APP-All MCU 2024 簡介

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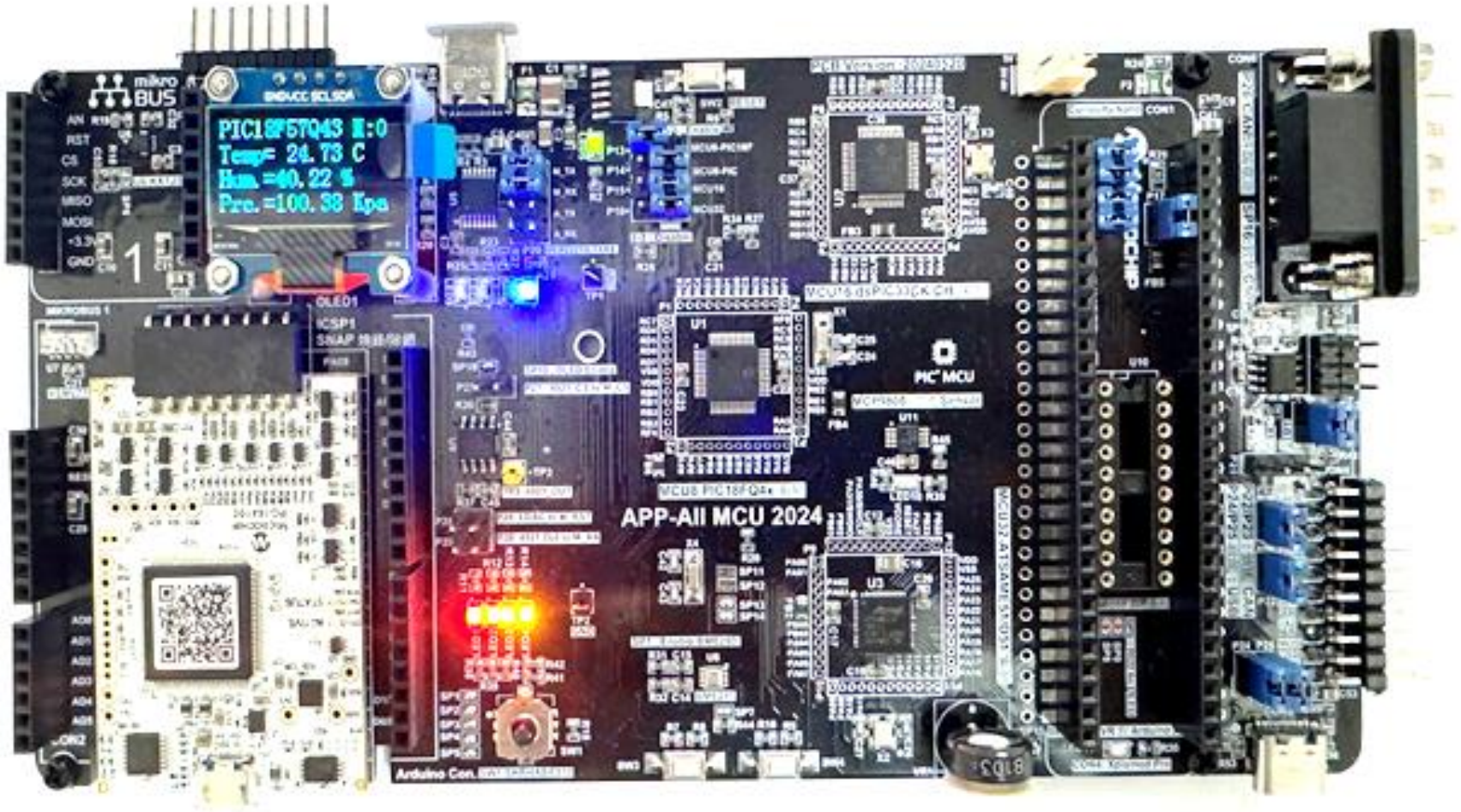
Version : 2023-July, total 37+ pages, average 40 minutes to review

