

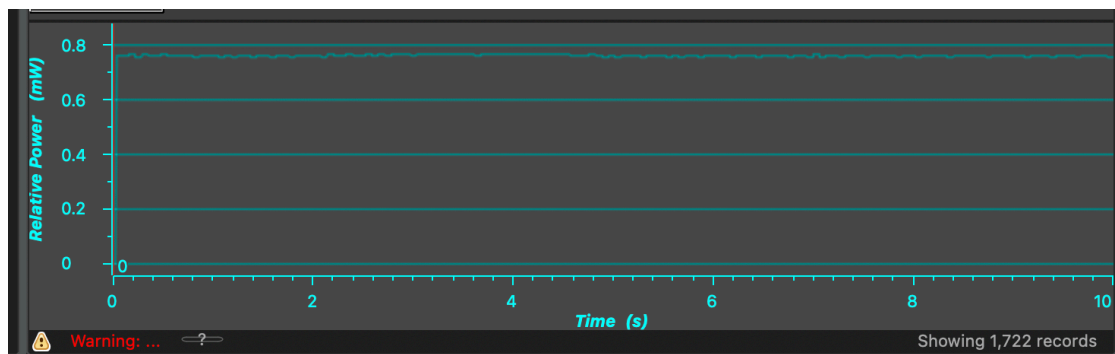
HW4

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1. 觀察初始化的暫存器值

Name	Value	Description
> CAPTIO		
> CRC		
> CS		
> PA		
> P1		
> P1IV	0x0000	Port 1 Interrupt Vector Register [Memory Mapped]
> P1IN	0x08	Port 1 Input [Memory Mapped]
> P1OUT	0xDA	Port 1 Output [Memory Mapped]
> P1DIR	0x01	Port 1 Direction [Memory Mapped]
> P1REN	0x08	Port 1 Resistor Enable [Memory Mapped]
> P1SEL0	0x00	Port 1 Select 0 [Memory Mapped]
> P1SEL1	0x00	Port 1 Select 1 [Memory Mapped]
> P1SELC	0x00	Port 1 Complement Select [Memory Mapped]
> P1IES	01001101b (Binary)	Port 1 Interrupt Edge Select [Memory Mapped]
> P1IE	00001000b (Binary)	Port 1 Interrupt Enable [Memory Mapped]
> P1IFG	00000000b (Binary)	Port 1 Interrupt Flag [Memory Mapped]
> P2		
> PB		
> P3		
> P4		

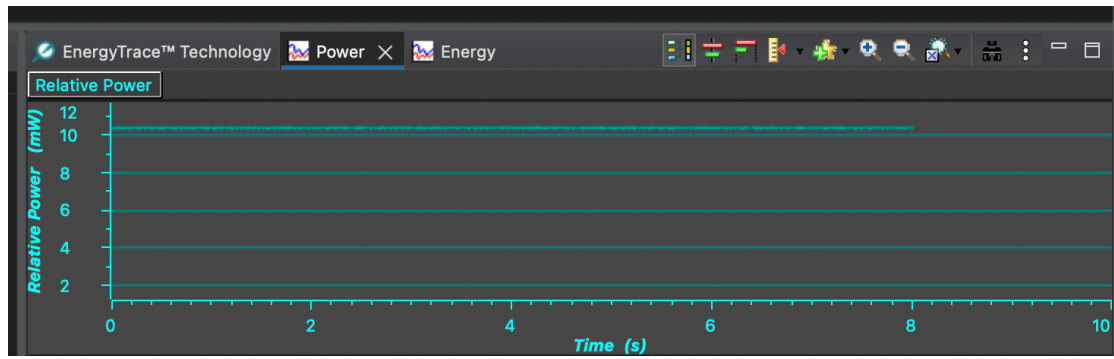
進入低功耗模式的功率消耗



2. 觀察進入中斷服務程式的暫存器

> PA		
> P1		
> P1IV	0x0008	Port 1 Interrupt Vector Register [Memory Mapped]
> P1IN	0x00	Port 1 Input [Memory Mapped]
> P1OUT	0xDA	Port 1 Output [Memory Mapped]
> P1DIR	0x01	Port 1 Direction [Memory Mapped]
> P1REN	0x08	Port 1 Resistor Enable [Memory Mapped]
> P1SEL0	0x00	Port 1 Select 0 [Memory Mapped]
> P1SEL1	0x00	Port 1 Select 1 [Memory Mapped]
> P1SELC	0x00	Port 1 Complement Select [Memory Mapped]
> P1IES	0x4D	Port 1 Interrupt Edge Select [Memory Mapped]
> P1IE	0x08	Port 1 Interrupt Enable [Memory Mapped]
> P1IFG	0x08	Port 1 Interrupt Flag [Memory Mapped]
> P2		

離開中斷服務程式並且離開 LMP3 的功率消耗



3. 計算 R_{int}

$$V_{p1.3} = (R_1 / (R_1 + R_{int})) * V_{cc}$$

$$R_1 = 1k$$

$$V_{cc} = 3.3v$$

$$V_{p1.3} = 0.74$$

$$\text{Then } R_{int} = 3.3k$$