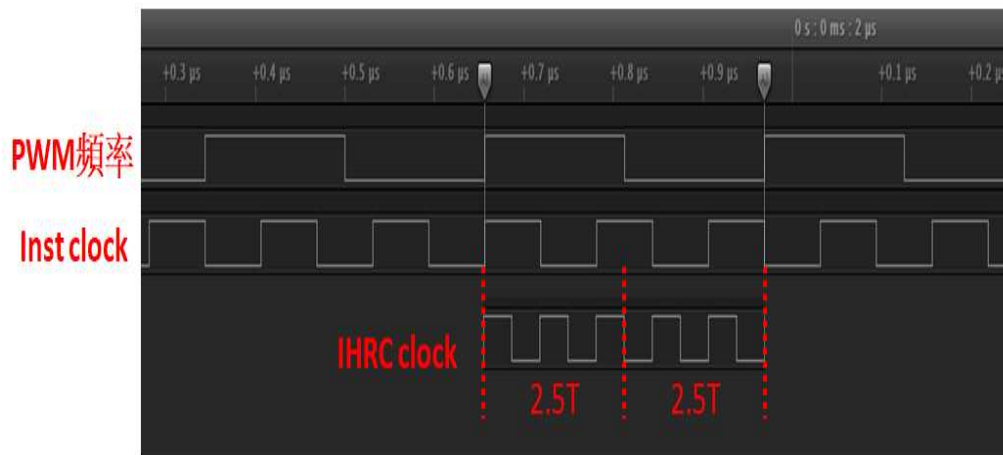


PWM3 half duty公式

- PWM3DUTY=2
- TMR3=4
- Duty公式= $\text{PWM3DUTY} + 0.5(\text{half duty}) / \text{TMR3} + 1$
 $= (2 + 0.5) / (4 + 1)$
 $= 2.5 / 5 = 50\%$



T3CR2 (Timer3 Control Register2)

Name	SFR Type	Addr.	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
T3CR2	S	0x12	-	PWM3D_1	T3CS	T3CE	/PS3EN	PS3SEL[2:0]		
R/W Property			-	W	R/W	R/W	R/W	R/W	R/W	R/W
Initial Value			X	0	1	1	1	1	1	1

T3CR1 (Timer3 Control Register1)

Name	SFR Type	Addr.	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
T3CR1	S	0x11	PWM3OEN	PWM3OAL	TM3 OE	-	TM3_HRC	T3OS	T3RL	T3EN
R/W Property			R/W	R/W	R/W	-	R/W	R/W	R/W	R/W
Initial Value			0	0	0	X	0	0	0	0

PWM3D_1: If TM3_HRC=0, PWM3D_1 is no use.

If TM3_HRC=1, PWM3D_1 = 1, PWM3DUTY extend to half Timer3 clock.

If TM3_HRC=1, PWM3D_1 = 0, PWM3DUTY keep original.

PWM3DUTY 擴展到 Timer3 時鐘的一半

PWM3 half duty注意事項

- T3CR2 設定 **PWM3D_1**，線路設計有double buffer，寫入此bit必須放在PWM3 Duty之前，此bit會隨PWM3 Duty一同Load

```

62
63     org     0x000
64     lgoto   Main
65
66     ORG     0x010
67 ;-----
68 Main:
69     movia   0xFF
70     IOST    APHCON
71
72     MOVIA   0x00 ; 0x00
73     IOST    IOSTB
74     MOVIA   0x00 ; 0xFB
75     IOST    IOSTA
76
77
78     movia   0x48
79     sfun    T3CR2
80     movia   0x00 ; TMR3_b9~8 is 1
81     movar   TMR3RH
82     movia   0x02
83     sfun    PWM3DUTY
84     movia   0x04 ; load timer 0xFF
85     sfun    TMR3
86     movia   0x8b
87     sfun    T3CR1
88
89 loop:
90     CLRWDT
91     lgoto   loop
92
93
94     end
    
```

T3CR2 (Timer3 Control Register2)

Name	SFR Type	Addr.	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
T3CR2	S	0x12	-	PWM3D_1	T3CS	T3CE	/PS3EN	PS3SEL[2:0]		
R/W Property			-	W	R/W	R/W	R/W	R/W	R/W	R/W
Initial Value			X	0	1	1	1	1	1	1

TM3RH (Timer3 High Byte Register)

Name	SFR Type	Addr.	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
TM3RH	R	0x1C	-	-	TMR39	TMR38	-	-	PWM3D9	PWM3D8
R/W Property			-	-	R/W	R/W	-	-	R/W	R/W
Initial Value			-	-	X	X	-	-	X	X

PWM3DUTY (PWM3 Duty Register)

Name	SFR Type	Addr.	Bit7	Bit6	Bit5	Bit4	Bit3	Bit2	Bit1	Bit0
PWM3DUTY	S	0x13	PWM3DUTY[7:0]							
R/W Property			W							
Initial Value			XXXXXXXX							

PWM3 half duty注意事項

- 正常使用下，PWM duty小於等於TMR值
- PWM Duty > TMR輸出無法保證結果
- 設定PWM3D_1 =1， PWM Duty =1， TMR=0(不合法的情況)



```
movia 0x01  
sfun PWM3DUTY  
movia 0x00  
sfun TMR3
```

