Application Note

EI2C_TARGET_RECEIVE

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1. Preface

This application note describes sample software EI2C_TARGET_RECEIVE using I2C interface(EI2C).
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
CG	Clock Control and Operation Mode
I2C	Inter-Integrated Circuit
Timer	T32A:32-bit Timer Event Counter

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.

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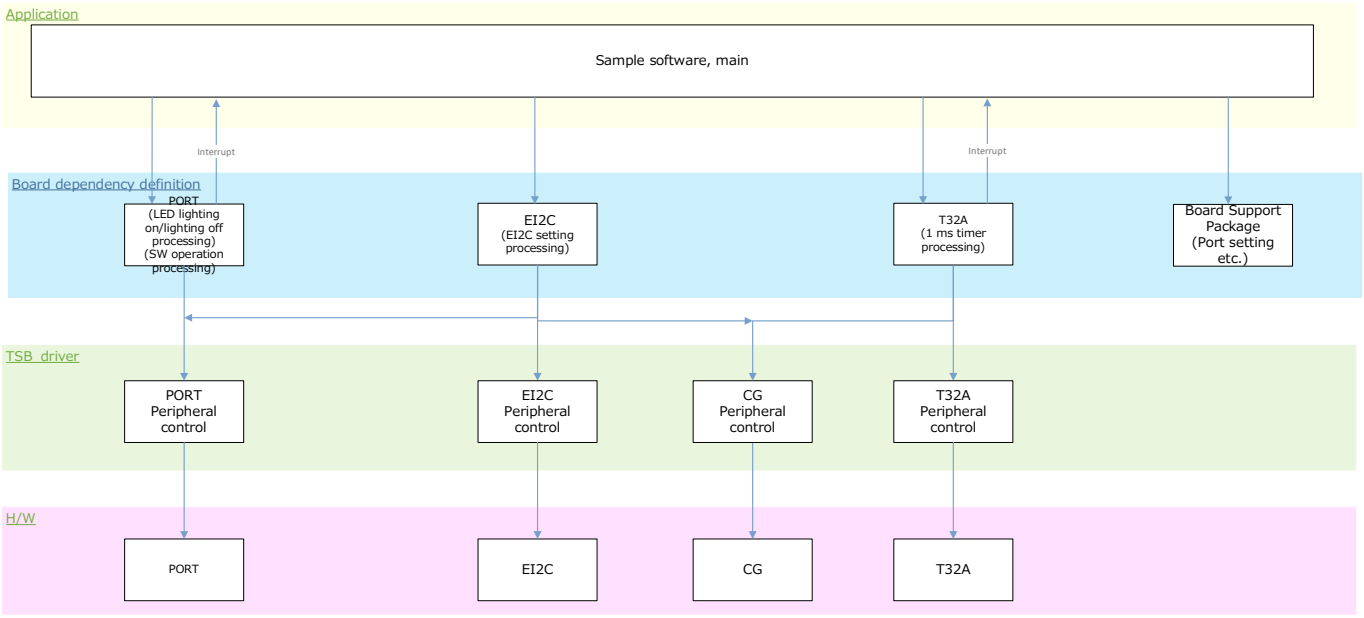
4. Target Sample Program

Sample Program	Outline
EI2C_TARGET_RECEIVE	Sample program of EI2C communication function (Target Receive)

5. Configuration Diagram



6. Sample Program: EI2C_TARGET_RECEIVE

This sample software that switches the LED on and off each time data reception is completed using the Target reception processing function of the EI2C communication function.

6.1. Outlines of Operation

Turn off BSP_LED_2 and BSP_LED_3.
When BSP_PSW_1 is pressed, BSP_LED_3 is turned off and data for the data reception size is received.
After receiving, the lighting state (turn on / turn off) of BSP_LED_2 is switched.
When an error occurs, BSP_LED_3 is turn on.

6.2. Function to Use

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

IP	Channel	Objective
EI2C	BSP_EI2C_1	EI2C communication
T32A	BSP_T32A_TIMER_1	Interval timer
PORT (Push-Switch)	BSP_PSW_1	Event trigger
PORT (LED)	BSP_LED_2	For operation check
	BSP_LED_3	For operation check

6.3. Interrupt to Use

For details, please refer to the “Interrupt List by Sample” in the MCU User’s Manual.

