

Application Note

Flash Data

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1. Preface

This application note describes the sample software of Flash_Data using Flash memory function. This document helps the user check operation of a product under development and develop its program.

2. Technical Term

Term/Abbreviation	Definition
UART	Universal Asynchronous Receiver Transmitter
T32A	32-bit Timer Event Counter

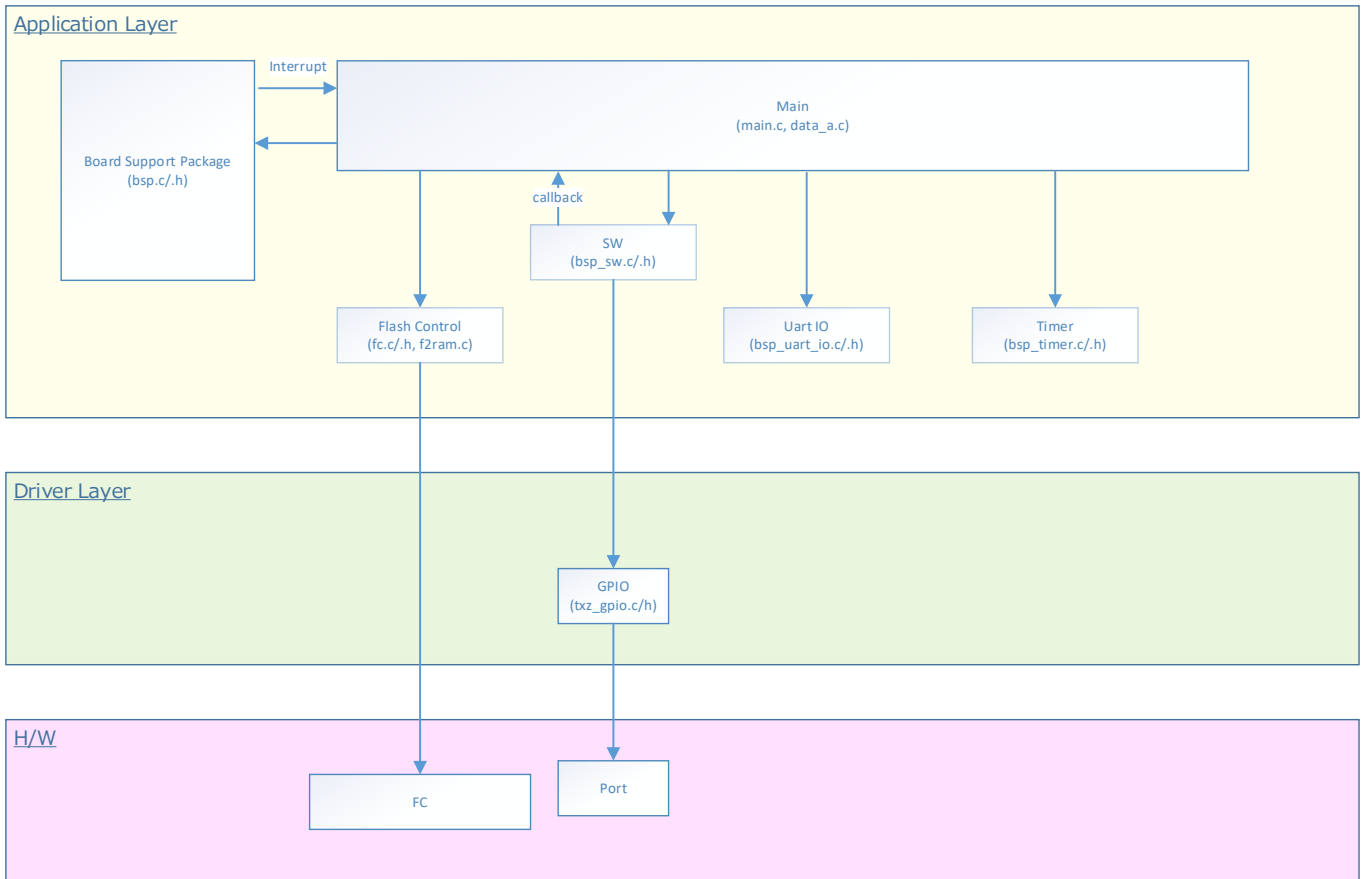
3. Reference Document

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 manual to be used.

4. Target Sample Program

Sample Program	Outlines
Flash_Data	Sample of Flash data coding

5. Configuration Diagram



6. Sample Program: Flash_Data

This sample software programs data to a special region of Flash memory or erases it using Flash memory function.

6.1. Outlines of Operation

A start-up message is displayed on the terminal emulator at start-up.

When a corresponding BSP_PSW_3 is pushed down, an area erase is done (0x30000000 to 0x30007FFF). And "Area4 Erased" message is displayed on the terminal emulator.

Then, data 0x00 to 0xFF are programmed to the regions of Page0 and Page1 (0x30000000 to 0x300000FF and 0x30000100 to 0x300001FF, respectively). And "Rewriting" message is displayed.

Next, the Page0 region (0x30000000 to 0x300000FF) is erased, and "Page0 Erasing" message is displayed.

After completion of the erase of the Page0 region, the Block0 region (0x30000000 to 0x30000FFF) is erased, and "Block0 Erasing" message is displayed.

At last, "Finished" message is displayed.

If the BSP_PSW_3 is pushed down again, the same process is executed.

6.2. Function to Use

The functions to use are as follows.

For the Port assignment of each channel, refer to the MCU user manual.

IP	Channel	Objective
UART	BSP_UART_0	Communication with the terminal emulator
T32A	BSP_TIMER_1MS	Interval timer
PORT	BSP_PSW_3	Switch input
FLASH	-	Code flash/Data flash control

6.3. Interrupt to Use

Interrupt	Outlines
UART Interrupt	UART reception interrupt
	UART transmission interrupt
	UART ERROR interrupt
Timer Interrupt	Timer A match interrupt

6.4. Configuration

Nothing.

6.5. Example of Terminal Emulator Output

6.5.1. Normal Operation

```
*****
FLASH DATA Sample start
*****
Please press the SW
Area4 Erased.
Rewriting.
Page0 Erased.
Block0 Erased.
Finished.
```

6.5.2. Case of Error Occurrence

Nothing.

7. Revision History

Revision	Date	Description
1.0	2021-10-28	First release

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