

## Application Note

### A\_ENC2

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## 1. Preface

This application note describes sample software A\_ENC2 that uses the Advanced Encoder Input Circuit (A\_ENC2).

This document helps the user check operation of a product under development and develop its program.

## 2. Technical Term

| Term/Abbreviation | Notes                            |
|-------------------|----------------------------------|
| A_ENC2            | Advanced Encoder input Circuit   |
| BSP               | Board Support Package            |
| CG                | Clock Control and Operation Mode |
| Timer             | T32A:32-bit Timer Event Counter  |

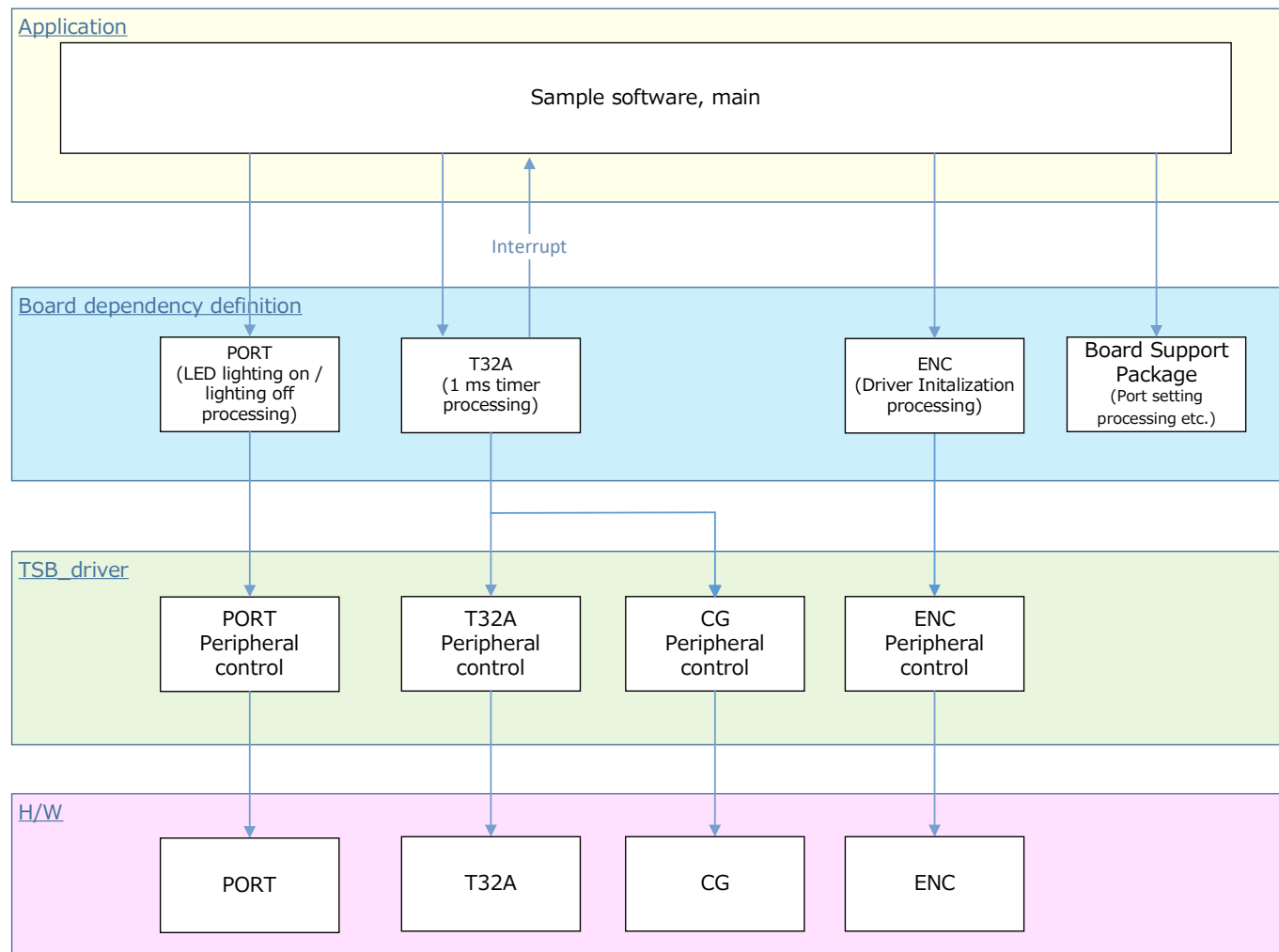
## 3. Reference Document

| 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<br>MCU User Guide | Refer to the MCU user guide to be used.              |
| Driver API List                    | Refer to the Doc folder.                             |

## 4. Target Sample Program

| Sample Program | Outline                                       |
|----------------|-----------------------------------------------|
| A_ENC2         | Sample program of rotation detection function |

## 5. Configuration Diagram



## 6. Sample Program: A\_ENC2

This sample software uses the rotation detection function of A\_ENC2 to change the blinking LED according to the rotation direction. The blinking interval is changed according to the rotation speed. The rotary encoder is detected in the encoder mode.