APP-All MCU 2024 : 另一個 Microchip MCU 泛用平台



APP-All MCU 2024 上預置的 MCU 型號

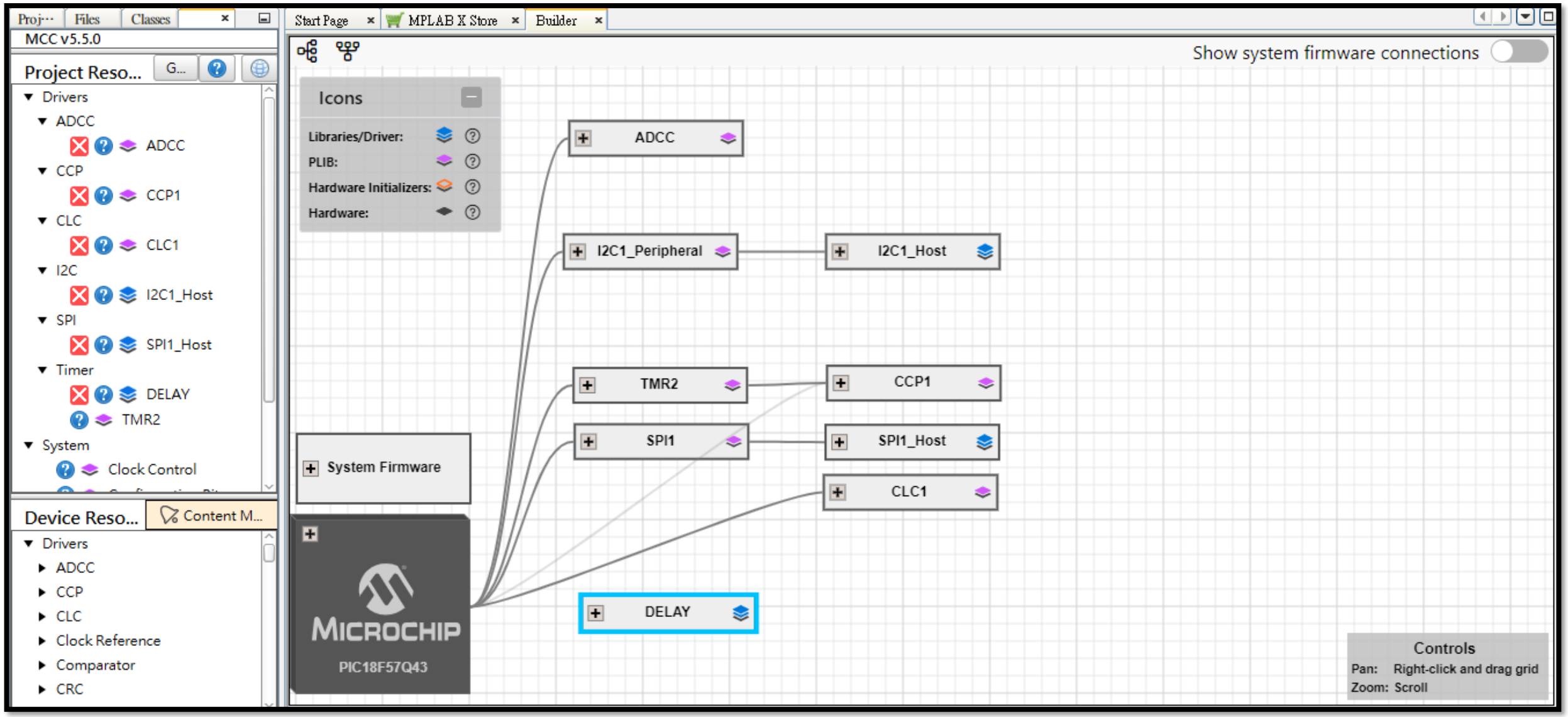
- **8-bit MCU : PIC18F57Q43**
- **8-bit MCU : 在 U10 的位置上保留 20-pin 的 IC 腳座，可以自由使用相容的 PIC16F1/PIC18F MCU**
- **16-bit MCU : dsPIC33CK256MP505**
  - 具備 CAN FD 功能的 16-bit MCU
- **32-bit MCU : ATSAME51G19A**
  - 具備 USB、CAN FD 等功能的 32-bit ARM Cortex M4 MCU

