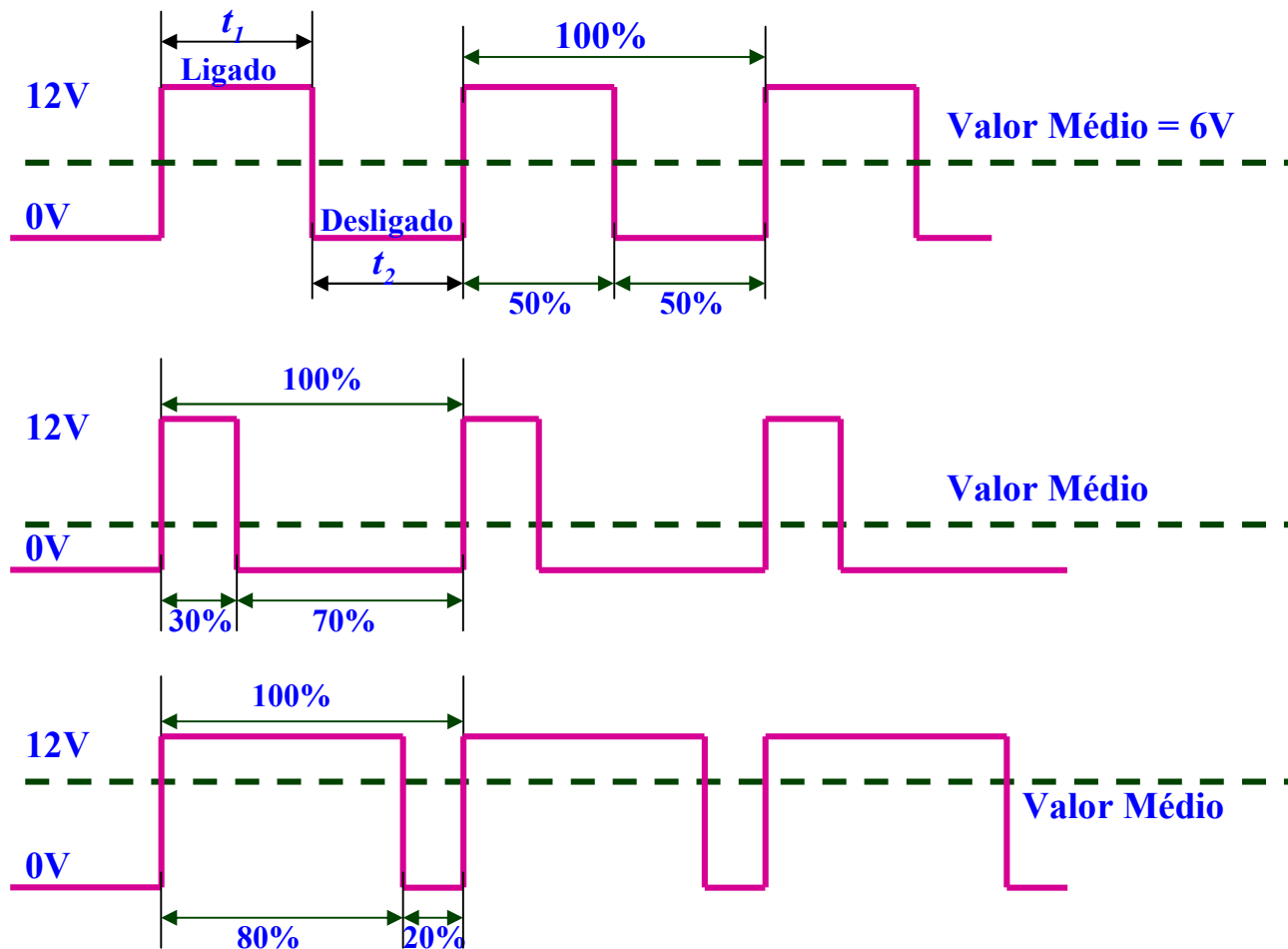


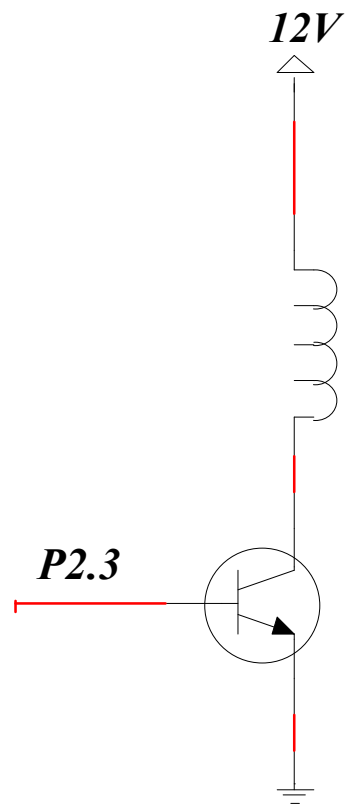
**Exercício:** Escrever um programa para controlar a velocidade