

MPLAB X IDE v5.45

PIC32MM0064GPL028

MPLAB X IDE 5.45

MPLAB X IDE



PC USB

Tool

PICkit3



Project Name Project Location

Project Folder Project Name + .X



PICkit3



PIC32MM0064GPL028L

(

☐GIMP☐ -

PIC32MM0064GPL028 + ST7735 - -
GIMP

PaintShop Pro(PSP)

 GIMP

 Gimp

 GIMP

□□GIMP□□□□□□□□□□



`XXXXXXXXXXXXGIMPXXXXXXXXXX`

128×128□□□□□□□□□□

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[illegible][illegible]

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□□128×128□□□□□



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[illegible][illegible]

C□□□□□□□□□□

PSP
 BMP



PSP[0x28] = 40 GIMP[0x6C] = 108
 [0x40]
 [0x40]
 [0x40]

1.44 PIC32MM0064GPL028 + ST7735
 -
 -

PIC32MM0064GPL028 + MCC

```

#####
#####
#####
#####Arduino Nano 4MHz#####
[crayon-671748d0e87ab628425260/]
#####
#####11MHz#####
#####S0SCI#####
Secondary Oscillator (S0SC) on the S0SCI and S0SCO pins
#####
#####External Clock Input Operation#####0SC1#####
#####Nano 11PIC 0SC1PIC#####

```

```

(2020/03/06)
Arduino findstr
[crayon-671748d0e87b5918711240/]

```

328p Nano
[crayon-671748d0e87b7754806737/]
[crayon-671748d0e87b9420760305/]
XC
TCCR2Abits.WGA21 = 1;
TCCR2Abits.COM2A0 = 1;

PIC32MM0064GPL028 + MCC CeraLock

PIC32 Family Reference Manual Section 6. Oscillators



Primary Oscillator(P0SC)OSC1OSC2



MCCOSC2910

Timer1L
L



System ClockCLK0/OSC2(1)



50%
REFCLK0(2)26



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□□□MCC□□□□ [] □□□□□□□□□□□□□□□□

FRC Oscillator (8.0 MHz) Clock Source [Internal Fast RC (FRC) oscillator]

Primary Oscillator (3.5 MHz – 25 MHz) Clock Source [Primary Oscillator (SOSC) on the OSC1 and OSC2 pins]

External Clock (2 MHz – 25 MHz) Clock Source [Secondary Oscillator (SOSC) on the S0SCI and S0SC0 pins]

```
LPRC Oscillator (32 kHz) Clock Source [Internal Low-Power RC
(LPRC) Oscillator]
```

Primary Secondary

PIC32MM0064GPL028

[illegible]

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```
TMR1 : 8kHz(125us) blinkound();
```

```
blinksound();
```

CCP1RB

											TMR1				
--	--	--	--	--	--	--	--	--	--	--	------	--	--	--	--

MCCP1 : 62.5kHz CCP1RB

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ PWM ☐ ☐ ☐ ☐

```
SCCP2 : 2Hz blink(); blinkstart();
```

```
blink();
```

□□□□LED□□□□□□

```

void blinksoundstart();
//TMR1
SCCP3 : 8kHz; hornsound1(); hornsound3();
//
void hornsound1();
//CCP1RB
//
void hornsound2();
//CCP1RB
//SW
//
void hornsound3();
//CCP1RB
//SCCP2

//
//
//SCCP2 16bit x SCCP3
//SCCP3

//SCCP3 PWM
//PIC32MM0064GPL028 MCCP PWM SCCP PWM
//

//
TMR1 : 8kHz(125us); blinksound();
void blinksound();
//CCP1RB
//TMR1
MCCP1 : 62.5kHz; CCP1RB
//PWM
SCCP2
//Primary : 2Hz; blink(); blinksoundstart();
//blink();
//LED
//blinksoundstart();
//TMR1
//Secondary : 8kHz; hornsound1(); hornsound3();

```

