Hibernate PSoC 4
2.0

Features

- Hibernate Power Modes
- SRAM retention in Hibernate mode

General Description

This example project demonstrates how you can use PSoC 4 to enter and wake up from hibernate on an external event.

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-042-BLE	CY8C4247LQI-BL483
CY8CKIT-044	CY8C4247AZI-M485
CY8CKIT-046	CY8C4248BZI-L485

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

Table 2. Pin Assignment

Pin Name	Development Kit			
	CY8CKIT-042	CY8CKIT-042 BLE	CY8CKIT-044	CY8CKIT-046
LED_Mode	P0[2]	P3[6]	P2[6]	P5[3]
LED_Status	P1[6]	P2[6]	P0[6]	P5[2]
Pin_Sw	P0[7]	P2[7]	P0[7]	P0[7]

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

1. Build the project and program the hex file into the target device.

2. Power cycle the device and observe the results on the LEDs.

Project Configuration

The example project consists of the Interrupt and pin components.

Pin_Sw is configured to generate an interrupt (by Falling Edge) every time when the SW button is pressed.

Project Description

At the beginning of the main function, a GPIO interrupt is set up and enabled. After that, the green LED turns on with a 1000 ms delay to indicate the active mode. The red LED turns on with a 1000 ms delay when an even value of the hibernateCnt variable occurs. The hibernateCnt variable is increased each time in the active mode. In GPIOIsrHandler, the isr_GPIO pending interrupt clears, the pin interrupt clears.

Expected Results

Program the device with the project and observe that the green LED turns on with a 1000 ms delay. The red LED blinks for 1 second only when the hibernateCnt variable has an even value (the yellow color lights when green and red mix), the green and red LEDs turn off. After SW is pressed, the described above sequence repeats.

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