de um motor DC através de PWM.

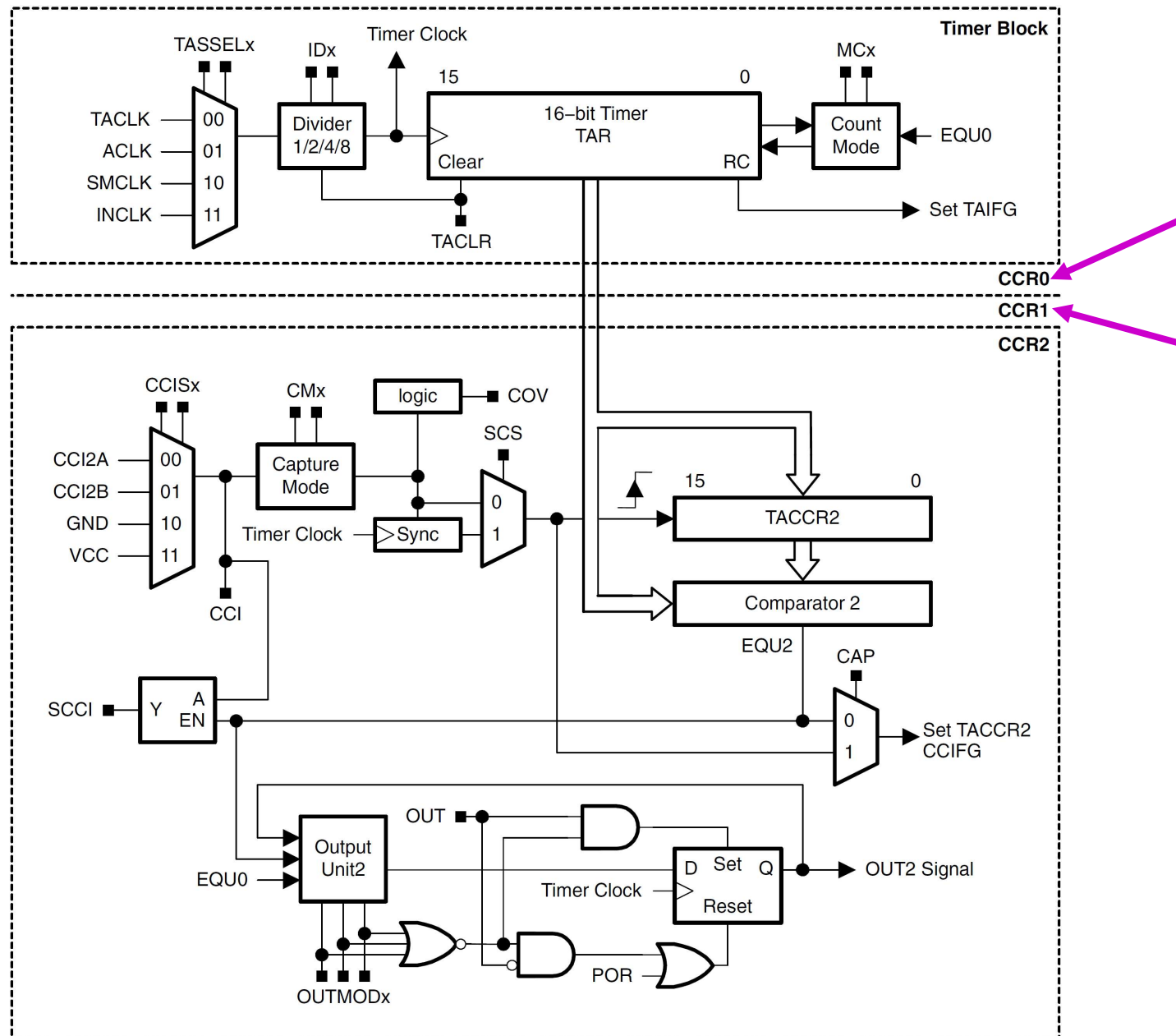
- Utilizar o *Timer1\_A* para gerar o PWM
- Frequencia do *DCO* = 16MHz

