TCPWM (PWM mode) example project

2.0

Features

- Project uses TCPWM component with PWM mode configuration
- Indicate line output signal behavior on LED
- LED brightness decremented using terminal count interrupt

General Description

This example project demonstrates the TCPWM component usage in the PWM mode.

Development kit configuration

This example project is designed to run on the CY8CKIT-042 kit from Cypress Semiconductor. A description of the kit, along with more example programs and ordering information, can be found at http://www.cypress.com/go/cy8ckit-042.

The project requires configuration settings changes to run on other kits from Cypress Semiconductor. Table 1 is the list of the supported kits. To switch from CY8CKIT-042 to any other kit, change the project's device with the help of Device Selector called from the project's context menu.

Table 1. Development Kits vs Parts

Development Kit	Device
CY8CKIT-042	CY8C4245AXI-483
CY8CKIT-040	CY8C4014LQI-422
CY8CKIT-042-BLE	CY8C4247LQI-BL483
CY8CKIT-044	CY8C4247AZI-M485

The pin assignments for the supported kits are in Table 2.

Table 2. Pin Assignment

Pin Name	Development Kit			
	CY8CKIT-042	CY8CKIT-040	CY8CKIT-042 BLE	CY8CKIT-044
LED_GREEN	P0[2]	P1[1]	P3[6]	P2[6]

The following steps should be performed to observe the project operation:

1. Build the project and program the hex file on to the target device.
2. Power cycle the device and observe the results on the green color LED.

Project configuration

The example project consists of the following components: TCPWM, Clock, digital output pin, and Interrupt. The TCPWM is used as the Left align PWM mode. The output pins are used to reflect the line signal output behavior.

Project description

In the project, the TCPWM counts from 0u to 63000u value. The compare value increases by 100u during the terminal count interrupt. When the counter starts, the compare value is 0u; the line output is always 0, so the LED brightness is in high power. After the compare value increases, the duty cycle high state of the line output signal is longer; thus the LED brightness decreases. When the line output is high, the LED brightness is in low power.

Expected results

The green color LED changes its brightness from high to low power lighting (in a cycle).

Cypress Semiconductor
198 Champion Court
San Jose, CA 95134-1709

Phone : 408-943-2600
Fax : 408-943-4730
Website : www.cypress.com

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