APP-All MCU 2024 內建的周邊

- 一個I2C 介面的三軸加速度計 KXTJ3-1057
- 一個I2C 介面的Lighting Sensor – Vishay 的VEML7700-TT
- 一個I2C 介面的Humidity sensor - BOSCH BME280
- 一個I2C 介面的溫度Sensor –Microchip MCP9808
- 一個I2C 介面的OLED Display -單色128 * 64
- 一個SPI 介面的DAC –Microchip MCP4921
- 兩個WS2812B One-Wire Color LED
- 一個MCP2221A 作實驗板上的UART 以及I2C 介面轉換至USB 的介面IC
- 一個ALPS 的SKRHABE010 五向開關
- CAN Transceiver : ATA6561
- CAN Connector (DB-9 & 排針)
- USB Connector : Type-C for USB Device function

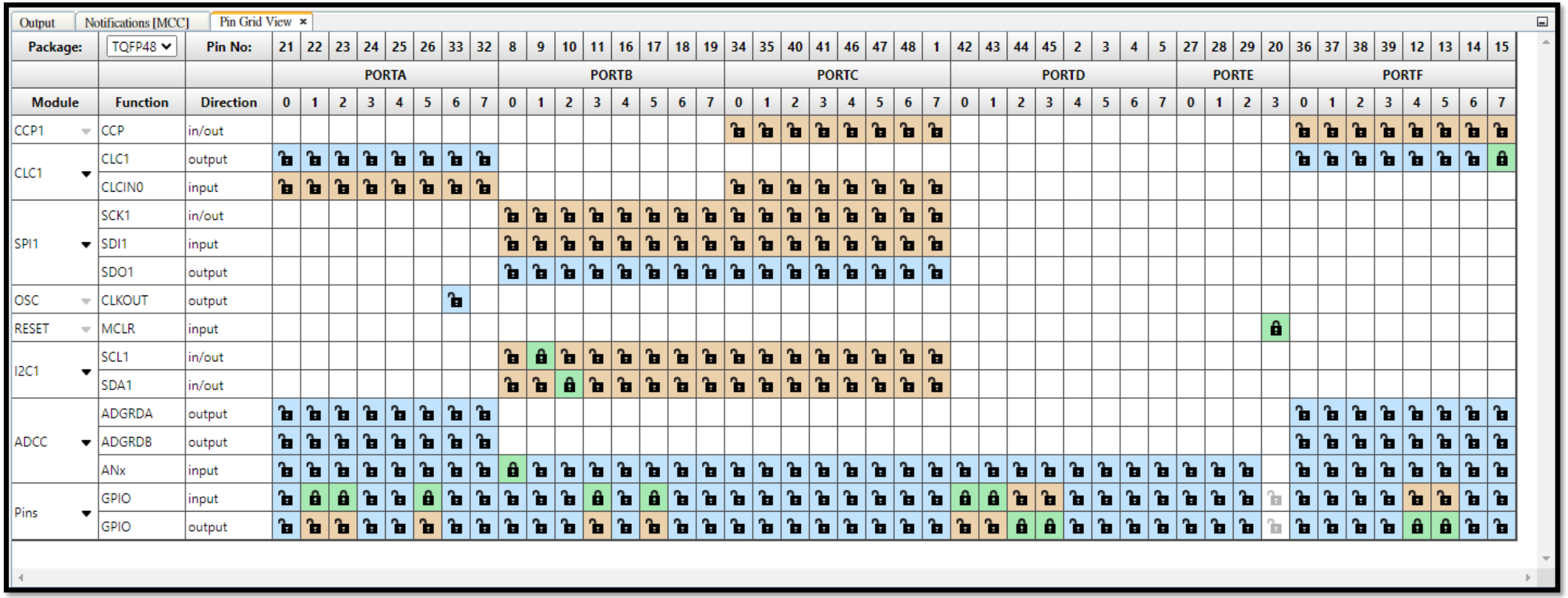
APP-All MCU 2024
PIC18F57Q43 出廠測試程式的Configuration

