

Мікропроцесорна техніка

(лекція 2)

Благітко Б.Я.
2019 р.

PSoC Creator 4.2
Designing with PSoC 3/5



PSoC@3/5 PWM

PSoC Creator 4.2
Designing with PSoC 3/5



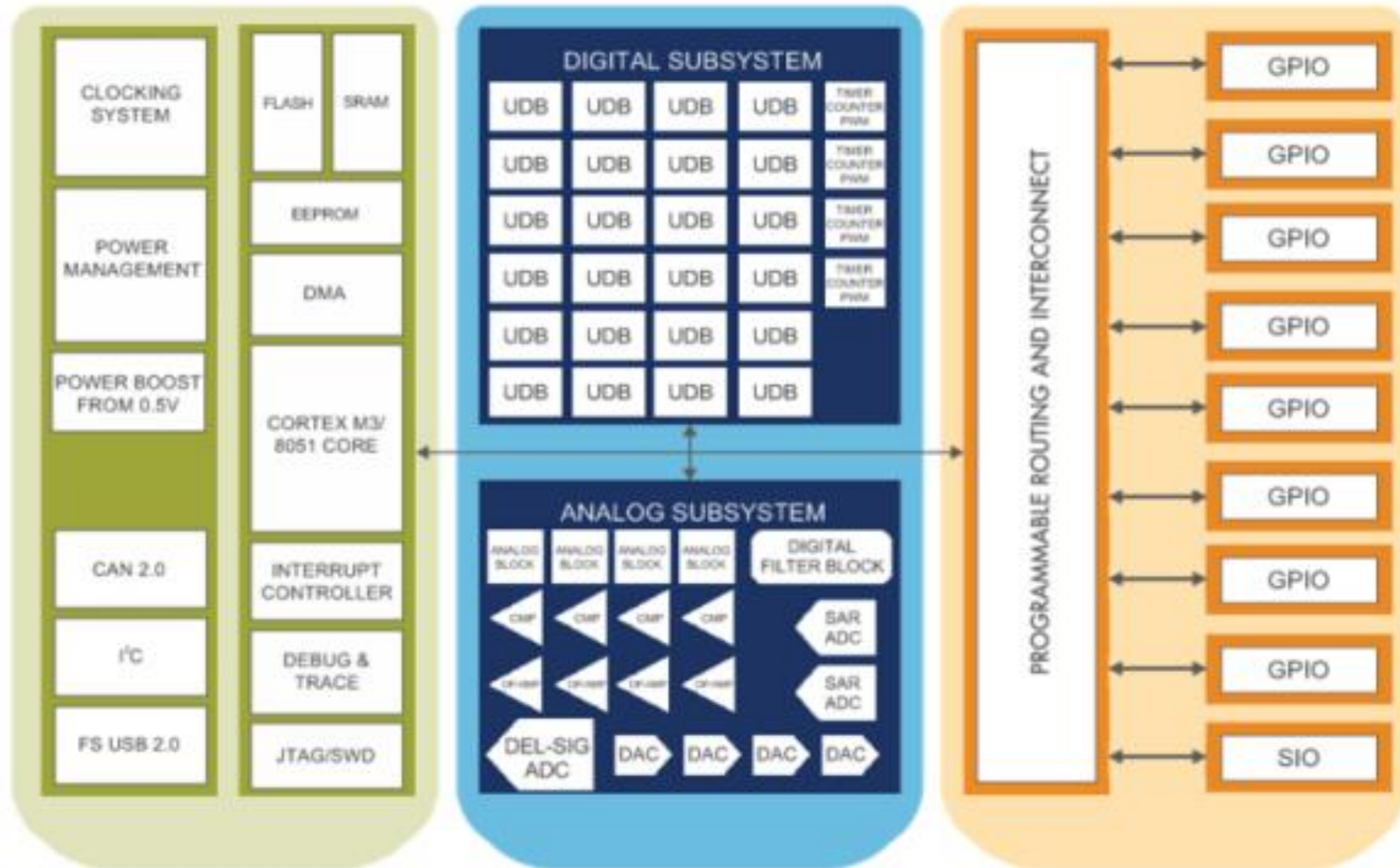


