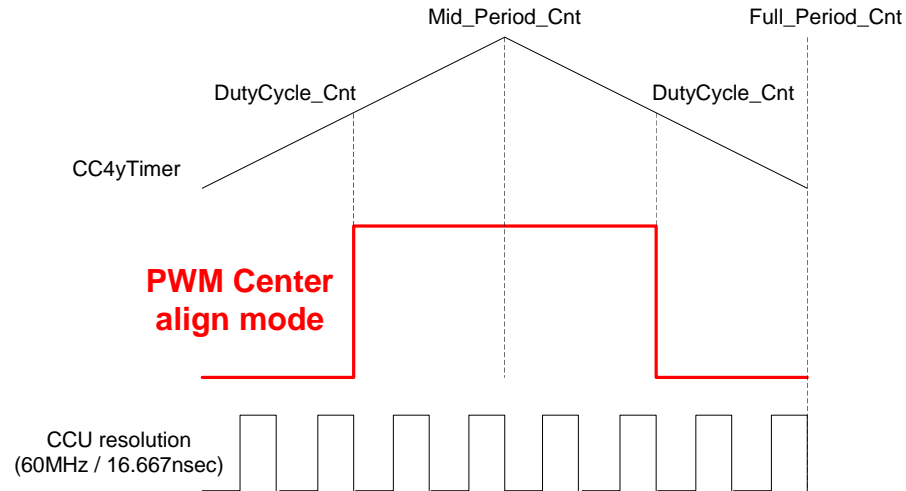


Eg. Required PWM frequency is 1.5Khz (Period = 666.667usec) at 50% duty cycle.



Step1: Calculate Timer Period Value for 666.667usec

$$\begin{aligned}\text{Full_Period_Cnt} &= \text{PWM_Period} / \text{CCU_Resolution_Period} \\ &= 666.667\text{usec} / 16.667\text{nsec} \\ &= 40000\end{aligned}$$

$$\begin{aligned}\text{Mid_Period_Cnt} &= \text{Full_Period_Cnt} / 2 \\ &= 40000 / 2 \\ &= 20000\end{aligned}$$

Therefore, Timer Period Value (CC4yPR)

$$\begin{aligned}\text{CC4yPR} &= \text{Mid_Period_Cnt} - 1 \\ &= 20000 - 1 \\ &= \underline{\underline{19999 \text{ or } 0x4E1F}}\end{aligned}$$

Step 2: Calculate Timer Compare value for Duty cycle of 50%

$$\begin{aligned}\text{DutyCycle_Cnt} &= (\text{Full_Period_Cnt} \times \text{Duty cycle\%}) / 2 \\ &= (40000 \times 50\%) / 2 \\ &= 10000\end{aligned}$$

Therefore, Timer Compare Value (CC4yCR)

$$\begin{aligned}\text{CC4yCR} &= \text{DutyCycle_Cnt} - 1 \\ &= 10000 - 1 \\ &= \underline{\underline{9999 \text{ or } 0x270F}}\end{aligned}$$