

## Application Note

### FLASH\_DATA

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## 1. Preface

This application note describes sample software FLASH\_Data that uses FLASH Memory(FLASH).  
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
FLASH	Flash Memory
Timer	T32A:32-bit Timer Event Counter
UART	Universal Asynchronous Receiver Transmitter

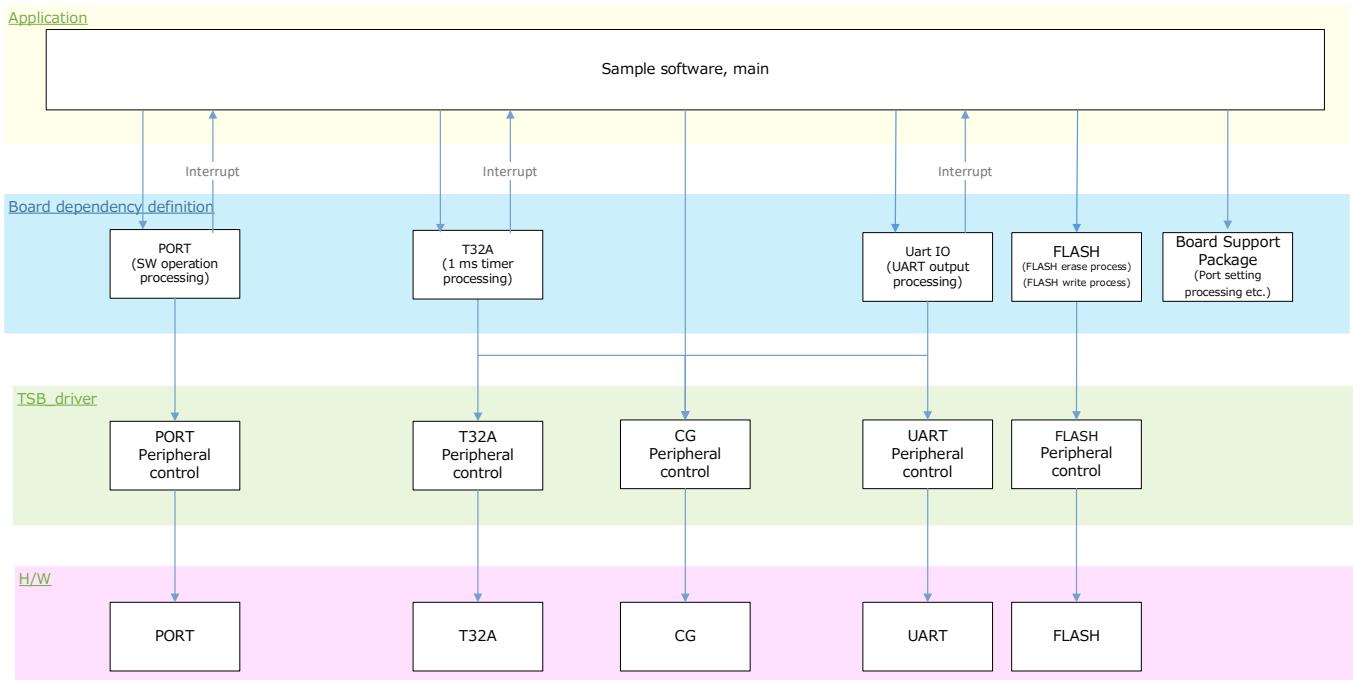
## 3. Reference Document

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
FLASH_Data	Sample program of FLASH_DATA function

## 5. Configuration Diagram



## 6. Sample Program:FLASH\_Data

This sample software performs Data Flash access(erase and write) each time BSP\_PSW\_1 is pressed.

### 6.1. Outlines of Operation

When BSP\_PSW\_1 is pressed, all Data areas are erased. After that, starting from the beginning address of Data Area A, data of size Data Size A is written sequentially from 0x00 to 0xFF, followed by writing the same sequence from the beginning address of Data Area B for Data Size A.