### *PWM: Pulse Width Modulation*

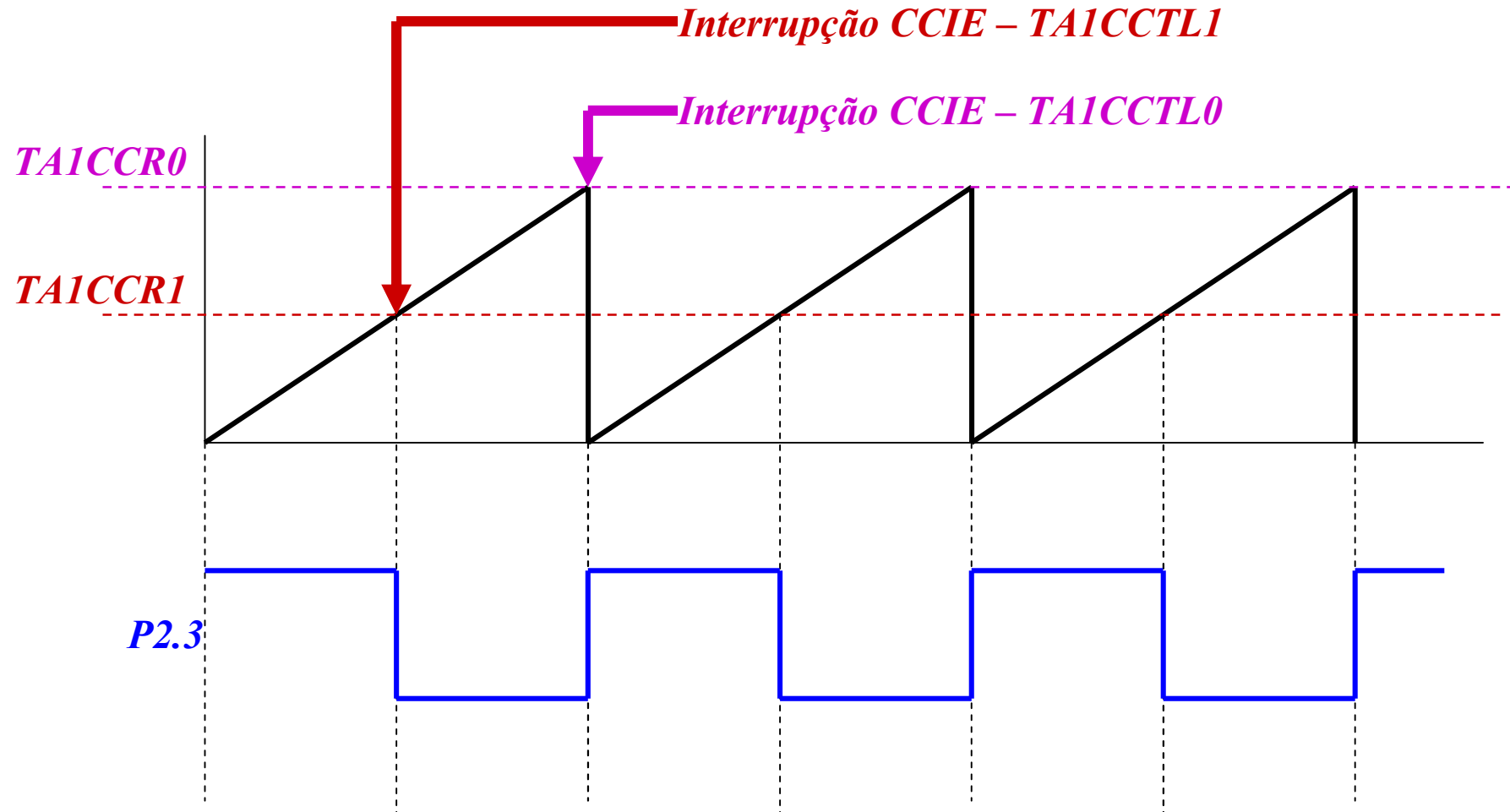


