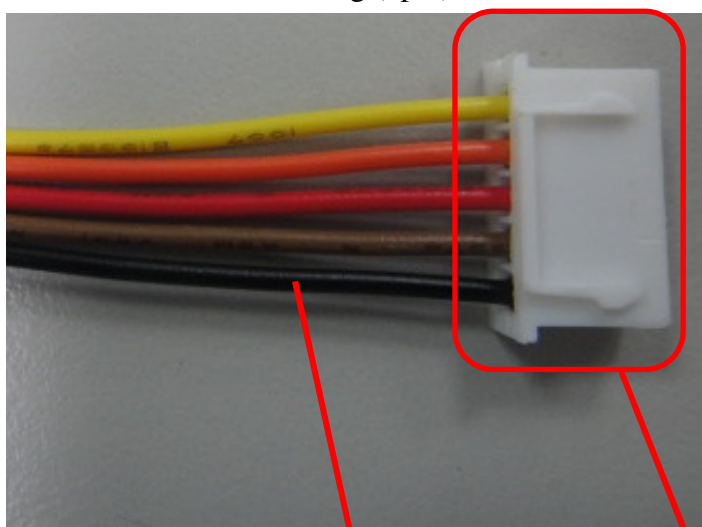


排線
cable

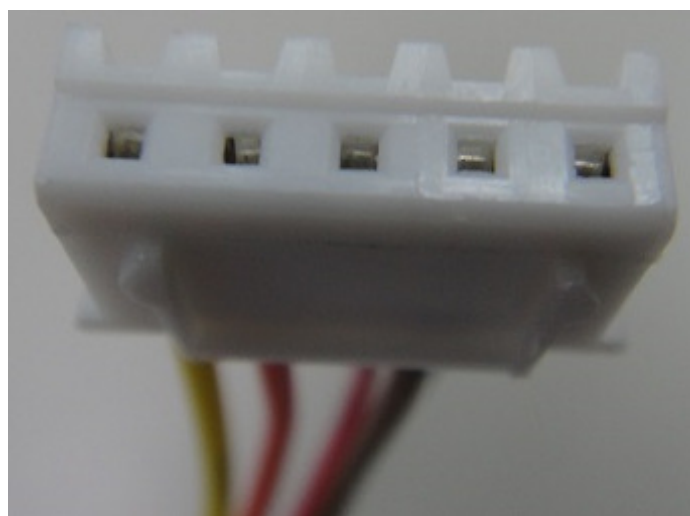


壓排母座接頭
IDC connector (2*10pin)

2. pitch 2.5mm 母座 5pin (含線材), 如下圖所示
Pitch 2.5mm Housing (5pin) include cable, as below