6.4. Configuration

Configuration setting.

Configuration	Soft Definition Name	Current Value (Defaults)	Description
EI2C clock	CFG_EI2C_FREQUENCY	800000	Controller operating frequency (Unit: Hz)
Data reception size	BSP_SLAVE_DATA_LENGTH	16	Data received size (Unit: byte)

6.5. Example of Terminal Emulator Output

Nothing.

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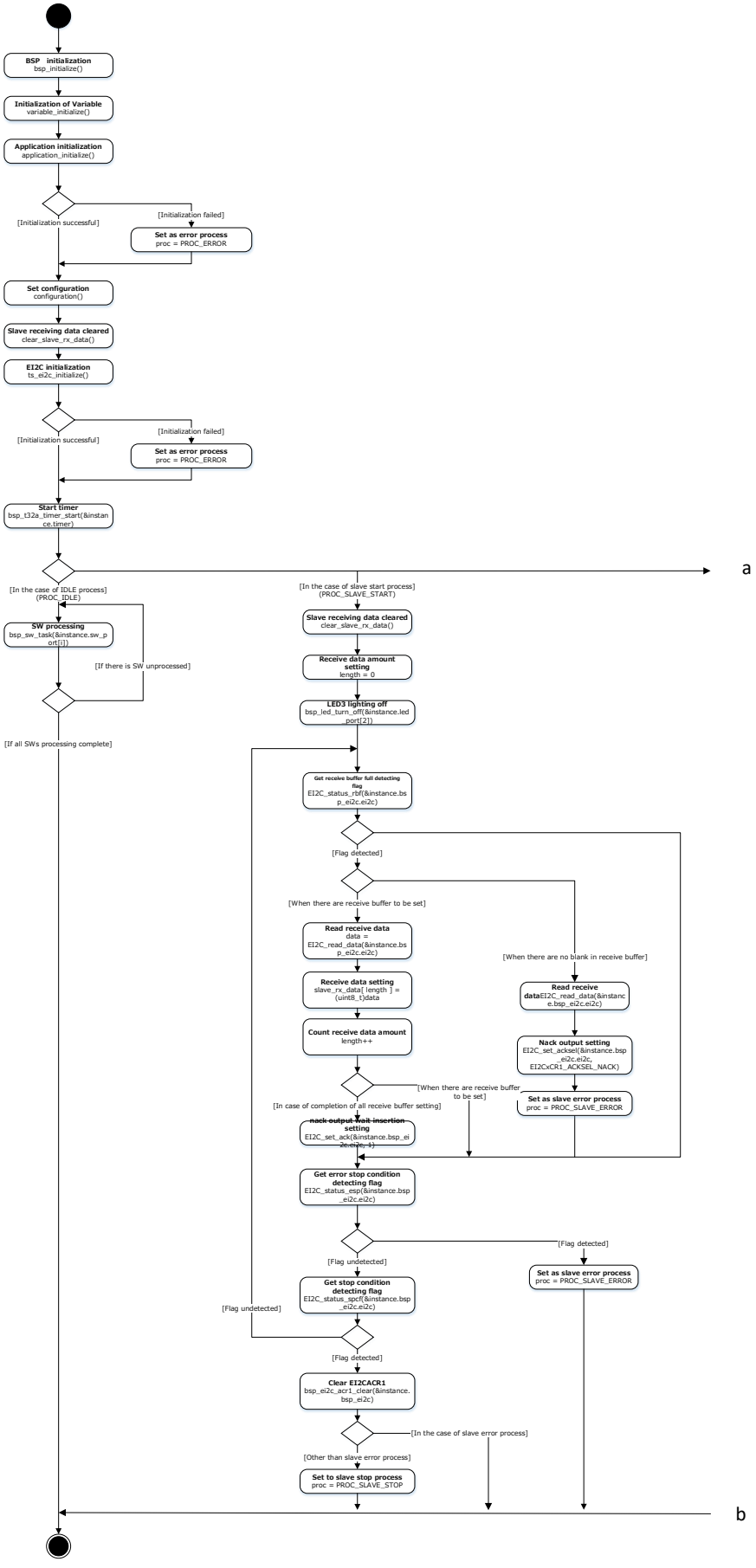
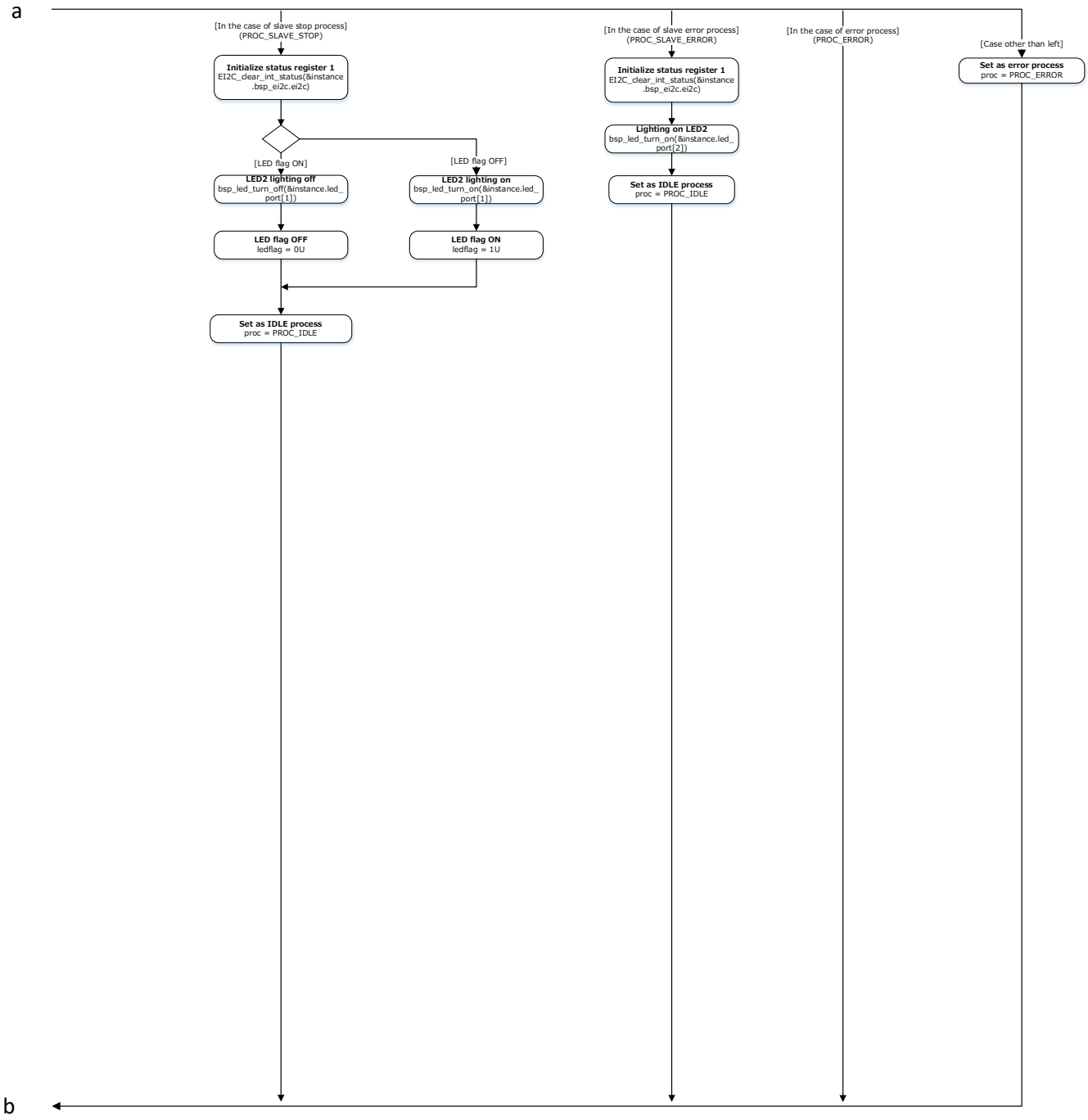
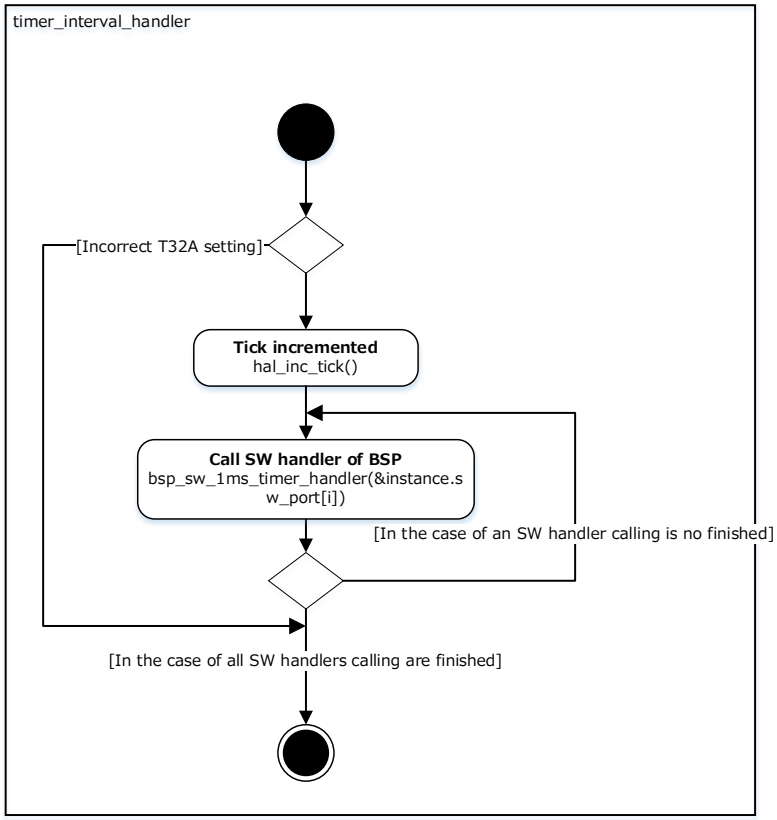
7. Activity diagram