### *Acionamento do Motor*

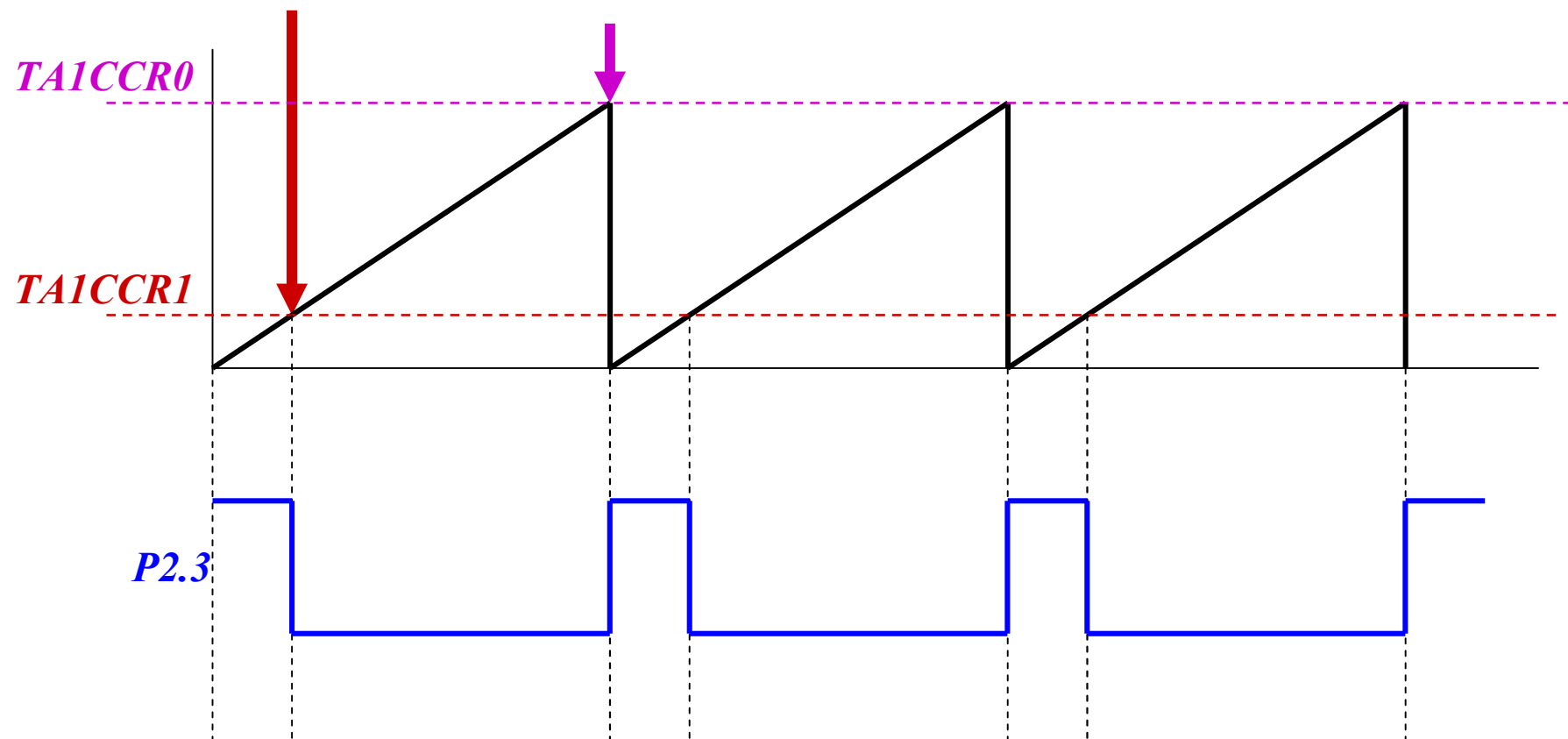




