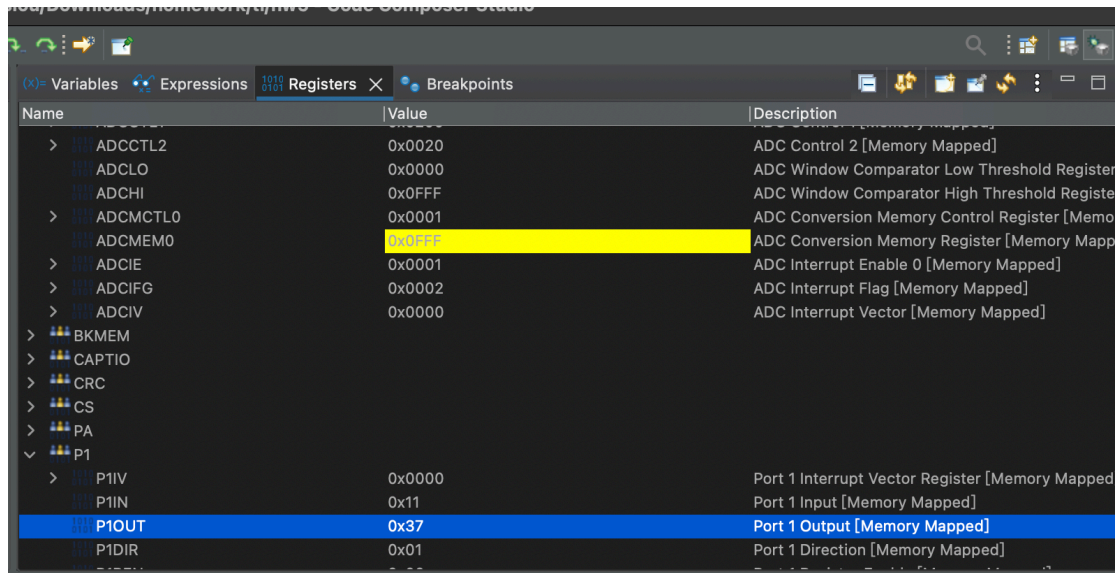


## 1. P1.1 接到 3.3v 後 暫存器觀測結果



Led(P1OUT): 亮

ADCMEM: 0xFFFF

P1.1 電壓: 3.3v

R1 電壓: 0v

驗算  $N_{adc} = 4096 \times V_{in} / V_{cc}$

$$= 4096 \times V_{in} / 3.3$$

$$= 4096 \times 3.3 / 3.3$$

$$= 4096$$

$$= 2^{12}$$

$$= 0xFFFF$$

## 2. P1.1 接到 0v 後 暫存器觀測結果

Code Composer Studio

Name	Value	Description
ADCCTL2	0x0020	ADC Control 2 [Memory Mapped]
ADCLO	0x0000	ADC Window Comparator Low Threshold Register
ADCHI	0x0FFF	ADC Window Comparator High Threshold Register
ADCMCTL0	0x0001	ADC Conversion Memory Control Register [Memory Mapped]
ADCMEM0	0x0000	ADC Conversion Memory Register [Memory Mapped]
ADCIE	0x0001	ADC Interrupt Enable 0 [Memory Mapped]
ADCIFG	0x0002	ADC Interrupt Flag [Memory Mapped]
ADCIV	0x0000	ADC Interrupt Vector [Memory Mapped]
BKMEM		
CAPTIO		
CRC		
CS		
PA		
P1		
P1IV	0x0000	Port 1 Interrupt Vector Register [Memory Mapped]
P1IN	0x00	Port 1 Input [Memory Mapped]
P1OUT	0x36	Port 1 Output [Memory Mapped]
P1DIR	0x01	Port 1 Direction [Memory Mapped]

Led(P1OUT): 暗

ADCMEM: 0x000

P1.1 電壓: 0v

R1 電壓: 0v

驗算  $N_{adc} = 4096 \times V_{in} / V_{cc}$

$$= 4096 \times V_{in} / 3.3$$

$$= 4096 \times 0 / 3.3$$

$$= 0$$

$$= 2^0$$

$$= 0x000$$

### 3. 暫存器觀測結果

ADCCTL0	0x0312	ADC Control 0 [Memory Mapped]
ADCCTL1	0x0200	ADC Control 1 [Memory Mapped]
ADCCTL2	0x0030	ADC Control 2 [Memory Mapped]
ADCLO	0x0000	ADC Window Comparator Low Threshold Register
ADCHI	0x0FFF	ADC Window Comparator High Threshold Register
ADCMCTL0	0x0001	ADC Conversion Memory Control Register [Memory Mapped]
ADCMEM0	0x0562	ADC Conversion Memory Register [Memory Mapped]
ADCIE	0x0001	ADC Interrupt Enable 0 [Memory Mapped]
ADCIFG	0x0002	ADC Interrupt Flag [Memory Mapped]
ADCIV	0x0000	ADC Interrupt Vector [Memory Mapped]
BKMEM		
CAPTIO		
CRC		
CS		
PA		
P1		
P1IV	0x0000	Port 1 Interrupt Vector Register [Memory Mapped]
P1IN	0x00	Port 1 Input [Memory Mapped]
P1OUT	0x36	Port 1 Output [Memory Mapped]
P1DIR	0x01	Port 1 Direction [Memory Mapped]
P1REN	0x00	Port 1 Resistor Enable [Memory Mapped]

Vr1 = 1.1v

Vr2 = 2.17v

Vp1.1 = 1.1v

驗算  $N_{adc} = 4096 \times V_{in} / V_{cc}$

$$= 4096 \times V_{in} / 3.3$$

$$= 4096 \times 1.1 / 3.3$$

$$= 1351$$

$$= 0x547$$