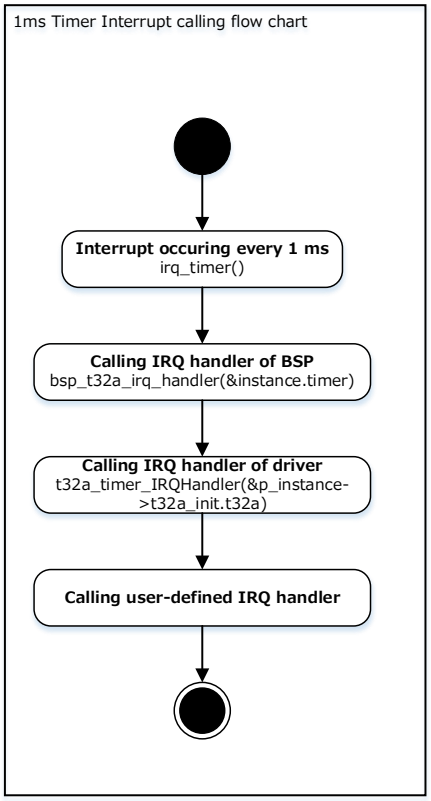
7.1. main




a
[In the case of slave stop process]
(PROC_SLAVE_STOP)
Initialize status register 1
EI2C_clear_int_status(&instance
.bsp_ei2c.ei2c)
[LED flag ON]
[LED flag OFF]
LED2 lighting off
bsp_led_turn_off(&instance.led_
port[1])
LED2 lighting on
bsp_led_turn_on(&instance.led_
port[1])
LED flag OFF
ledflag = 0U
LED flag ON
ledflag = 1U
Set as IDLE process
proc = PROC_IDLE
[In the case of slave error process]
(PROC_SLAVE_ERROR)
Initialize status register 1
EI2C_clear_int_status(&instance
.bsp_ei2c.ei2c)
Lighting on LED2
bsp_led_turn_on(&instance.led_
port[2])
Set as IDLE process
proc = PROC_IDLE
[In the case of error process]
(PROC_ERROR)
[Case other than left]
Set as error process
proc = PROC_ERROR
b

7.2. Interrupt





8. Revision History

Revision	Date	Description
1.0	2025-01-20	First release
1.1	2025-10-30	6.3 Interrupt to Use Added M3H Interrupt Name.
1.2	2026-07-30	6.3 Interrupt to Use Detailed information is transcribed into the User's Manual

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