Figure 1-1. Simplified Block Diagram

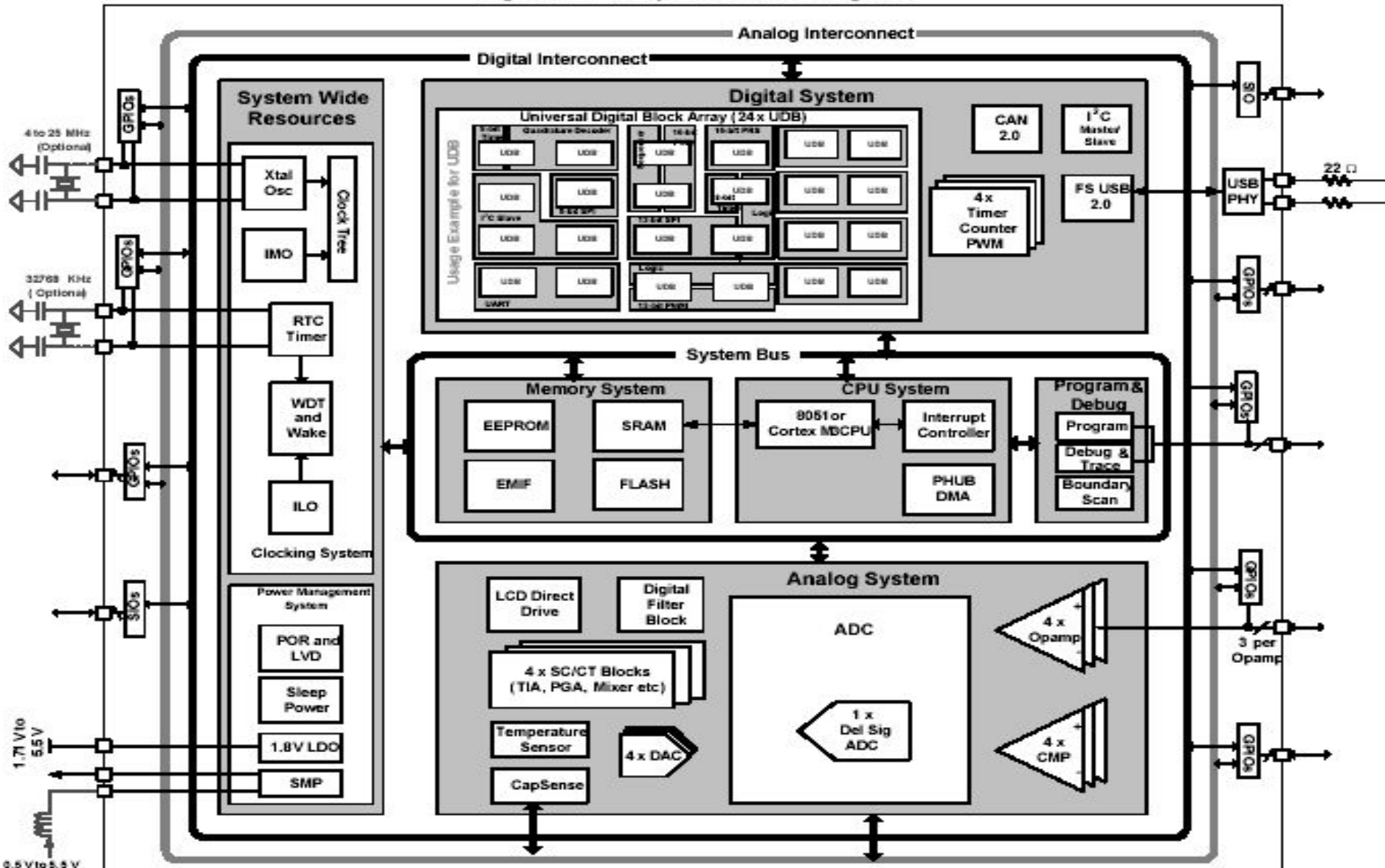


Figure 7-1. CY8C38 Digital Programmable Architecture

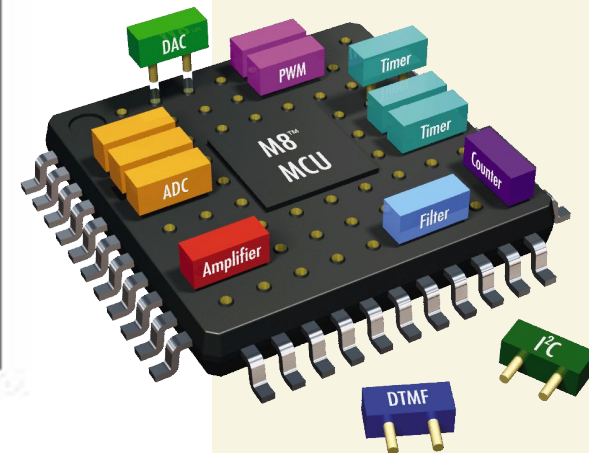
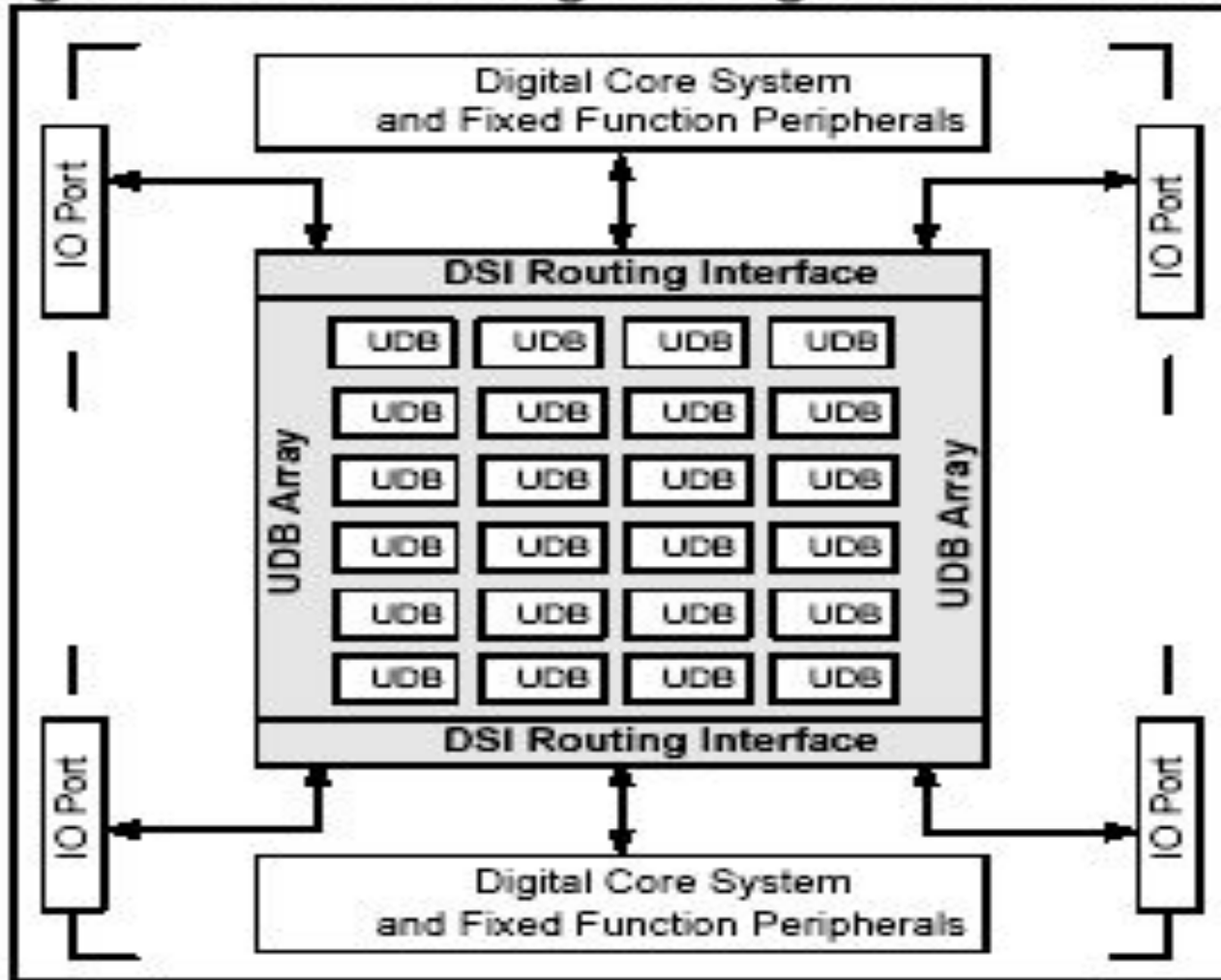


