[Notes]
RX Family
Flash Module Using Firmware Integration Technology
RX Driver Package

R20TS0872EJ0100
Rev.1.00
Sep. 01, 2022

Outline

When using the product in the title, note the following point.

1. Transition of Software Standby Mode for Flash Type 3 and Flash Type 4

1. Transition of Software Standby Mode for Flash Type 3 and Flash Type 4

1.1 Applicable Products

(1) RX Family Flash Module Using Firmware Integration Technology (Flash Module)
Rev.4.90 (document No. R01AN2184EJ0490) and earlier

(2) RX Driver Package
The following RX Driver Packages include the Flash Modules in (1).
Rev.1.36 (document No. R01AN6515EJ0136) and earlier

(3) FIT Modules used in combination with the Flash Modules and their application notes
The problem may occur when certain FIT Modules are used with the Flash Modules in (1).
Examples:

- RX Family Firmware Update Module Using Firmware Integration Technology (R01AN5824EJ)
  https://www.renesas.com/jp/en/search?keywords=R01AN5824
- RX Family TSIP (Trusted Secure IP) Module Firmware Integration Technology (R20AN0548EJ)
  https://www.renesas.com/jp/en/search?keywords=R20AN0548

1.2 Applicable Devices

(1) Flash type 3: RX64M, RX660, RX66T, RX71M, and RX72T groups

(2) Flash type 4: RX651, RX65N, RX66N, RX671, RX72M, and RX72N groups

1.3 Details and Conditions

After returning from software standby mode, if any of the following functions is executed without having performed "R_FLASH_Open" of the Flash Module, the return value contains an error (blocking mode) or the argument of the callback function contains an error (non-blocking mode).

"R_FLASH_Erase"

"R_FLASH_BlankCheck"

"R_FLASH_Write"

"R_FLASH_Control" with the lock bit program argument (FLASH_CMD_LOCKBIT_WRITE) specified

1.4 Workaround

Take either of the following actions.

(1) Before entering software standby mode, execute "R_FLASH_Close" of the Flash Module. After returning from the mode, execute "R_FLASH_Open".

(2) In the following common functions in r_flash_rx¥src¥r_flash_fcu.c, enable or disable the flash write erase enable bit (FLWE) of the flash P/E protect register (FWEPROR).

Before modification

```
flash_err_t flash_reset(void)
{
(Omitted)
    return FLASH_SUCCESS;
}

flash_err_t flash_pe_mode_enter(flash_type_t flash_type)
{
(Omitted)
    return err;
}

flash_err_t flash_pe_mode_exit(void)
{
(Omitted)
    return err;
}
```

After modification

```
flash_err_t flash_reset(void)
{
(Omitted)
    FLASH.FWEPROR.BYTE = 0x00; /* FLWE bit is disabled */

    return FLASH_SUCCESS;
}

flash_err_t flash_pe_mode_enter(flash_type_t flash_type)
{
(Omitted)
    FLASH.FWEPROR.BYTE = 0x01; /* FLWE bit is enabled */

    return err;
}

flash_err_t flash_pe_mode_exit(void)
{
(Omitted)
    FLASH.FWEPROR.BYTE = 0x00; /* FLWE bit is disabled */

    return err;
}
```

1.5 Schedule for Fixing the Problem

The problem will be fixed in the next version.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Sep.01.22	-	First edition issued

Renesas Electronics has used reasonable care in preparing the information included in this document, but Renesas Electronics does not warrant that such information is error free. Renesas Electronics assumes no liability whatsoever for any damages incurred by you resulting from errors in or omissions from the information included herein.

The past news contents have been based on information at the time of publication. Now changed or invalid information may be included.

The URLs in the Tool News also may be subject to change or become invalid without prior notice.

Corporate Headquarters

TOYOSU FORESIA, 3-2-24 Toyosu,
Koto-ku, Tokyo 135-0061, Japan
www.renesas.com

Trademarks

Renesas and the Renesas logo are trademarks of Renesas Electronics Corporation. All trademarks and registered trademarks are the property of their respective owners.

Contact Information

For further information on a product, technology, the most up-to-date version of a document, or your nearest sales office, please visit:
www.renesas.com/contact/

© 2022 Renesas Electronics Corporation. All rights reserved.

TS Colophon 4.3