Then Data Area A is erased, and after that Data Area C is erased.

Note: Since writing occurs in 128-byte units, if the specified size is less than 128 bytes, undefined data will be written.

### 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
PORT (Push-Switch)	BSP_PSW_1	Event trigger
T32A	BSP_T32A_TIMER_1	Interval timer
UART	BSP_UART_1	Terminal communication

### 6.3. Interrupt to Use

Interrupt	Outlines
(Note1)	UART transmission interrupt
(Note2)	UART error interrupt
(Note3)	T32A Timer A Increment timer counter every 1ms

Note1: For AdBun-M3HQA, "INTUART0TX".

Note2: For AdBun-M3HQA, "INTUART0ERR".

Note1: For AdBun-M3HQA, "INTT32A00AC".

### 6.4. Configuration

Configuration setting.

Configuration	Soft Definition Name	Current Value (Defaults)	Description
Data entire area	-	M3H: Flash Area 4 (FC_AREA4)	-
Data Area A	FLASH_DATA_1	M3H: Data Flash Page 0	-
Data Area B	FLASH_DATA_2	M3H: Data Flash Page 1	-
Data Area C	-	M3H: Data Flash Block 0	-
Data Size A	—size_demo1— —size_demo2—	Flash Block SIZE	Data Flash size allocated (used) for write operations to Data Area A and B

## 6.5. Example of Terminal Emulator Output

### 6.5.1. Normal Operation(M3H)

```
Please Press the BSP_PSW_1
Area4 Erasing
Rewriting
Page0 Erasing
Block0 Erasing
Finished
Please Press the BSP_PSW_1
```

### 6.5.2. Case of Erasing Error Occurrence for entire Data area (M3H)

```
Please Press the BSP_PSW_1
Area4 Erasing
Erasing Error!!
```

### 6.5.3. Case of Erasing Error Occurrence for Data area A (M3H)

```
Please Press the BSP_PSW_1
Area4 Erasing
Rewriting
Writing Error!!
```