Figure 7-3. Component Catalog

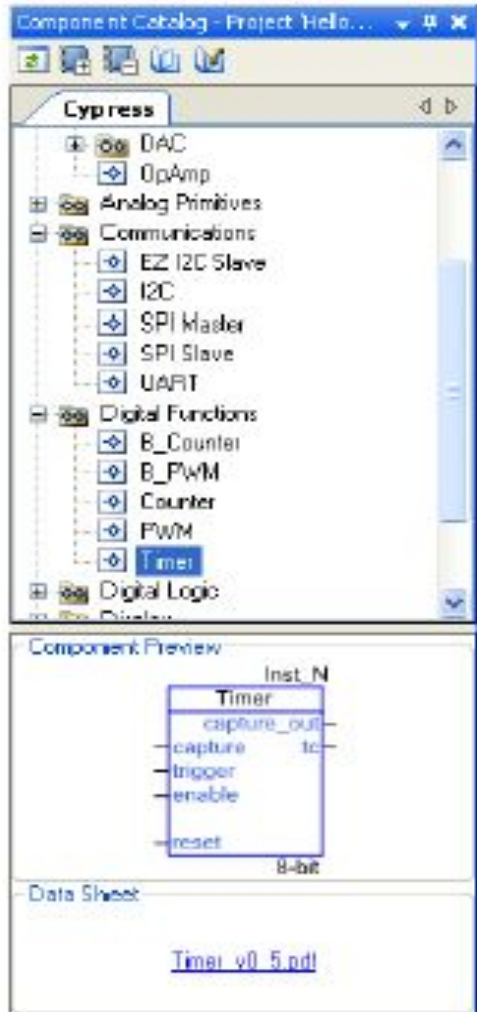
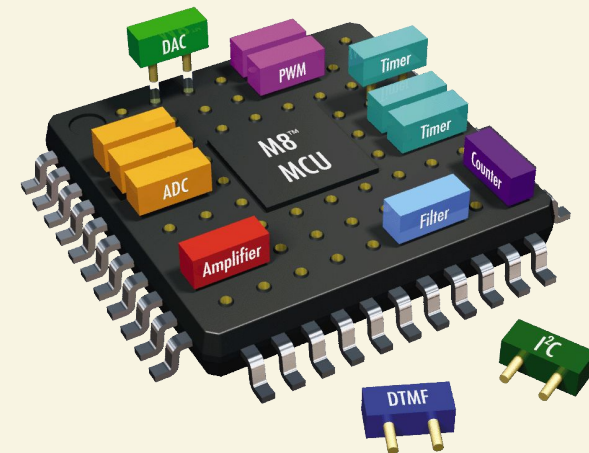
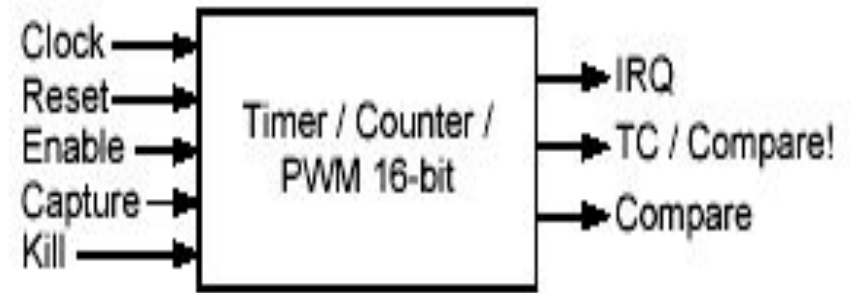


Figure 7-21. Timer/Counter/PWM





PWMs, Timers and Counters

PWMs, Timers and Counters share many capabilities but each provides specific capabilities.

When to Use a PWM

The most common use of the **PWM** is to generate periodic waveforms with adjustable duty cycles. The PWM also provides optimized features for power control, motor control, switching regulators and lighting control. The PWM can also be used as a clock divider by driving a clock into the clock input and using the terminal count or a PWM output as the divided clock output.

When to Use a Counter

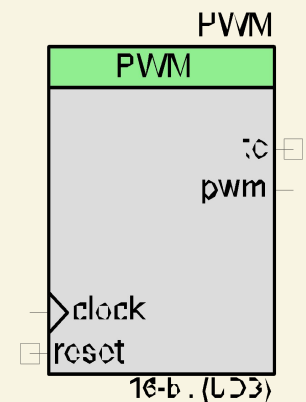
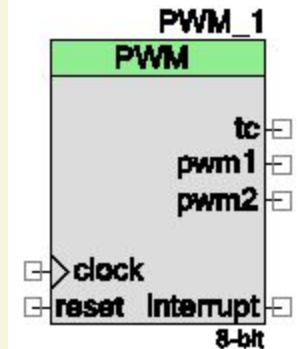
A **Counter** component is better used in situations that require the counting of a number of events but also provides rising edge capture input as well as a compare output.

When to Use a Timer

A **Timer** component is better used in situations focused on timing the length of events, measuring the interval of multiple rising and/or falling edges, or for multiple capture events.