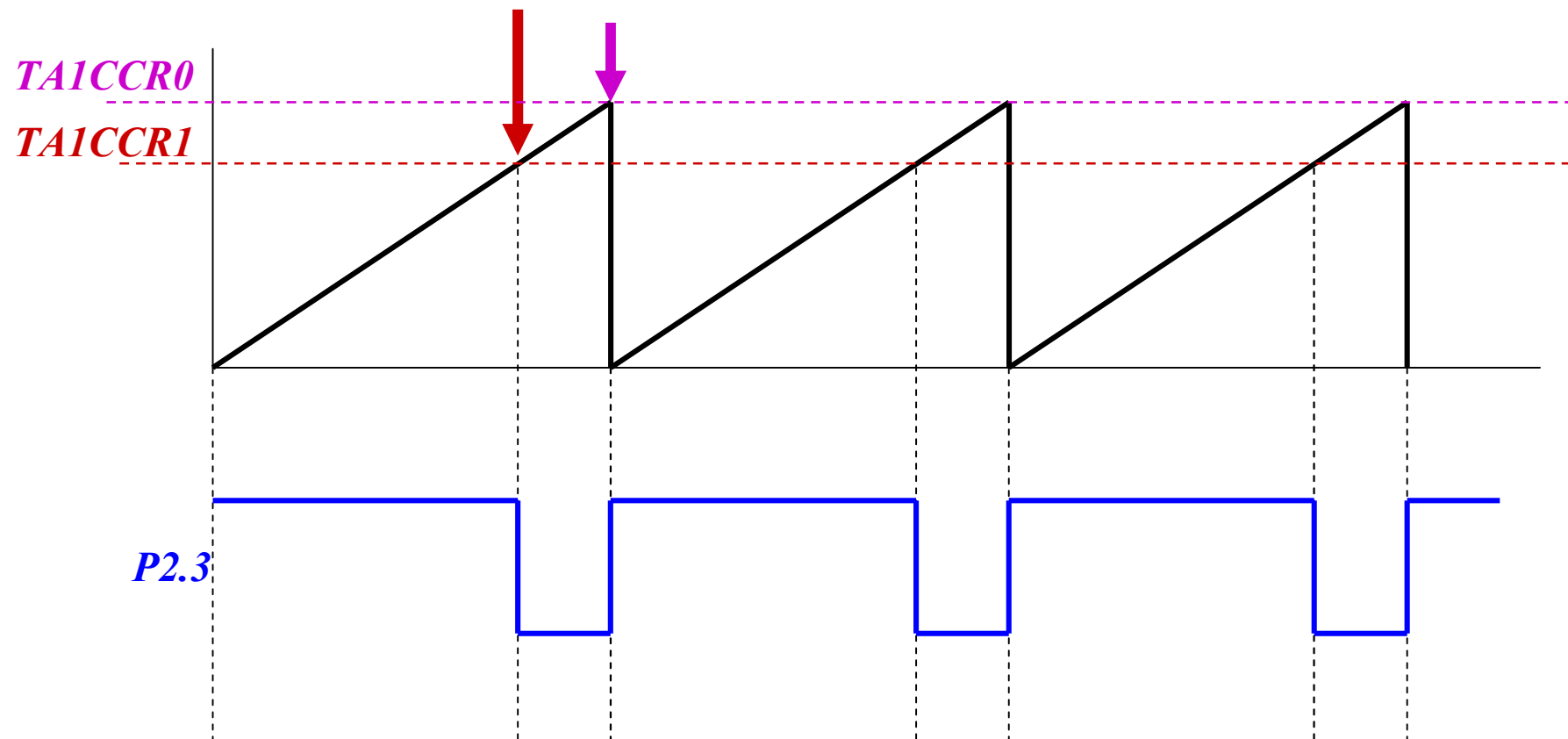
### Geração de *PWM* através do *Timer1\_A* – *UP Mode*