### 6.5.4. Case of Erasing Error Occurrence for Data area C (M3H)

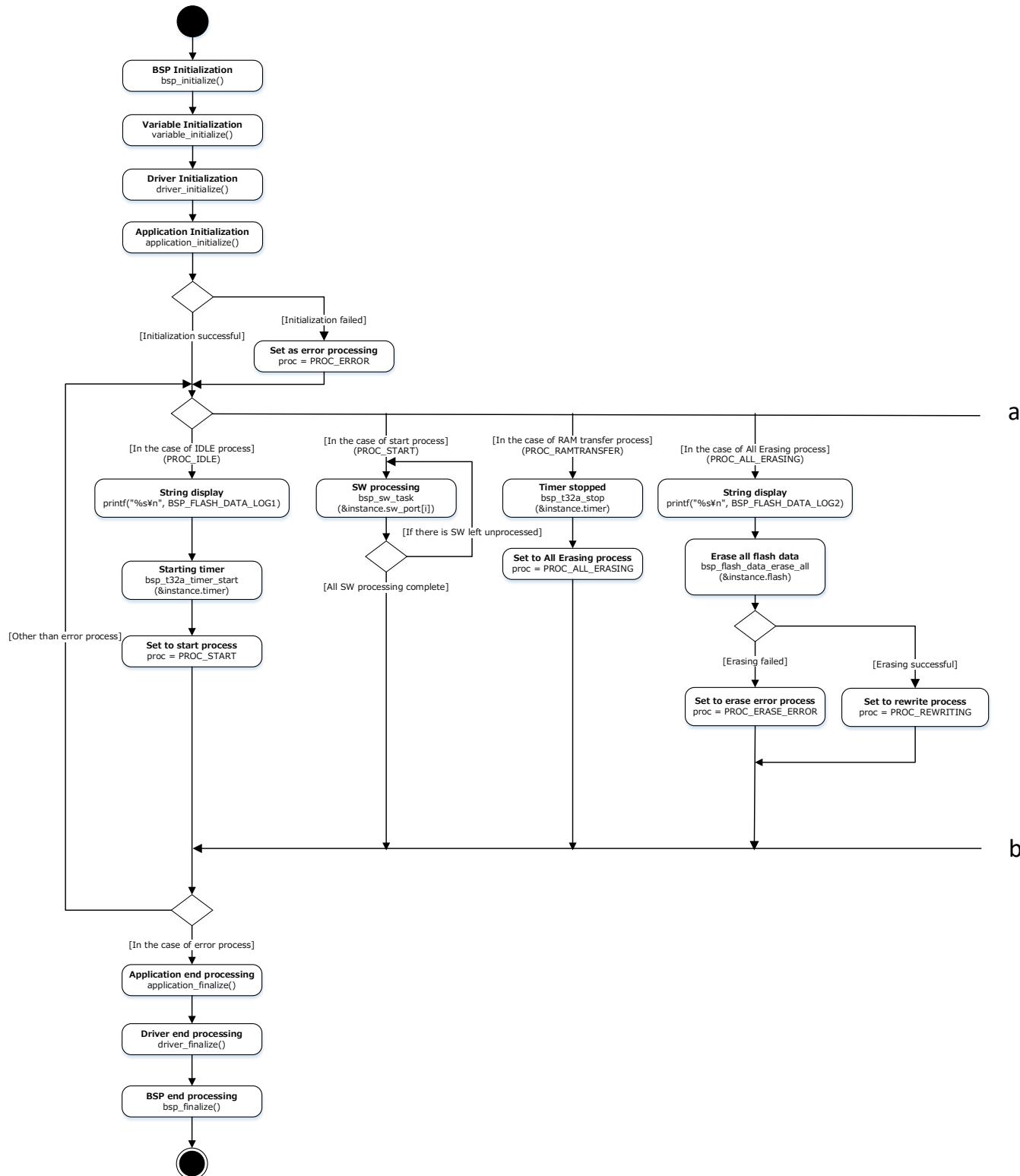
```
Please Press the BSP_PSW_1
Area4 Erasing
Rewriting
Writing Error!!
```