線材

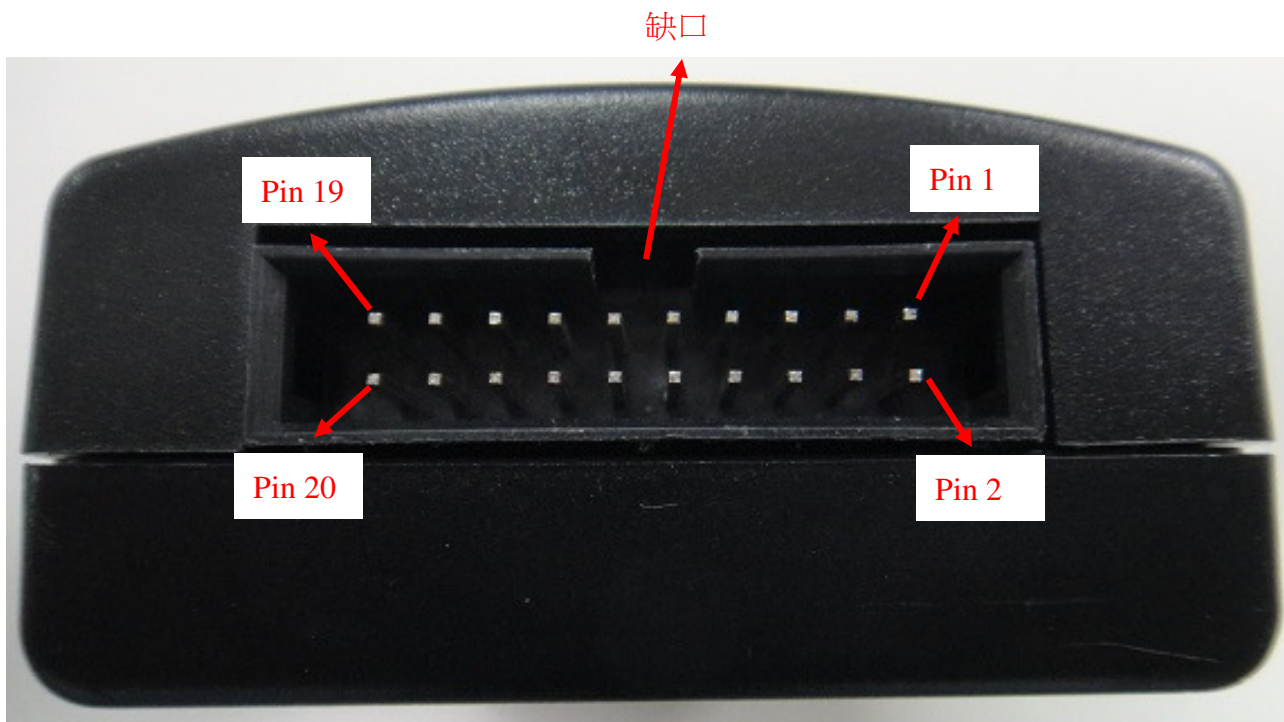


Pitch 2.5mm 母座接頭

二. 作法 (Procedure)

1. J-Link 上 pitch 2.54mm 2*10pin 的功能如下

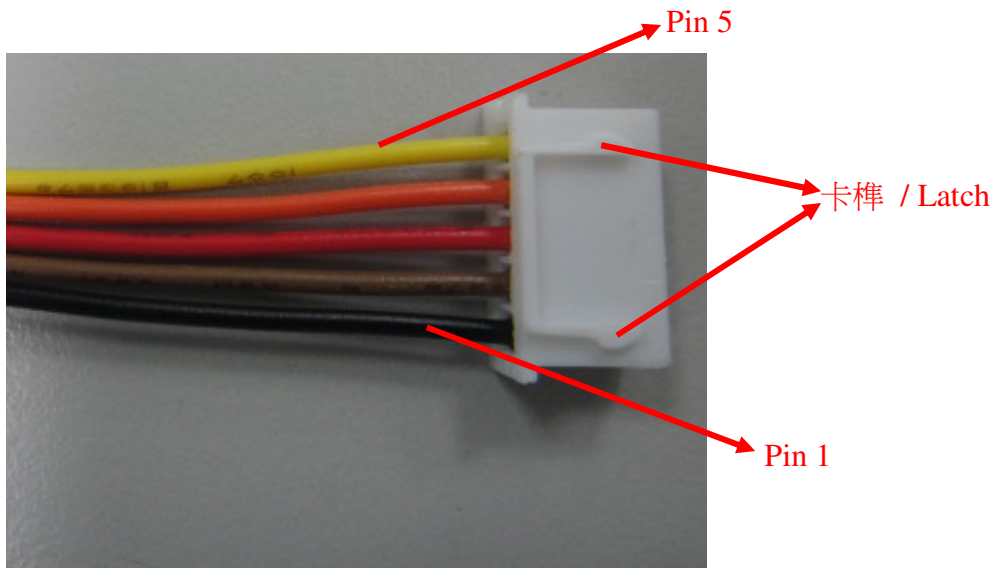
Pin function of J-Link as below



Pin NO	Symbol	Pin NO	Symbol
1	VCC	2	VCC
3	NC	4	GND
5	TDI	6	GND
7	TMS	8	GND
9	TCLK	10	GND
11	NC	12	GND
13	TDO	14	GND
15	RESET	16	GND
17	NC	18	GND
19	NC	20	GND

2. Pitch 2.5mm 母座加線材, 功能如下

Pin function of pitch 2.5mm cable as below



Pin NO	Symbol
1	RESET
2	TCLK
3	GND
4	TMS
5	V3V3

3. 轉接線接法如下

Both cable connection (pitch 2.54mm and pitch 2.5mm), as below

Pitch 2.5mm 5pin(接模組端) Pitch 2.5mm 5pin(connect with PCBA)		Pitch 2.54mm 2*10pin (J-Link 端) Pitch 2.54mm 2*10pin (connect with J-Link)	
Pin NO	Symbol	Pin NO	Symbol
1	RESET	15	RESET
2	TCLK	9	TCLK
3	GND	4	GND
4	TMS	7	TMS
5	V3V3	1	VCC

例如: pitch 2.5mm 第 1pin 要接到 pitch 2.54mm 第 15pin.

Example: pin 1 of pitch 2.5mm will be connected with pin 15 of pitch 2.54mm.

History of Version

Date	Ver.	Description	Page	Design by
2018/01/09	01	New Release.	-	Rex

Total: 21 Page