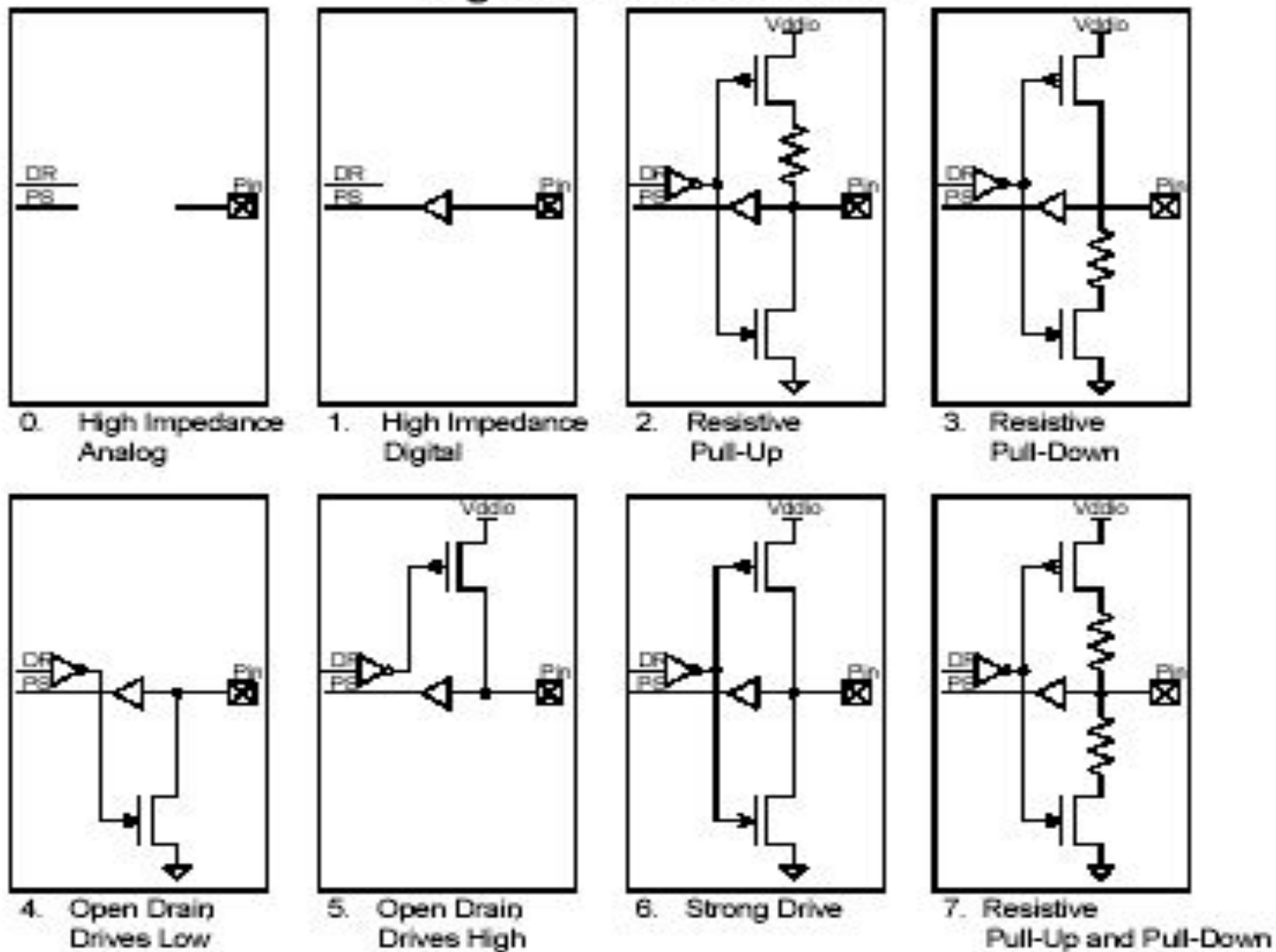
PWM

Output	May Be Hidden	Description
tc	N	The terminal count output is '1' when the period counter is equal to zero. In normal operation this output will be '1' for a single cycle where the counter is reloaded with period. If the PWM is stopped with the period counter equal to zero then this signal will remain high until the period counter is no longer zero. This output is synchronized to the block clock input of the component.
interrupt	Y	The interrupt output is the logical OR of the group of possible interrupt sources. This signal will go high while any of the enabled interrupt sources are true. The interrupt output shall remain asserted until the Status Register is read out by the software. In order to receive subsequent interrupts, the interrupt shall be cleared by reading the Status Register using the PWM_ReadStatusRegister() API. The interrupt output is not visible if the Use Interrupt parameter is not set. This allows the status register to be removed for resource optimization as necessary.
pwm/pwm1	Y	The pwm or pwm1 output is the first or only pulse width modulated output. This signal is defined by PWM Mode, compare modes(s), and compare value(s) as indicated in waveforms in the Configure dialog. When the instance is configured in one output, Dual Edged, Hardware Select, Center Aligned, or Dither PWM Modes, then the output "pwm" is visible. Otherwise the output "pwm1" is visible with "pwm2" the other pulse width signal. This output is synchronized to the block clock input of the component.



Port's Pins

Figure 6-11. Drive Mode



PSoC Creator 2.1

File Edit View Debug Project Build Tools Window Help

Workspace Explorer

Source Components Datasheets Results

Start Page

PSoC® Creator™

Recent Projects

- HelloWorld_Blinky01.cywrk
- CapSense_CSD_Design01...
- CapSense_CSD_Design01...
- CharLCD_CustomFont01.c...
- CharLCD_CustomFont01.c...

Create New Project...

Open Existing Project...

Getting Started

- PSoC Creator Start Page
- Quick Start Guide
- Intro to PSoC
- Intro to PSoC Creator
- PSoC Creator Training
- Help Tutorials
- Getting Started With PSoC 3
- Getting Started With PSoC 5

Examples and Kits

- Find Example Project...
- No Kit Packages Installed

简体中文 日本語 한국어 English

PSoC Creator News and Information

Happy Lunar New Year!

Posted on 02/11/2013

Gong Xi Fa Cai! As many of my friends and colleagues are celebrating the New Year and welcoming in the year of the water snake, I wanted to take a minute and wish you all well. May the New Year bring each of you prosperity, good luck and a new PSoC design.

[Read More](#)

Tips + Tricks: Menu Customization

Posted on 01/24/2013

Did you know you can create a customized menu in PSoC® Creator? Right click in a blank area of the top menu and select customize from the

Help

5% Debug

Notice List

0 Errors 0 Warnings

De... File Error L

Output

Show output from: All

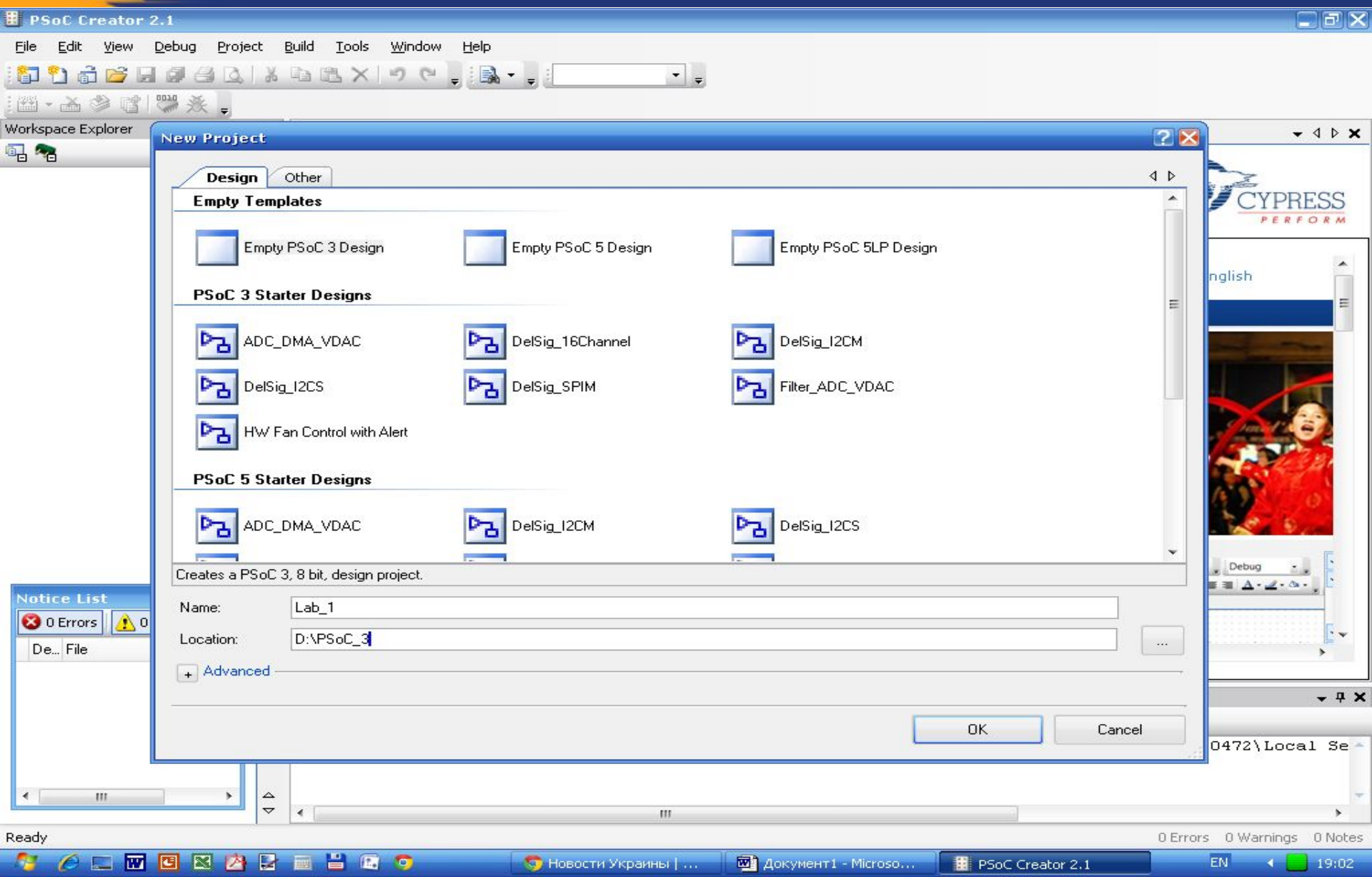
Log file for this session is located at: C:\Documents and Settings\Admin.MICROSOFT-7D0472\Local Se