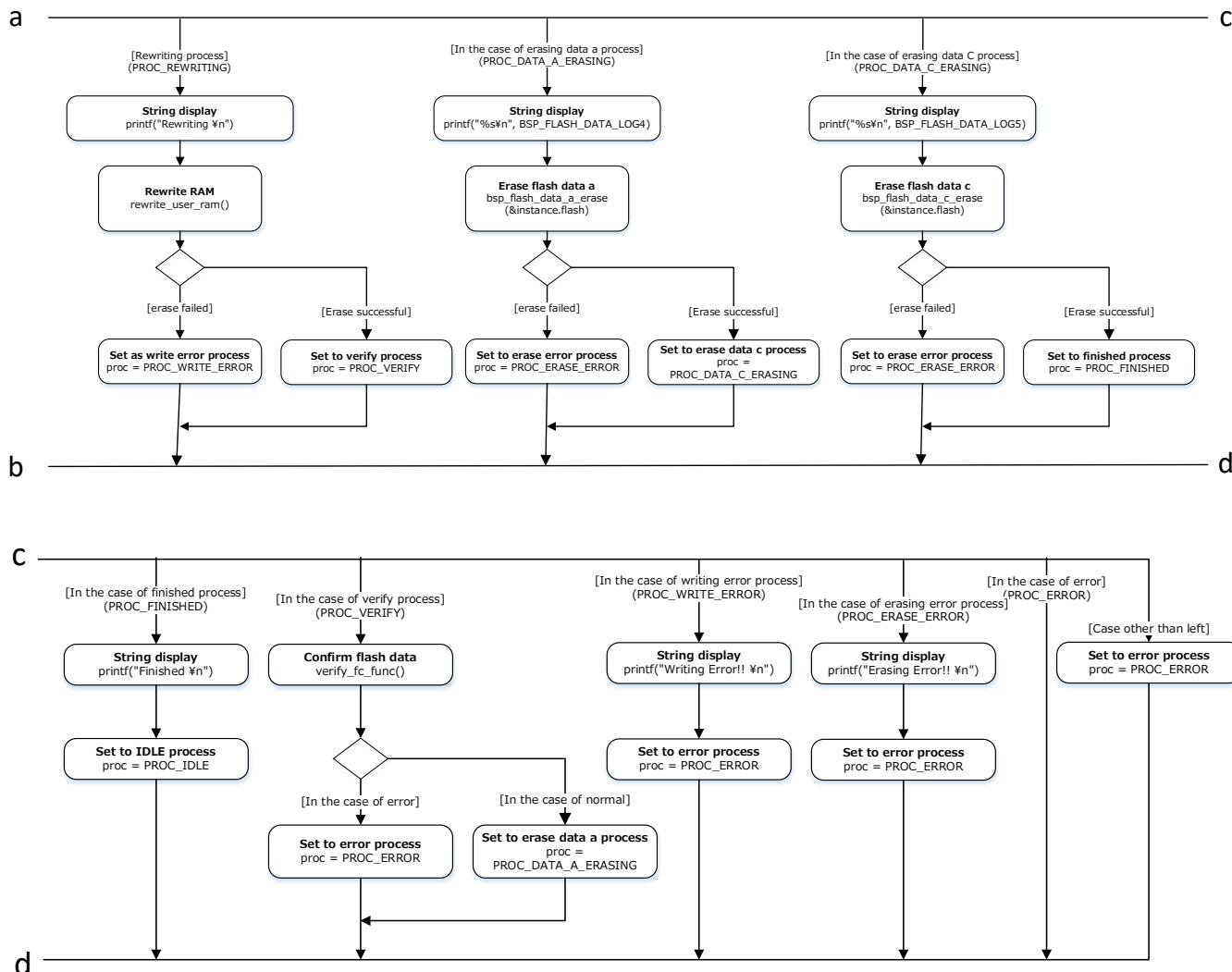
## 6.5.5. Case of Writing Error Occurrence (M3H)

Please Press the BSP\_PSW\_1  
Area4 Erasing  
Rewriting  
Writing Error!!

