



Firmware Disclaimer Information

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ATM PWM output说明

在 PWM (pulse width modulation, PWM) 输出模式下，可输出 Duty、Period 可调的 PWM 波形。PWM 输出是对模拟电路进行控制的一种非常有效的技术，广泛应用于测量、通信、功率控制等领域。

在 PWM 输出模式下，TM 功能引脚的功能说明如下表。

引脚名称(n为TM 编号)	功能
ATCKn	输入引脚，外部时钟输入，可作为 ATM 的时钟源
ATPn	输出引脚，根据设定输出指定 PWM 信号
ATPnB	输出引脚，ATPn的反向输出

example 说明

此范例演示了 ATM 的 PWM 模式的使用

```
#define ATM_BITS 10
```

```

#if ATM_BITS == 10
    #define COUNT_MAX 1024
#elif ATM_BITS == 16
    #define COUNT_MAX 65536
#endif

ATM_Cfg_PWM_t cfg;
if (cfg.ccrpData == 0){
    period = COUNT_MAX;
}
else{
    period = cfg.ccrpData*4;
}
duty = cfg.ccraData;

```

程序说明

1. config sys clock

ATM clock 来自系统时钟，因此系统时钟一定要配置正确

2. config ATM to pwm output mode

- 范例设置：clockSource(Fsys/4), outputMode = ATM_PWM_OUTPUT_PWM_ACTIVE_H, CCRA = 50, CCRP = 200
- 若系统频率为12MHz
 - Pwm 频率 = $(F_{sys}/4)/(200*4) = 3.75\text{Khz}$
 - duty = $50 / (200*4) = 6.25\%$

3. config output pin

4. enable ATM

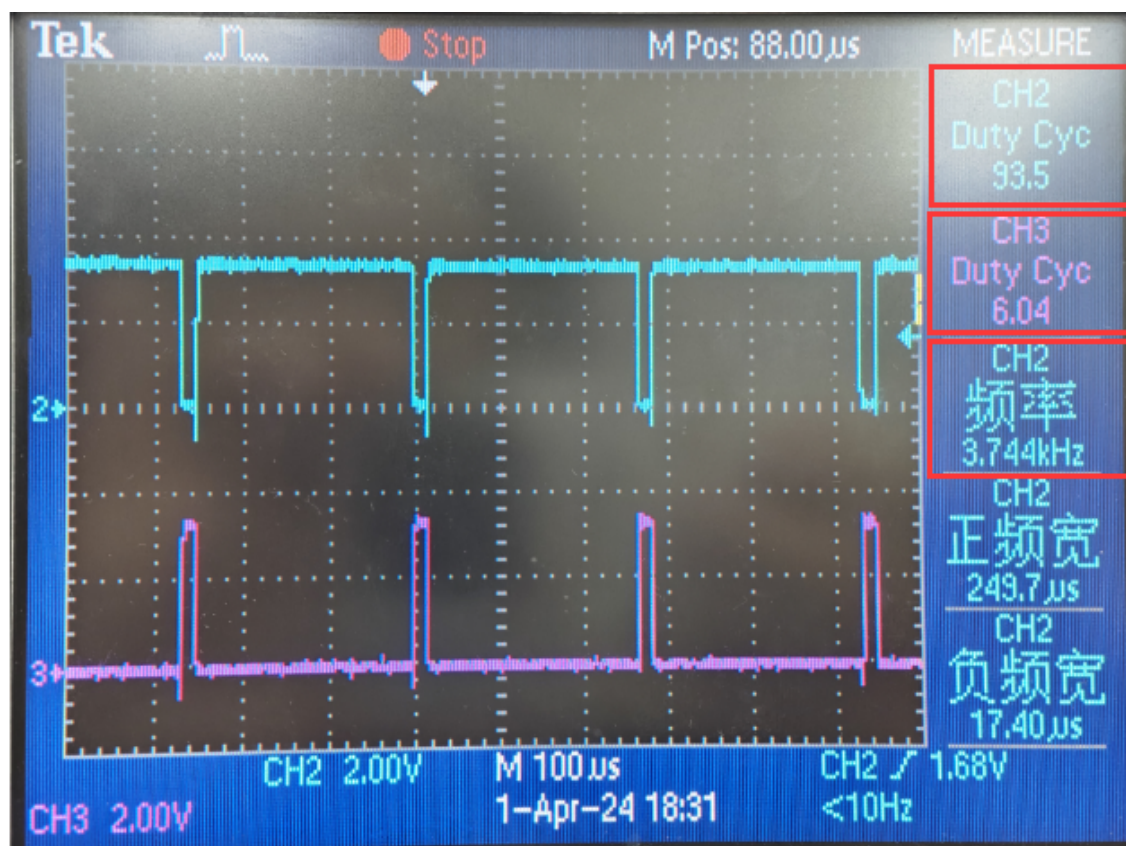
5. enable Interrupt : Non-required

根据需求设定

现象说明

连接 e-link 和目标板，将程序下载到 MCU 并运行

通过示波器测量 ATPn 或者 ATPnB 即可看到对应的输出波形



FAQ