Ready

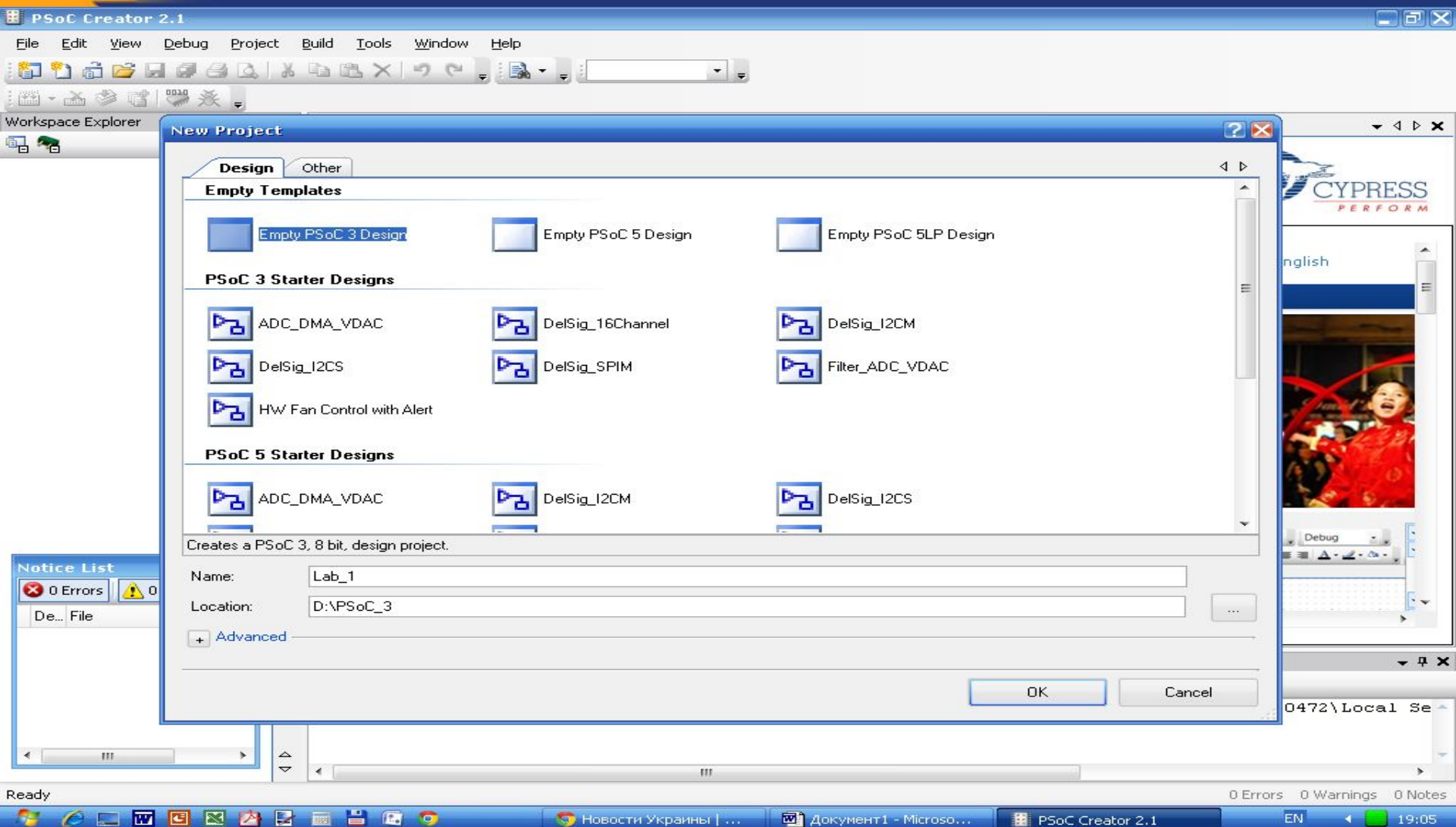
0 Errors 0 Warnings 0 Notes

Новости Украины | ... Документ1 - Microso... PSoC Creator 2.1 EN 18:57

File – New - Projekt



Empty PSoC 3 Design



Lab_2 PWM

CharLCD_CustomFont01 - PSoC Creator 2.1 [F:\...\CharLCD_CustomFont01.cydsn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

117% Debug

Microsoft Sans Serif 10 B I U

Workspace Explorer (1 project)

Project 'CharLCD_CustomFont01'

- TopDesign.cysch
- CharLCD_CustomFont01
 - Header Files
 - device.h
 - Source Files
 - main.c
 - Generated_Source
 - PSoC3
 - cy_boot
 - CyBootAsmk
 - CyDmac.c
 - CyDmac.h
 - CyFlash.c
 - CyFlash.h
 - CyLib.c
 - CyLib.h
 - cymem.a51
 - cypins.h

Source Components Datasheets Results

Start Page TopDesign.cysch CharLCD_Cust...Font01.cydwr main.c

LCD
Character LCD

Component Catalog (174 components)

Cypress Component Catalog

- Analog
 - ADC
 - Amplifiers
 - Analog MUX
 - Comparator [v1.90]
 - DAC
 - Manual Routing
 - Mixer [v1.91]
 - Sample/Track and Hold
 - VRef [v1.60]
- CapSense
- Communications
- Digital
 - Character LCD [v1.70]
 - Graphic LCD 8-bit Parallel
 - Graphic LCD 16-bit Parallel
 - Graphic LCD Controller I
 - Graphic LCD Controller II
 - Graphic LCD Parallel Interface
 - Resistive Touch [v1.10]

Component Preview

Datasheet

Notice List

0 Errors 0 Warnings

De... File Error L

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin\...

Page 1

Ready

0 Errors 0 Warnings 0 Notes

EN 7:33

Configure LCD

Lab_1 - PSoC Creator 2.1 [D:\PSOC_3\Lab_1\Lab_1.cysdn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

Microsoft Sans Serif 10 B I U

Workspace Explorer (1 project)

Workspace 'Lab_1' (1 Projects)

Project 'Lab_1' [CY8C3866]

TopDesign.cysch

Lab_1.cydwr

Header Files

device.h

Source Files

main.c

Start Page *TopDesign.cysch

Configure 'CharLCD'

Name: LCD_Char

General Built-in

Parameters

LCD Custom Character Set

☒ None

☐ Vertical Bargraph

☐ Horizontal Bargraph

☐ User Defined

☒ Include ASCII to Number Conversion Routines

Custom Character Editor

Datasheet OK Apply Cancel

Page 1

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin

Component Catalog (174 co...)