PIC18F57Q43 所使用到的Drivers & Resources



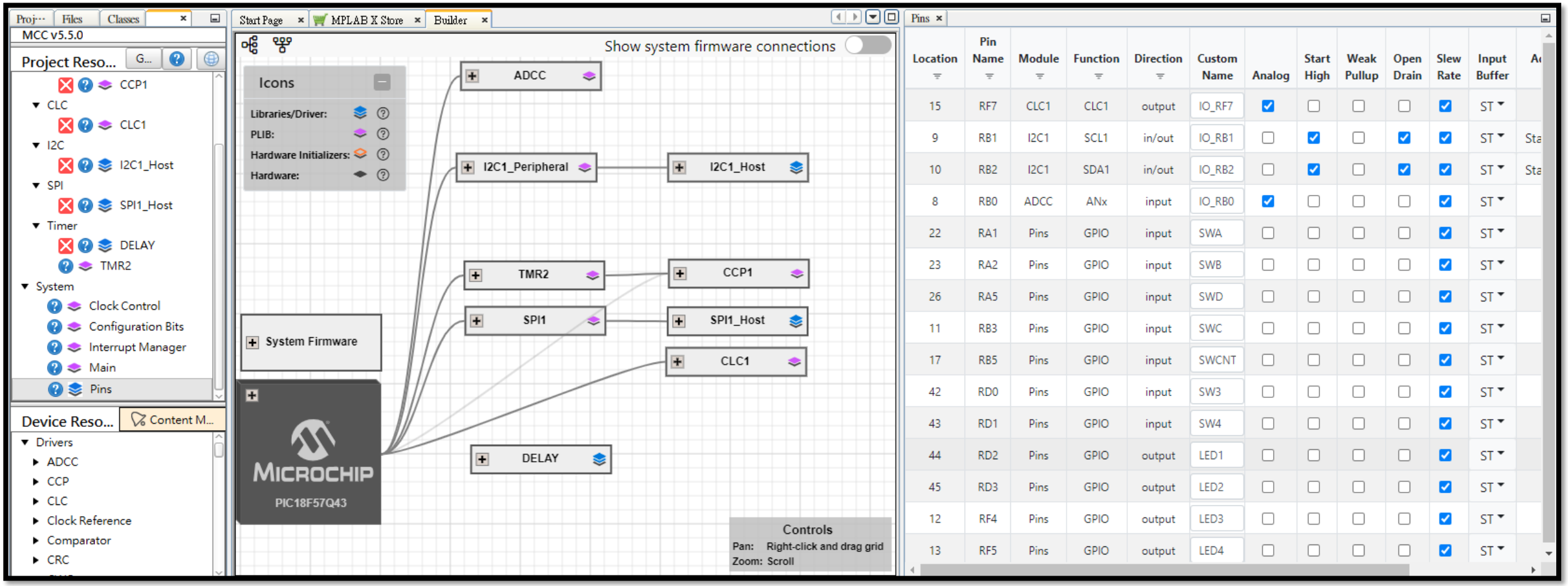
PIC18F57Q43 接腳的 Configuration

SPI & CCP1 的功能因為使用在 CLC，所以不須做實際規劃



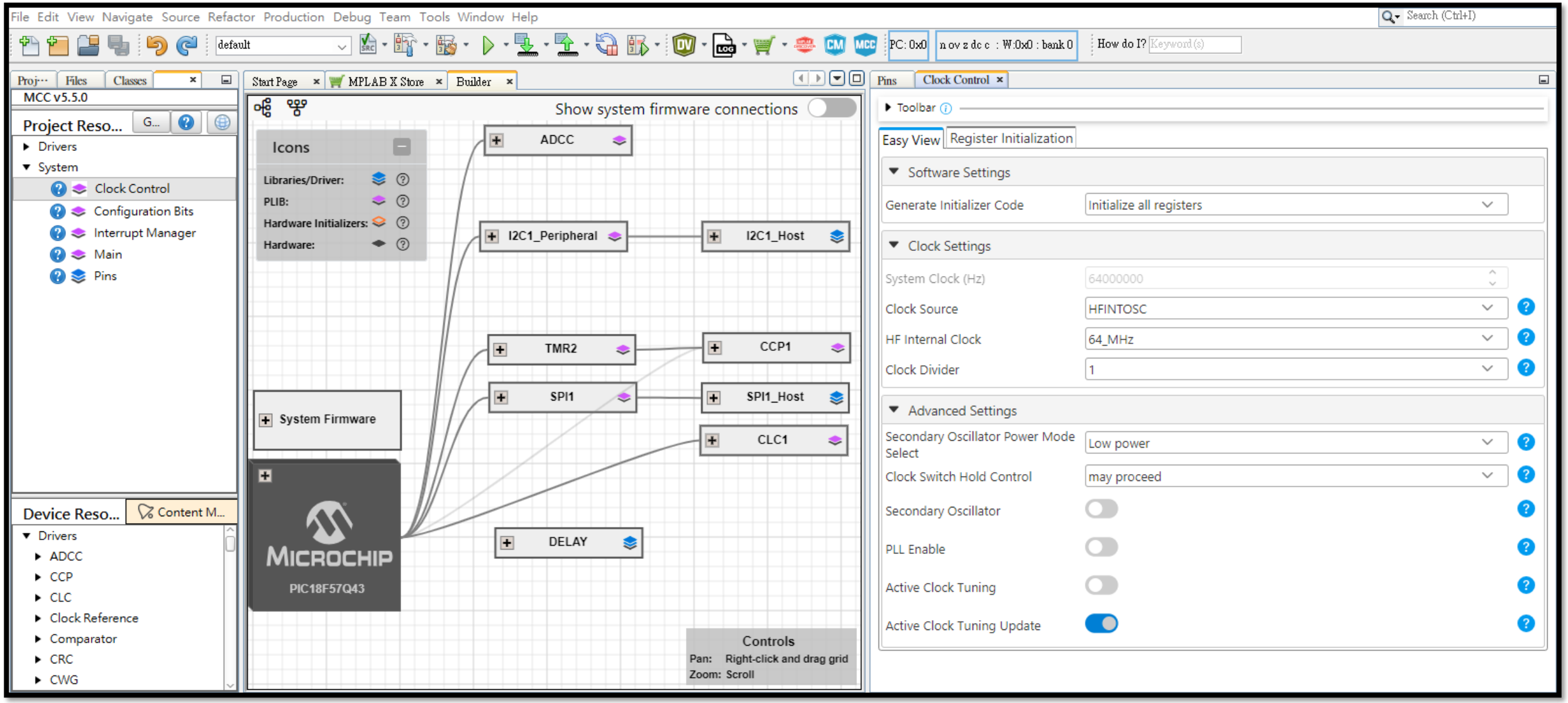
PIC18F57Q43 接腳名稱的列表參考

MCC 產生的 API 開頭名稱會採用 Custom Name 中的名稱



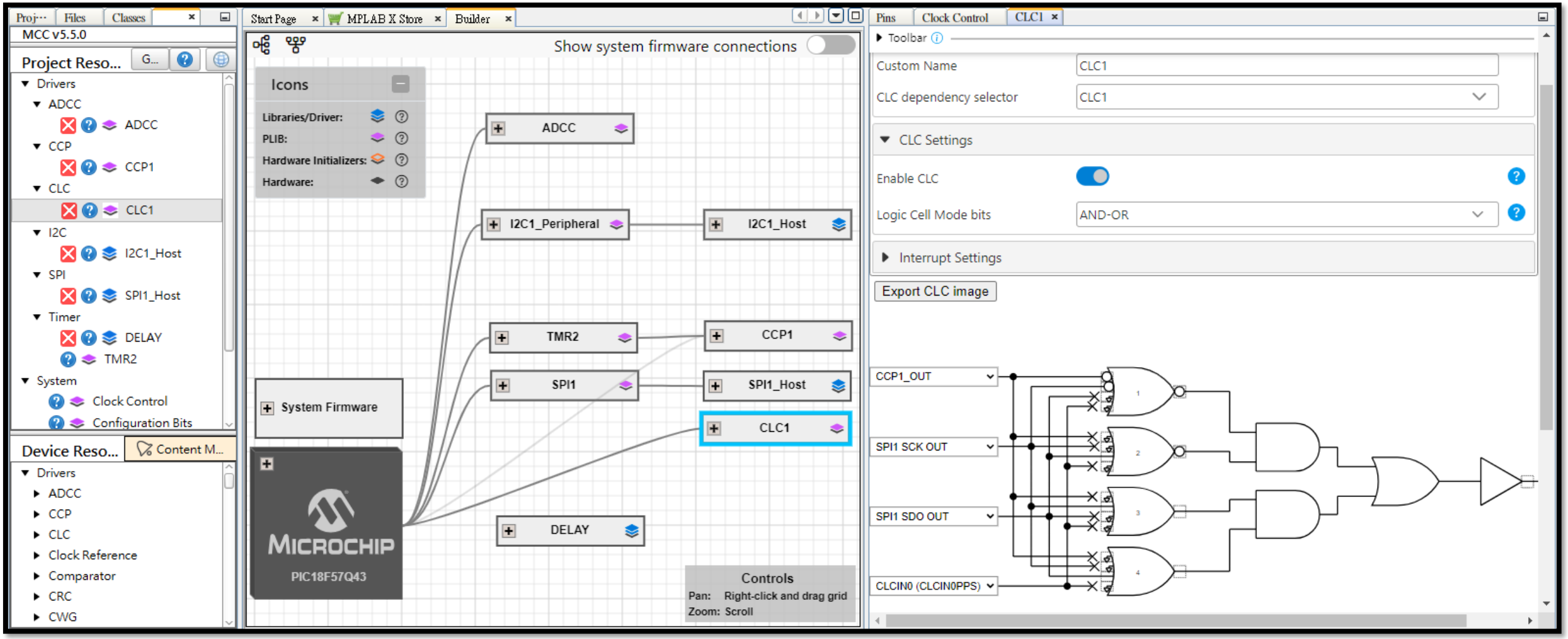
Location	Pin Name	Module	Function	Direction	Custom Name	Analog	Start High	Weak Pullup	Open Drain	Slew Rate	Input Buffer
