Application Note

SIWDT

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1. Preface

This application note describes sample software for the watchdog timer function using the SIWDT driver. This document helps the user check operation of a product under development and develop its program.

2. Technical Term

Term/Abbreviation	Definition
BSP	Board Support Package
SIWDT	Clock selectable watchdog timer

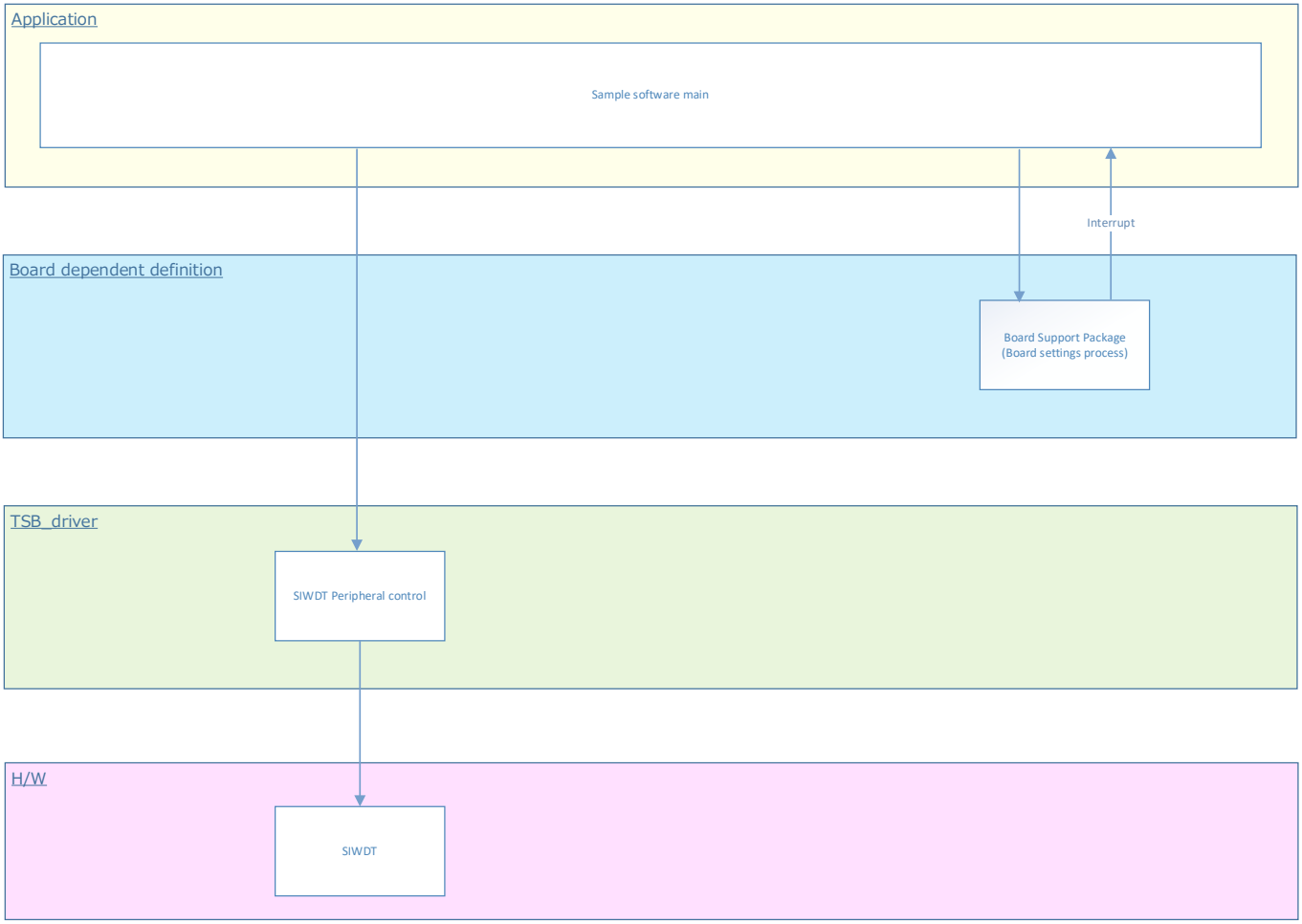
3. Reference Document

Document	Notes
Data sheet	Refer to the data sheet of MCU to be used.
Reference manual	Refer to the reference manual of each IP to be used.
Application note MCU User Guide	Refer to the MCU user guide to be used.

4. Target Sample Program

Sample Program	Outline
SIWDT	Sample program of SIWDT function

5. Configuration Diagram



6. Sample Program：SIWDT

This sample software is a watchdog timer software.

6.1. Outlines of Operation

The LED is turn ON / OFF each time Timer_A elapses.
After about 1.1 seconds, the watchdog timer interrupt occurs and the watchdog timer is cleared.

6.2. Function to Use

The functions to use are as follows.
For the Port assignment of each channel, refer to the MCU user guide.

IP	Channel	Objective
PORT(LED)	BSP_LED_1	For operation check
	BSP_LED_2	For operation check
	BSP_LED_3	For operation check
	BSP_LED_4	For operation check

6.3. Interrupt to Use

Interrupt	Outlines
NMI_Handler	NMI interrupt. Watchdog timer interrupt
SysTick_Handler	Systick interrupt. Used for LED blinking

6.4. Configuration

“main.c” configuration setting.

Configuration	Current Value	Description
fIWD	fsys/4	30MHz(WDT clock count frequency)
Timer_A	200ms	LED ON/OFF Switching cycle
Watchdog timer	(2^25)/fIWD	WDT Detection time (≒1.12s)
DEMO_WDT_CLEAR	Enable	Enable : WDT Clear the count
		Disable :WDT Do not clear the count

6.5. Example of Terminal Emulator Output

Nothing.

7. SIWDT Driver

The SIWDT is controlled by using the following interface.
For an example of use, refer to the source code.

Driver	Control Outlines
wdt_config	WDT Configuration
wdt_disable	WDT Disable
wdt_enable	WDT Enable
wdt_clear	WDT Clear

8. Revision History

Revision	Date	Description
1.0	2023-06-28	First release

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