```

// 初始化喇叭驱动
void InitHornSound()
{
    // 配置 CCP1RB 寄存器
    CCP1RB = 0x0000;
    // 配置 hornSound1 函数
    hornSound1();
    // 配置 hornSound2 函数
    hornSound2();
    // 配置 hornSound3 函数
    hornSound3();
    // 配置 SCCP2 寄存器
    SCCP2 = 0x0000;
    SCCP3 : 0x0000;

    // 配置 SCCP3 寄存器
    SCCP3 = 0x0000;
    // 配置 2Hz 频率
    2Hz = 32bit;
}

// 初始化 SCCP3 寄存器
void InitSCCP3()
{
    SCCP3 = 0x0000;
}

```

PIC32MM0064GPL028 MCCP PWM

SCCP PWM

MPLAB X IDE v5.10

XC32 v2.15

MCC v3.75

配置 MCC 寄存器

PIC32MM0064GPL028 MCCP PWM

PIC32MM0064GPL028

PIC32MM0064GPL028

PIC32MM0064GPL028 -

配置 SCCP PWM

MCCP

SCCP2

MCC0CAENDisabled

sccp2_compare.c void SCCP2_COMPARE_Initialize (void){}

CCP2CON2bits.OCAEN = 1;



MCCRegisters



MCCP1SCCP2MCCP1

SCCP2L

MCC

MicrochipForum



MCCP1CCP1CON2OCAENOCFENOCM1AOCM1F

SCCP2CCP2CON2OCAENOCM2

SCCPOCBENOCFEN

MCCSCCPDisabled

PIC32MM0064GPL028SCCP16bit

定时器的配置

PIC32MM0064GPL028的SCCP和MCCP寄存器配置
SCCP寄存器16bit×寄存器配置

8kHz和2Hz寄存器配置
8KHz和2Hz寄存器配置



SYSCLK 16MHz寄存器配置

(1) Timer Mode 16bit寄存器配置

2寄存器16bit寄存器配置

(2) Prescaler 1:16寄存器配置

寄存器配置

(3) Secondary Timer Period 0x7D(125)寄存器配置

寄存器配置

$16000000 \div 16 \div 125 = 8000$

8kHz寄存器配置

(4) Primary Timer Period 0xFFFF寄存器配置

Output Properties寄存器配置

寄存器配置

寄存器配置

(5) Event Duration 7th Time Base Period Match寄存器配置

寄存器配置

$16000000 \div 16 \div 65535 \div 7 = 2.18$

寄存器配置

Event Duration 16寄存器配置

2Hz寄存器配置

sccp2_tmr.c寄存器配置



Primary Secondary寄存器配置

寄存器配置

Primary CCT2 Secondary CCP2寄存器配置



PIC32MM0064GPL028

PIC32MM0064GPL028
PIC32MM0064GPL028
PIC32MM0064GPL028



Arduino PWM
L
PWM
PWM

PIC32MM0064GPL028
PIC32MM0064GPL028
PIC32MM0064GPL028
PIC32MM0064GPL028
PIC32MM0064GPL028
PIC32MM0064GPL028

PIC32MM0064GPL028
PIC32MM0064GPL028

PIC32MM0064GPL028
PIC32MM0064GPL028
PIC32MM0064GPL028 135us



16MHz
 $16000000 \div (1 \div 0.000135) = 2169$
PIC32MM0064GPL028
PIC32MM0064GPL028 163ms 87ms 87ms 119ms
PIC32MM0064GPL028 PIC32MM0064GPL028
PIC32MM0064GPL028 163ms 87ms 118ms

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$$16\text{MHz} \div 64 \div 0 \times 1\text{E}848 = 2\text{Hz}$$


TMR1

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125us=8kHz=□□□□□□□□□□□□□□



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main.c



sccp2_tmr.c



tmr1.c



```
main.c  MCC
```

PIC32MM0064GPL028 - -