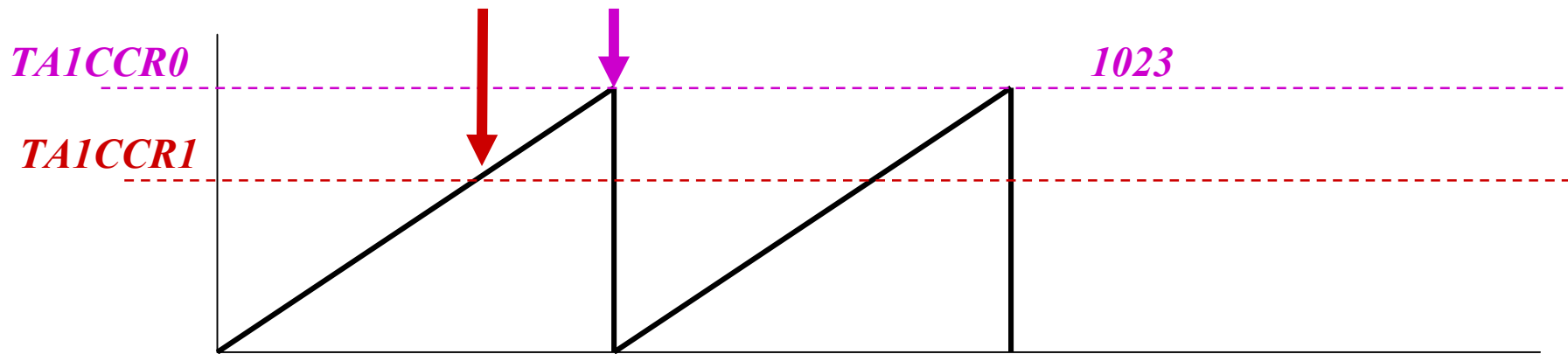
**Geração de *PWM* através do *Timer1\_A* – *UP Mode***