15	RF7	CLC1	CLC1	output	IO_RF7	☑	☐	☐	☐	☑	ST
9	RB1	I2C1	SCL1	in/out	IO_RB1	☐	☑	☐	☑	☑	ST
10	RB2	I2C1	SDA1	in/out	IO_RB2	☐	☑	☐	☑	☑	ST
8	RB0	ADCC	ANx	input	IO_RB0	☑	☐	☐	☐	☑	ST
22	RA1	Pins	GPIO	input	SWA	☐	☐	☐	☐	☑	ST
23	RA2	Pins	GPIO	input	SWB	☐	☐	☐	☐	☑	ST
26	RA5	Pins	GPIO	input	SWD	☐	☐	☐	☐	☑	ST
11	RB3	Pins	GPIO	input	SWC	☐	☐	☐	☐	☑	ST
17	RB5	Pins	GPIO	input	SWCNT	☐	☐	☐	☐	☑	ST
42	RD0	Pins	GPIO	input	SW3	☐	☐	☐	☐	☑	ST
43	RD1	Pins	GPIO	input	SW4	☐	☐	☐	☐	☑	ST
44	RD2	Pins	GPIO	output	LED1	☐	☐	☐	☐	☑	ST
45	RD3	Pins	GPIO	output	LED2	☐	☐	☐	☐	☑	ST
12	RF4	Pins	GPIO	output	LED3	☐	☐	☐	☐	☑	ST
13	RF5	Pins	GPIO	output	LED4	☐	☐	☐	☐	☑	ST

確認PIC18F57Q43 設定於最高的工作頻率 (64M)



PIC18F57Q43 中 CLC module 的設定 – 參考 AN1606

https://ww1.microchip.com/downloads/en/AppNotes/00001606A.pdf



加入OLED128x64.c 來完成OLED 的控制