### 6.1. Outlines of Operation

In case of clockwise rotation, BSP\_LED\_1 blinks.  
In case of counterclockwise rotation, BSP\_LED\_2 blinks.  
Change the flashing interval according to the number of rotations (X).  
The blink interval is set in 6.4 Configuration.

### 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                |
|---------------|------------------|--------------------------|
| A_ENC2        | BSP_ENC_1        | For encoding calculation |
| PORT<br>(LED) | BSP_LED_1        | For operation check      |
|               | BSP_LED_2        | For operation check      |
| T32A          | BSP_T32A_TIMER_1 | interval timer           |

### 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.

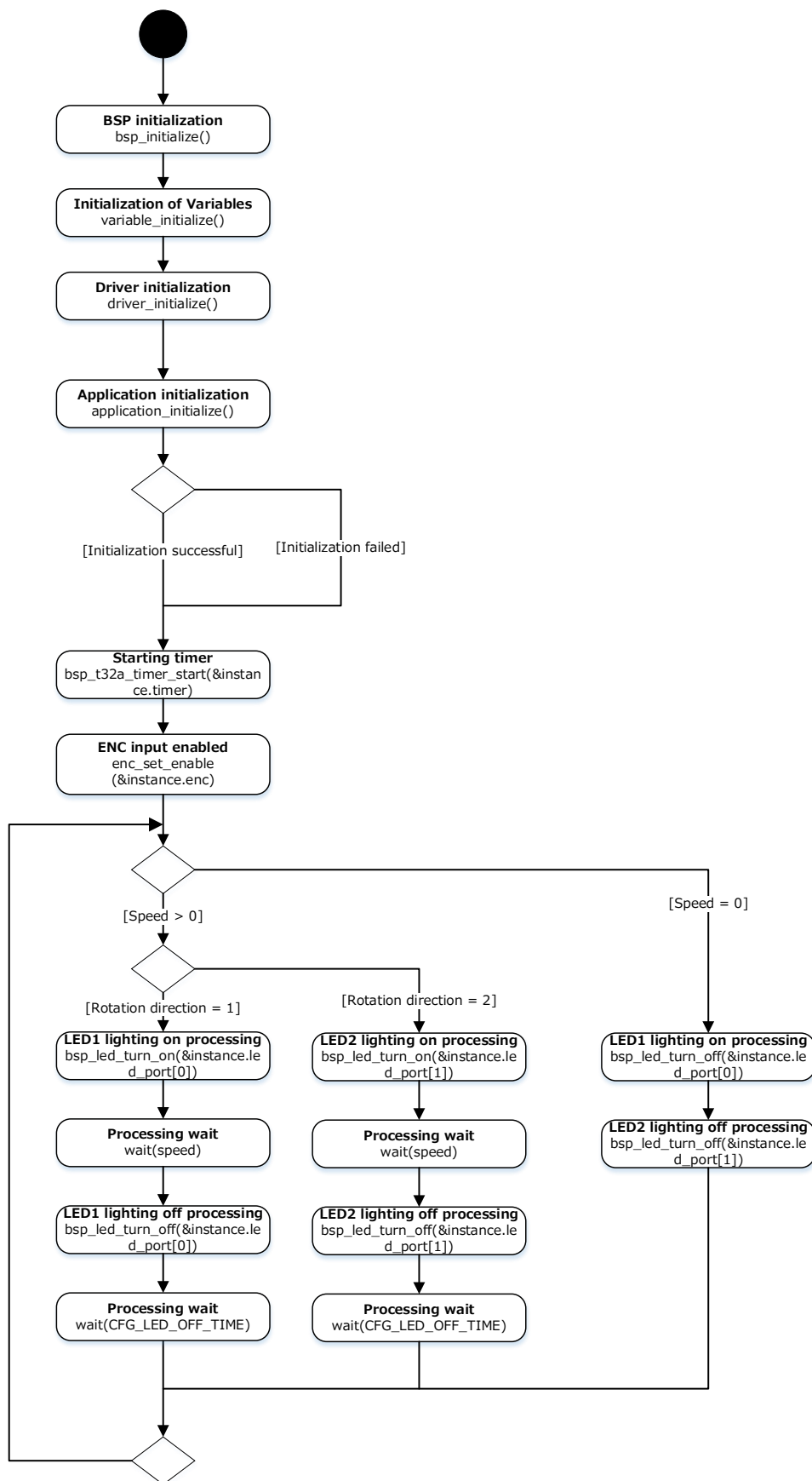
| Configuration | Soft Definition Name       | Current Value<br>(Defaults)         | explanation                                |
|---------------|----------------------------|-------------------------------------|--------------------------------------------|
| LED ON TIME   | Software cannot be changed | (rotations (X)-<br>rotations (X-1)) | Controlled by variable speed<br>(Unit: ms) |
| LED OFF TIME  | CFG_LED_OFF_TIME           | 50                                  | LED OFF Time (Unit: ms)                    |