Concept Cypress

Cypress Component Catalog

Analog

ADC

Amplifiers

Analogue MUX

Comparator [v1.90]

DAC

Manual Routing

Mixer [v1.91]

Sample/Track and Hold

VRef [v1.60]

CapSense

Communications

Digital

Display

Character LCD [v1.70]

Graphic LCD 8-bit Parallel

Graphic LCD 16-bit Parallel

Graphic LCD Controller I

Graphic LCD Controller II

Graphic LCD Parallel Interface

Resistive Touch [v1.10]

Component Preview

Inst N

Character LCD

Datasheet

Ready

{X=295,Y=131}

0 Errors 0 Warnings 0 Notes

Новости Украины | ...

Do_Present_1.doc - ...

PSOC Creator 2.1

EN

19:25

Lab_1 - PSoC Creator 2.1 [D:\PSoC_3\Lab_1\Lab_1.cysdn\main.c]

File Edit View Debug Project Build Tools Window Help

Debug

Workspace Explorer (1 project)

Workspace 'Lab_1' (1 Projects)

Project 'Lab_1' [CY8C3866]

TopDesign.cysch

Lab_1.cydwr

Header Files

device.h

Source Files

main.c

Source Components Datasheets Results

Start Page *TopDesign.cysch main.c

```

1  /* =====
2  *
3  * Copyright YOUR COMPANY, THE YEAR
4  * All Rights Reserved
5  * UNPUBLISHED, LICENSED SOFTWARE.
6  *
7  * CONFIDENTIAL AND PROPRIETARY INFORMATION
8  * WHICH IS THE PROPERTY OF your company.
9  *
10 * =====
11 */
12 #include <device.h>
13
14 void main()
15 {
16     /* Place your initialization/startup code here (e.g. MyInst_Start()) */
17
18     /* CyGlobalIntEnable; */ /* Uncomment this line to enable global interrupts. */
19     for (;;)
20     {
21         /* Place your application code here. */
22     }
23 }
24
25 /* [] END OF FILE */
26

```

Notice List

0 Errors 0 Warnings

De... File Error L

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin.MICROSOFT-7D0472\Local Se

Ln 1 Col 1 INS 0 Errors 0 Warnings 0 Notes

Ready

Новости Украины | ... Do_Present_1.doc - ... Lab_1 - PSoC Creator... EN 19:28

Lab_1 - PSoC Creator 2.1 [D:\PSoC_3\Lab_1\Lab_1.cydsn\Lab_1.cydw]

File Edit View Debug Project Build Tools Window Help

37% Debug

Workspace Explorer (1 project)

Workspace 'Lab_1' (1 Projects)

Project 'Lab_1' [CY8C3866

TopDesign.cysch

Lab_1.cydw

Header Files

device.h

Source Files

main.c

Source

Components

Datasheets

Results

Start Page TopDesign.cysch main.c Lab_1.cydw

Pin Diagram

CY8C3866AXI-040 100-TQFP

Alias	Name	Port	Pin	Lock
	\LCD_Char:LCDPort[6:0]\			
	P0[6:0]	IDAC: H		
	P0[7:1]	IDAC: H		
	P2[6:0]			
	P2[7:1]			
	P3[6:0]	OpAmp: c		
	P3[7:1]	OpAmp: c		
	P4[6:0]			
	P4[7:1]			
	P5[6:0]			

LCD_Char_LCDPort_6 - Digital
LCD_Char_LCDPort_5 - Digital
LCD_Char_LCDPort_4 - Digital

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin.MICROSOFT-7D0472\Local Se

Ready

0 Errors 0 Warnings 0 Notes

EN

19:33

Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSoC_3\Lab_2\Lab_2.cydsn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

Microsoft Sans Serif 10 53% Debug

Workspace Explorer

Workspace 'Lab_2' (1 Projects)

Project 'Lab_2' [CY8C3866]

- TopDesign.cysch
- Lab_2.cydwr
- Header Files
- device.h
- Source Files
- main.c

Source Components Datasheets Results

Start Page *TopDesign.cysch

Page 1

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin

Component Catalog (174 co...)

Category Concept Cypress

- Analog MUX
 - Comparator [v1.90]
- DAC
- Manual Routing
- Mixer [v1.91]
- Sample/Track and Hold
- VRef [v1.60]
- CapSense
- Communications
- Digital
 - Functions
 - Counter [v2.20]
 - CRC [v2.20]
 - Debouncer
 - Glitch Filter [v2.0]
 - PrISM [v2.10]
 - PRS [v2.10]
 - PWM [v2.20]
 - Quadrature Decode
 - Shift Register [v2.10]
 - Timer [v2.30]
- Logic

Component Preview

Datasheet

8 or 16-bit Pulse Width Modulator

2 Errors 0 Warnings 0 Notes

EN 6:43

Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSoC_3\Lab_2\Lab_2.cysdn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

Microsoft Sans Serif 10 B I U [Text formatting icons]

Workspace Explorer

- Workspace 'Lab_2' (1 Projects)
 - Project 'Lab_2' [CY8C3866]
 - TopDesign.cysch
 - Lab_2.cydwr
 - Header Files
 - device.h
 - Source Files
 - main.c

Source Components Datasheets Results

Start Page *TopDesign.cysch

Page 1

Component Catalog (174 co...)

- Concept
 - Cypress
 - Analog MUX
 - Comparator [v1.90]
 - DAC
 - Manual Routing
 - Mixer [v1.91]
 - Sample/Track and Hold
 - VRef [v1.60]
 - CapSense
 - Communications
 - Digital
 - Functions
 - Counter [v2.20]
 - CRC [v2.20]
 - Debouncer
 - Glitch Filter [v2.0]
 - PrISM [v2.10]
 - PRS [v2.10]
 - PWM [v2.20]
 - Quadrature Decode
 - Shift Register [v2.10]
 - Timer [v2.30]
 - Logic

Component Preview

Datasheet

8 or 16-bit Pulse Width Modulator

Notice List

2 Errors 0 Warnings

De... File

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin

Ready {X=45,Y=432}

2 Errors 0 Warnings 0 Notes

EN 6:46

Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSoc_3\Lab_2\Lab_2.cysdn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

Microsoft Sans Serif 10 B I U [Text formatting icons]

Workspace Explorer

- Workspace 'Lab_2' (1 Projects)
 - Project 'Lab_2' [CY8C3866]
 - TopDesign.cysch
 - Lab_2.cydwr
 - Header Files
 - device.h
 - Source Files
 - main.c

Source Components Datasheets Results

Start Page *TopDesign.cysch

Configure 'PWM'

Name: PWM

Configure Advanced Built-in

period 255 0 255 0

pwm1

pwm2

Implementation: ☐ Fixed Function ☒ UDB

Resolution: ☐ 8-Bit ☒ 16-Bit

PWM Mode: Two Outputs

Period: 255 Max **Period = UNKNOWN SOURCE FREQ**

CMP Value 1: 127 CMP Value 2: 63

Datasheet OK Apply Cancel

Page 1

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin

Component Catalog (174 co...)