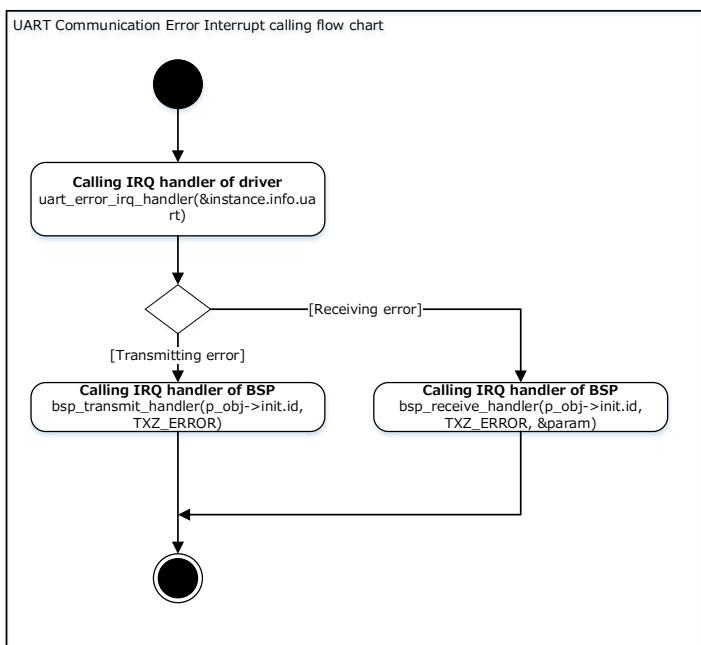
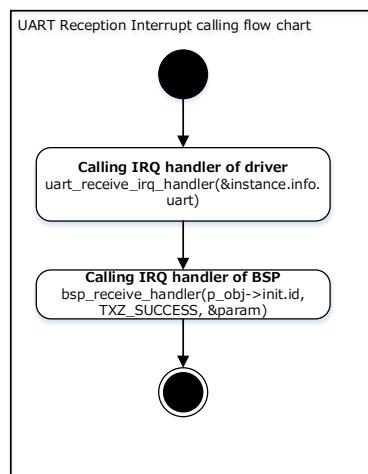
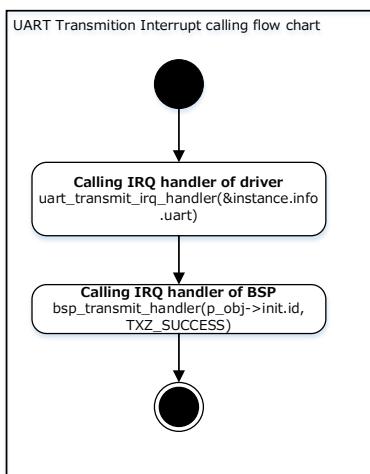
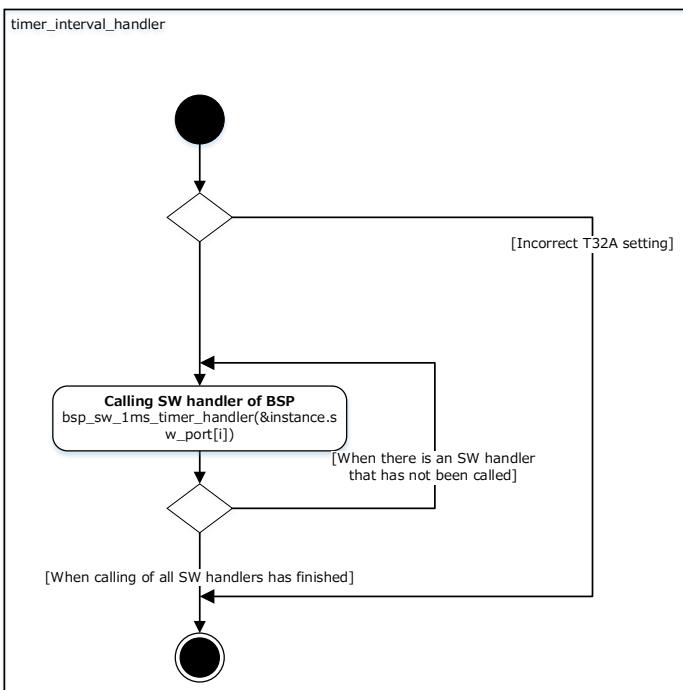
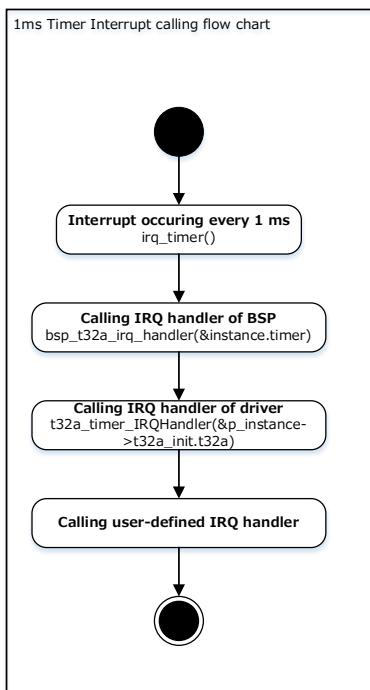
## 7. Activity diagram

### 7.1. main





## 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. 6.4. Configuration Added M3H 6.5. Example of Terminal Emulator Output Added M3H

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