### 6.5. Example of Terminal Emulator Output

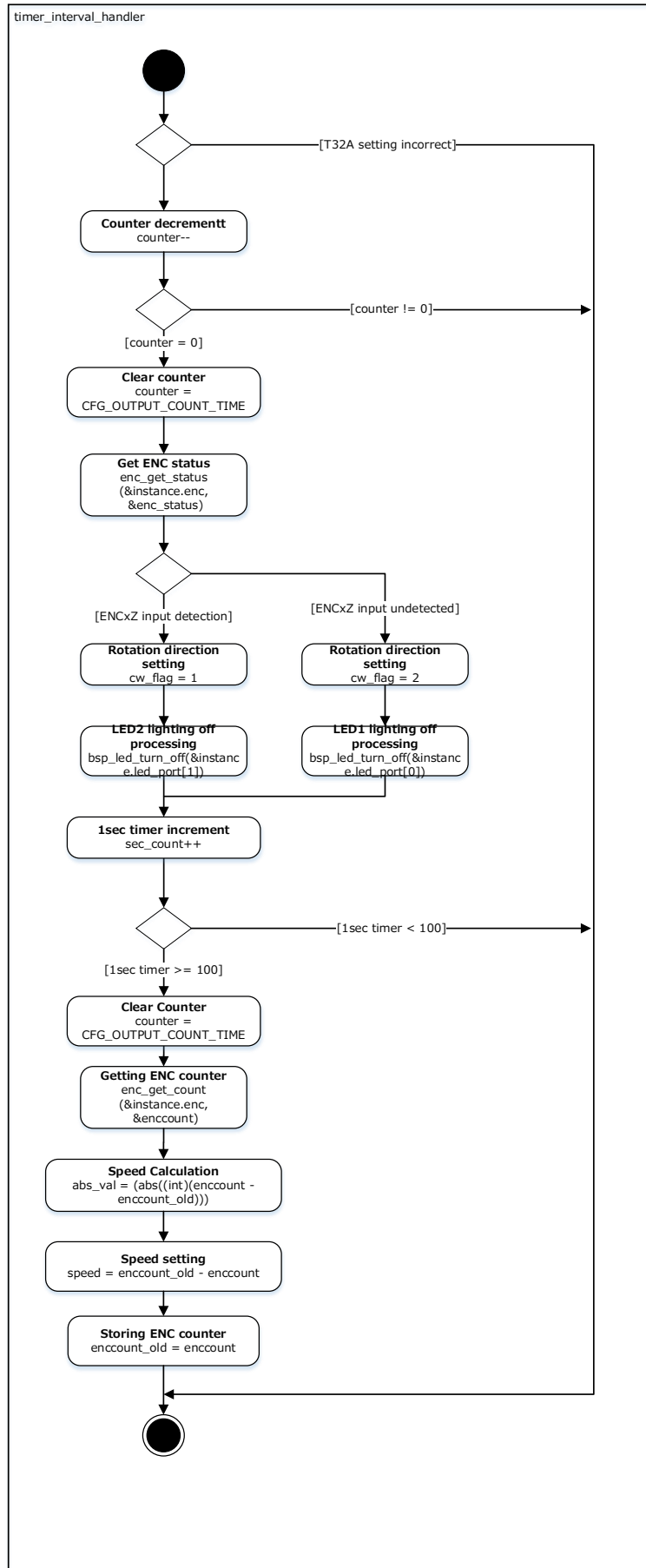
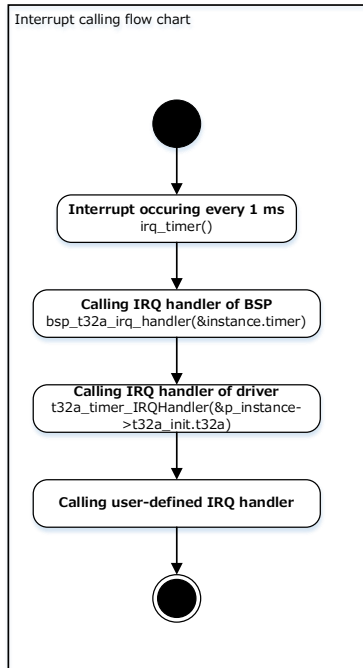
Nothing.

## 7. Activity diagram

### 7.1. main



## 7.2. Interrupt



## 8. Revision History

| Revision | Date       | Description   |
|----------|------------|---------------|
| 1.0      | 2026-07-30 | First release |

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