Geração de *PWM* através do *Timer1\_A* – *UP Mode*



### Geração de *PWM* através do *Timer1\_A* – *UP Mode*

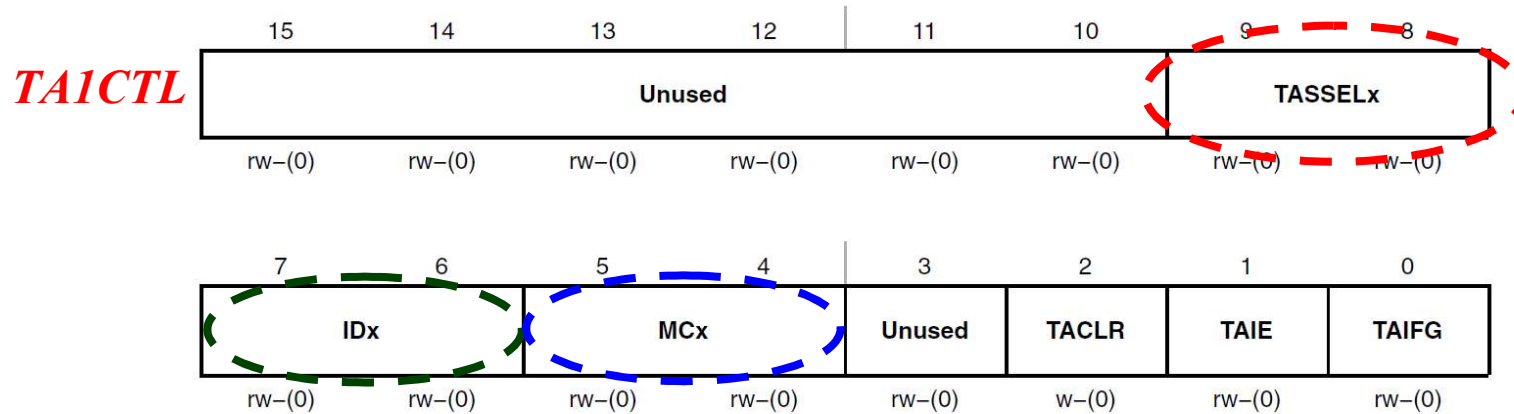


*TA1CCR1*: Iniciar com 250

*A cada interrupção do pino P1.3 seguir a sequencia  
500/1000/250/500/1000...*



### TACTL, Timer\_A Control Register



**Unused** Bits 15-10

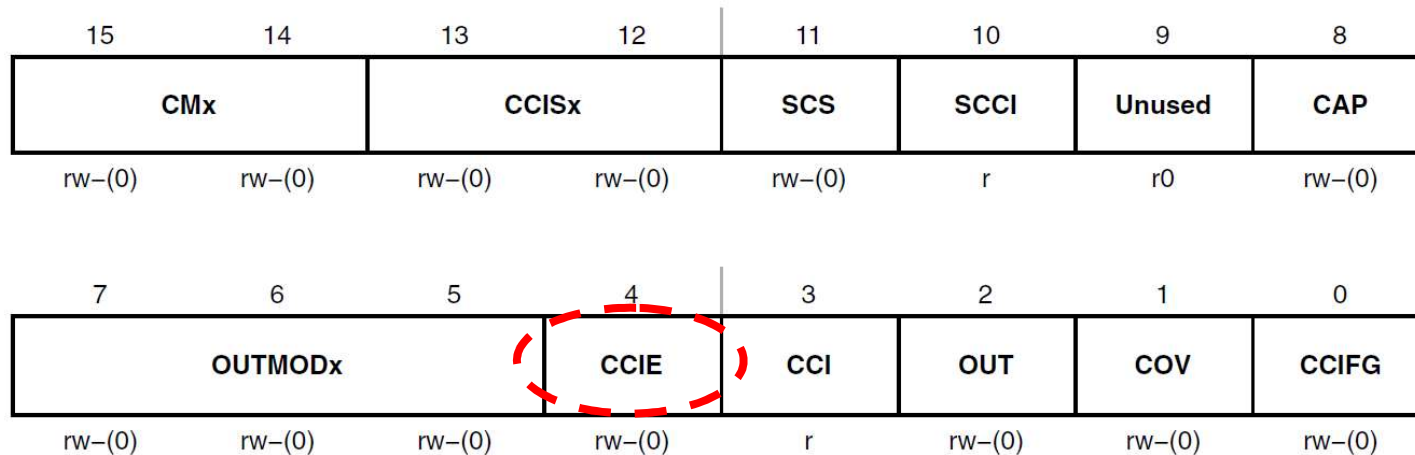
**TASSELx** Bits 9-8  
 Timer\_A clock source select  
 00 TACLK  
 01 ACLK  
 10 SMCLK  
 11 INCLK

**IDx** Bits 7-6  
 Input divider. These bits select the divider for the input clock.  
 00 /1  
 01 /2  
 10 /4  
 11 /8

**MCx** Bits 5-4  
 Mode control. Setting MCx = 00h when Timer\_A is not in use conserves power.  
 00 Stop mode: the timer is halted.  
 01 Up mode: the timer counts up to TACCR0.  
 10 Continuous mode: the timer counts up to 0FFFFh.  
 11 Up/down mode: the timer counts up to TACCR0 then down to 0000h.

TACCTLx, Capture/Compare Control Register

*TA1CCTL0*



TACCTLx, Capture/Compare Control Register

*TA1CCTL1*

