

Application Note

Flash UserInformation

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1. Preface

This application note describes the sample software of Flash_UserInformation 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

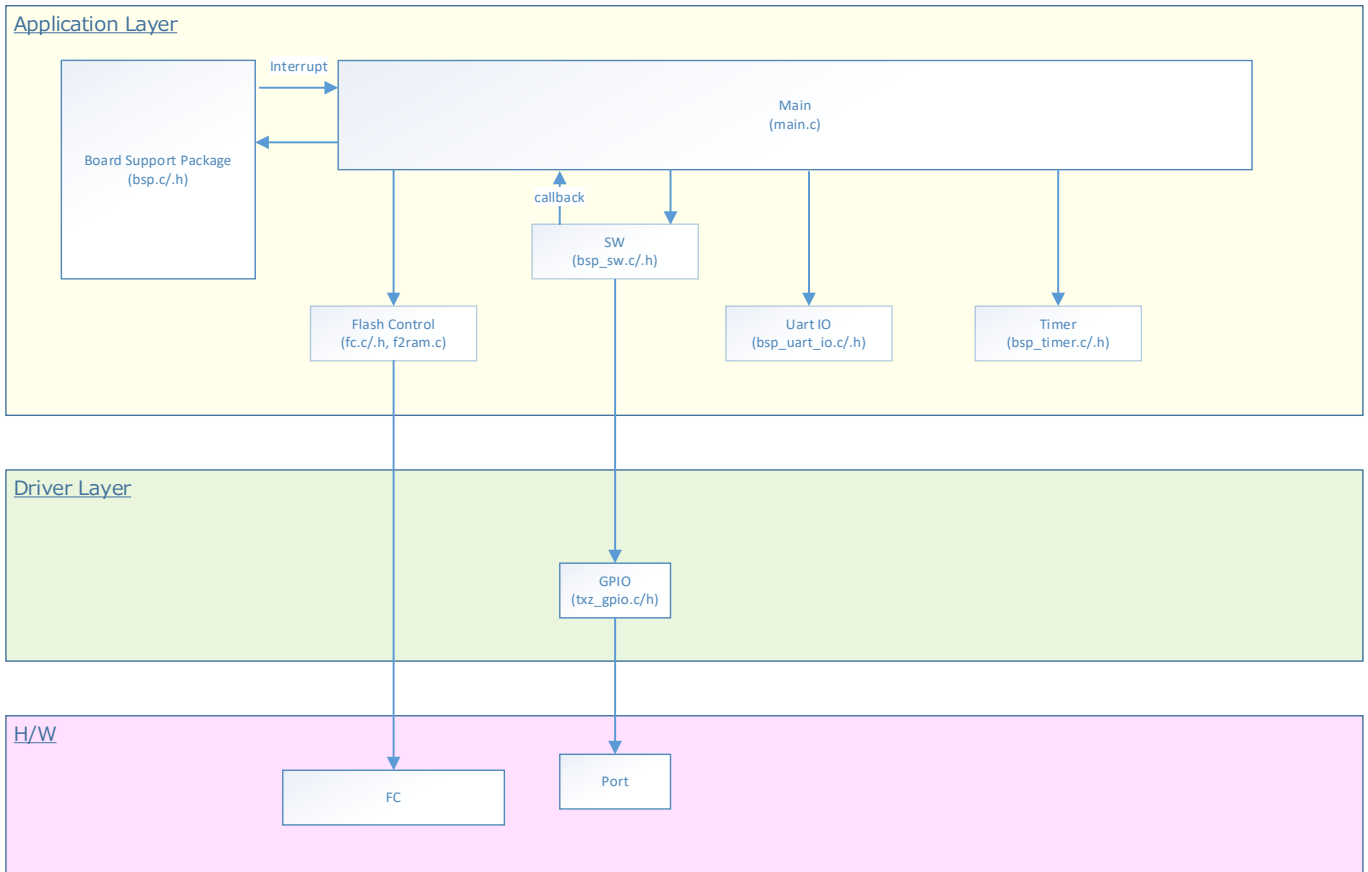
3. Reference Document

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_UserInformation	Sample of Flash UserInformation

5. Configuration Diagram



6. Sample Program: Flash_UserInformation

This sample software programs data to the user information area of Flash memory using Flash memory function.

6.1. Outlines of Operation

“GetUserInformationData” is registered by using the live watch function of the development tool.

The program is executed.

When “Please press the SW” message is displayed on the terminal emulator, BSP_PSW_3 should be pushed down.

“Toshiba User Information Example” data is programmed to the user information area in the Flash memory.

“Finished. check a variable GetUserInformationData” is displayed on the terminal emulator. Then, it should be checked that “Toshiba User Information Example” has been written to the live watch variable “GetUserInformationData”.

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/Data Flash control

6.3. Interrupt to Use

Interrupt	Outlines
UART Interrupt	UART reception interrupt
	UART transmission interrupt
	UART ERROR interrupt
Timer Interrupt	Interval timer interrupt

6.4. Configuration

Nothing.

6.5. Example of Terminal Emulator Output

6.5.1. Normal Operation

When starting program

```
FLASH User Information Area Write Example
```

When waiting SW input

```
Please press the SW
```

When expanding RAM

```
RAM transferring.
```

When erasing

```
Erasing.
```

When writing

```
writing
```

When writing is completed

```
Finished.  
check a variable GetUserInformationData.
```

6.5.2. Case of Error Occurrence

Nothing.

7. Revision History

Revision	Date	Description
1.0	2021-10-26	First release

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