- Concept
 - Analog MUX
 - Comparator [v1.90]
 - DAC
 - Manual Routing
 - Mixer [v1.91]
 - Sample/Track and Hold
 - VRef [v1.60]
- CapSense
- Communications
- Digital
 - Functions
 - Counter [v2.20]
 - CRC [v2.20]
 - Debouncer
 - Glitch Filter [v2.0]
 - PrISM [v2.10]
 - PRS [v2.10]
 - PWM [v2.20]
 - Quadrature Decode
 - Shift Register [v2.10]
 - Timer [v2.30]
- Logic

Component Preview

Datasheet

8 or 16-bit Pulse Width Modulator

Notice List

2 Errors 0 Warnings

De... File

Ready

2 Errors 0 Warnings 0 Notes

EN 6:53

Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSoC_3\Lab_2\Lab_2.cydsn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

82% Debug

Microsoft Sans Serif 10

Workspace Explorer

Workspace 'Lab_2' (1 Project)

Project 'Lab_2' [CY8C3866AXX-040]

TopDesign.cysch Lab_2.cydw main.c

Source Components Datasheets Results

TopDesign.cysch

Configure 'PWM'

Name: PWM

Configure Advanced Built-in

Enable Mode: Software Only

Run Mode: Continuous

Trigger Mode: None

Kill Mode: Disabled 1

Capture Mode: None

Interrupts:

☒ None ☐ Interrupt On Terminal Count Event ☐ Interrupt On Compare 1 Event ☐ Interrupt On Compare 2 Event ☐ Interrupt On Kill Event

Datasheet OK Apply Cancel

Notice List

0 Errors 0 Warnings

De... File Error L

Output

Show output from: All

Erasing...
Programming of Flash Starting...
Protecting...
Verify Checksum...
Device 'PSoC 3 CY8C3866AXX-040' was successfully programmed at 02/17/2013

Component Catalog (174 c...)

Concept Cypress

Cypress Component Catalog

Analog

CapSense

Communications

Digital

Functions

Counter [v2.20]

CRC [v2.20]

Debounce

Glitch Filter [v2.0]

PrISM [v2.10]

PRS [v2.10]

PWM [v2.20]

Quadrature Decod

Shift Register [v2.1]

Timer [v2.30]

Logic

Registers

Display

Filters

Ports and Pins

Power Supervision

Component Preview

Datasheet

Ready {X=312,Y=206} 0 Errors 0 Warnings 0 Notes

Lab_2 - PSoC ... Do_Present_2... Microsoft Pow... Adobe Acrobat... EN 19:58



Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSoC_3\Lab_2\Lab_2.cysdn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

Microsoft Sans Serif 10 B I U

Workspace Explorer

- Workspace 'Lab_2' (1 Projects)
- Project 'Lab_2' [CY8C381]
- TopDesign.cysch
- Lab_2.cydwr
- Header Files
- device.h
- Source Files
- main.c

Components

Start Page *TopDesign.cysch Lab_2.cydwr

Diagram:

- Clock_1 (24 MHz) connected to PWM block (clock input)
- Reset button connected to PWM block (reset input)
- PWM block (16-bit UDB) connected to Pin_1 (tc output)
- LCD Character LCD

Component Catalog (17...)

- Concept Cypress
- Ports and Pins
- Analog Pin [v1.70]
- Digital Bidirectional
- Digital Input Pin [v1
- Digital Output Pin [v
- Power Supervision
- System
- Boost Converter [v
- Bootloadable
- Bootloader
- Clock [v1.70]
- Die Temperature [v
- DMA [v1.60]
- EEPROM [v2.0]
- External Memory In
- Global Signal Refer
- Interrupt [v1.60]
- RTC [v1.70]
- SleepTimer [v3.10]
- Sync
- UDBClkEn
- Thermal Management

Notice List

- 0 Errors
- 0 Warnings

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin.MIC

Component Preview

Inst_N 24 MHz

Datasheet

[A specification of a required clock - source, frequency and tolerance.](#)

Ready

0 Errors 0 Warnings 0 Notes

Lab_2 - PSoC Creator... Do_Present_2.doc - ...

EN 17:52

Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSOC_3\Lab_2\Lab_2.cysdn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

Microsoft Sans Serif 10 B I U

Workspace Explorer

Workspace 'Lab_2' (1 Projects)

Project 'Lab_2' [CY8C381]

TopDesign.cysch

Lab_2.cydwr

Header Files

device.h

Source Files

main.c

Components

Datasheets

Results

Start Page *TopDesign.cysch Lab_2.cydwr

PWM

Configure 'cy_clock'

Name: Clock_1

Configure Clock Advanced Built-in

Clock Type: ☒ New ☐ Existing

Source: ILO (1.000 kHz)

Specify: ☒ Frequency 1000 Hz ☐ Divider

Summary

API Generated: Yes

Uses Clock Tree Resource: Yes

Source Clock Info

Name: ILO

Enabled: Yes

Frequency: 1.000 kHz

Accuracy: -50, +100

Datasheet OK Apply Cancel

Page 1

Output

Show output from: All

Notice List

0 Errors 0 Warnings

De... File Error L

Component Catalog (17...)

Concept Cypress

Display

Filters

Ports and Pins

Analog Pin [v1.70]

Digital Bidirectional

Digital Input Pin [v1.70]

Digital Output Pin [v1.70]

Power Supervision

System

Boost Converter [v1.70]

Bootloadable

Bootloader

Clock [v1.70]

Die Temperature [v1.70]

DMA [v1.60]

EEPROM [v2.0]

External Memory Interface [v1.70]

Global Signal Reference [v1.70]

Interrupt [v1.60]

RTC [v1.70]

SleepTimer [v3.10]

Sync

Component Preview

Inst_N

24 MHz

Datasheet

A specification of a required clock - source, frequency and tolerance.

Ready {X=374,Y=476} 0 Errors 0 Warnings 0 Notes EN 17:57

Lab_2 - PSoC Creator... Do_Present_2.doc - ...

Do_Present_2.doc - Microsoft Word

Файл Правка Вид Вставка Формат Сервис Таблица Окно Справка

Исправления в измененном докумен... Показать

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Lab_2 - PSoC Creator 2.1 [D:\PSoC_3\Lab_2\Lab_2.cysdn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

82% Debug

Microsoft Sans Serif 10 B I U

Workspace Explorer

Workspace 'Lab_2' (1 Projects)

Project 'Lab_2' [CY8C381]

TopDesign.cysch

Lab_2.cydwr

Header Files

device.h

Source Files

main.c

Source Components Datasheets Results

Start Page *TopDesign.cysch Lab_2.cydwr

PWM

tc

pwm1

pwm2

capture

clock

reset

16-bit (UDB)

Pin_1

LCD

Character LCD

Component Catalog (17...)

Concept Cypress

Cypress Component Catalog

- Analog
- CapSense
- Communications
- Digital
 - Functions
 - Logic
 - Registers
- Display
- Filters
- Ports and Pins
 - Analog Pin [v1.70]
 - Digital Bidirectional Pin [v1.70]
 - Digital Input Pin [v1.70]
 - Digital Output Pin [v1.70]
- Power Supervision
- System
- Thermal Management

Component Preview

Notice List

3 Errors 0 Warnings

De... File

Действия Автофиуры

Стр. 7 Разд 1 7/13 На 2см Ст 1 Кол 1 ЗАП ИСПР ВДЛ ЗАМ английский

Lab_2 - PSoC Creator... Do_Present_2.doc - ... Microsoft PowerPoint ... EN 18:36

Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSoc_3\Lab_2\Lab_2.cysdn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

Microsoft Sans Serif 10 B I U

Workspace Explorer

- Workspace 'Lab_2' (1 Projects)
 - Project 'Lab_2' [CY8C381]
 - TopDesign.cysch
 - Lab_2.cydwr
 - Header Files
 - device.h
 - Source Files
 - main.c

Components

Results

Start Page *TopDesign.cysch Lab_2.cydwr

PWM

Configure 'cy_pins'

Name: Pin_1

Pins Mapping Reset Built-in

Number of Pins: 1

[All Pins]

- Pin_1_0

Type General Input Output

☐ Analog
☐ Digital Input
☒ HW Connection
☒ Digital Output
☒ HW Connection
☐ Output Enable
☐ Bidirectional
☐ Show Annotation Terminal

Preview:



Datasheet OK Apply Cancel

Page 1

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin.MIC

Notice List

3 Errors 0 Warnings

De... File

Component Catalog (17...)

Concept Cypress

- Cypress Component Catalog
 - Analog
 - CapSense
 - Communications
 - Digital
 - Functions
 - Logic
 - Registers
 - Display
 - Filters
 - Ports and Pins
 - Analog Pin [v1.70]
 - Digital Bidirectional Pin [v1.70]
 - Digital Input Pin [v1.70]
 - Digital Output Pin [v1.70]
 - Power Supervision
 - System
 - Thermal Management

Component Preview



Pin_1

Datasheet

[Pins component configured for digital output.](#)

Ready {X=369,Y=311} 3 Errors 0 Warnings 0 Notes

Lab_2 - PSoC Creator... Do_Present_2.doc - ...

EN 17:36

Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSoc_3\Lab_2\Lab_2.cysdn\TopDesign\TopDesign.cysch]

File Edit View Debug Project Build Tools Window Help

Microsoft Sans Serif 10 B I U

Workspace Explorer

- Workspace 'Lab_2' (1 Projects)
 - Project 'Lab_2' [CY8C381]
 - TopDesign.cysch
 - Lab_2.cydwr
 - Header Files
 - device.h
 - Source Files
 - main.c

Components

Results

Start Page *TopDesign.cysch Lab_2.cydwr

PWM

Configure 'cy_pins'

Name: Pin_1

Pins Mapping Reset Built-in

Number of Pins: 1

[All Pins]

- ☒ Pin_1_0

Type General Input Output

Drive Mode

Strong Drive

Initial State: Low (0)

Minimum Supply Voltage:

Datasheet OK Apply Cancel

Page 1

Output

Show output from: All

Log file for this session is located at: C:\Documents and Settings\Admin.MIC

Component Catalog (17...)

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 - Digital Output Pin [v1.70]
 - Power Supervision
 - System
 - Thermal Management

Component Preview

Pin_1

Datasheet

[Pins component configured for digital output.](#)

Notice List

3 Errors 0 Warnings

De... File

Ready

Lab_2 - PSoC Creator... Do_Present_2.doc - ...

{X=312,Y=262}

3 Errors 0 Warnings 0 Notes

EN 17:37



Lab_2 PWM

Lab_2 - PSoC Creator 2.1 [D:\PSoC_3\Lab_2\Lab_2.cysdn\main.c]

File Edit View Debug Project Build Tools Window Help

Debug

Workspace Explorer

Project 'Lab_2' [CY8C3

- TopDesign.cysch
- Lab_2.cydwr
- Header Files
 - device.h
- Source Files
 - main.c
- Generated_Source
 - PSoC3
 - Clock_1
 - Clock_1.c
 - Clock_1.h
 - cy_boot
 - CyBootAs
 - CyDmac.c
 - CyDmac.h
 - CyFlash.c
 - CyFlash.h
 - CyLib.c
 - CyLib.h

Source Components Datasheets Results

```
1 /* =====
2  * Copyright YOUR COMPANY, THE YEAR
3  * All Rights Reserved
4  * UNPUBLISHED, LICENSED SOFTWARE.
5  * CONFIDENTIAL AND PROPRIETARY INFORMATION
6  * WHICH IS THE PROPERTY OF your company.
7  * =====
8  */
9 #include <device.h>
10
11 void main()
12 {
13     /* Place your initialization/startup code here (e.g. MyInst_Start()) */
14     LCD_Start();
15     LCD_Position(0,0);
16     LCD_PrintString("LAB2 02.15.2013");
17     PWM_Start();
18     /* CyGlobalIntEnable; */ /* Uncomment this line to enable global interrupts. */
19     for(;;)
20     {
21         /* Place your application code here. */
22     }
23 }
24
25 /* [] END OF FILE */
```

Notice List

0 Errors 0 Warnings

De... File Error L

Output

Show output from: All

Erasing...
Programming of Flash Starting...
Protecting...
Verify Checksum...
Device 'PSoC 3 CY8C3866AX*-040' was successfully programmed at 02/17/2013 19:32:28.

Ready

Ln 2 Col 1 INS 0 Errors 0 Warnings 0 Notes

Lab_2 - PSoC ... Do_Present_2... Microsoft Pow... Adobe Acrobat... EN 20:01

На сайті фірми
Cypress знаходиться
більше **200**
Application Notes і
Reference Designs,
які ілюструють
області
застосування
мікроконтролерів
PSoC.

Design Support - Microsoft Internet Explorer

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Select one of the following materials to help you design-in Cypress products: Application Notes, Datasheets, Developer Kits, Errata Updates, Evaluation Boards, Models, Reference Designs, Software & Drivers and Technical Articles.

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Backplane Interface & Clock Mgmt
Bluetooth Solutions

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Application Notes	Datasheets	Developer Kits	Errata Update	Evaluation Boards
Models	More Resources	Reference Designs	Software and Drivers	Technical Articles

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Sort	Sort	Sorted	
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PSoC Mixed-Signal Array	AN2260 - Standard - Rapid NiCd/NiMH Battery Charger and DC Brushed Motor Controller for Autonomous Appliances	Apr 15, 2005	AN2260.PDF AN2260.ZIP
PSoC Mixed-Signal Array	AN2026b - Support - In-System Serial Programming Protocol CY8C24794 and CY8C29xxx	Apr 8, 2005	AN2026B.PDF
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PSoC Mixed-Signal Array	AN2233a - Support - Capacitive Switch Scan	Mar 31, 2005	AN2233A.PDF
PSoC Mixed-Signal Array	AN2276 - Support - Binary Weighted Single-Pole IIR Low-Pass Filters	Mar 29, 2005	AN2276.PDF AN2276.ZIP
PSoC Mixed-Signal Array	AN2277 - Support - Capacitive Front Panel Display Demonstration	Mar 29, 2005	AN2277.PDF AN2277.ZIP

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Internet

Мікропроцесорна техніка

(лекція 2, кінець)

Благітко Б.Я.

2019 р.

