

[Notes]

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Rev.1.00

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RX Family I²C Bus Interface (RIIC) Module Using Firmware Integration Technology

RX110, RX111, RX113, RX130, RX230, RX231, RX23T, RX24T Group RX Driver Package Ver.1.03

Outline

When using the RX Family I²C Bus Interface (RIIC) Module Using Firmware Integration Technology and the RX110, RX111, RX113, RX130, RX230, RX231, RX23T, RX24T Group RX Driver Package Ver.1.03, take note of the problem described in this note regarding the following point.

1. Creating projects with the RX110 selected

1. Creating Projects with the RX110 Selected

1.1 Applicable Product

- RX Family I²C Bus Interface (RIIC) Module Using Firmware Integration Technology (RIIC FIT module)

Revision: Rev1.90

The following document is relevant.

- Application note for the RX Family I²C Bus Interface (RIIC) Module Using Firmware Integration Technology (hereinafter, RIIC FIT module application note)
Document number: R01AN1692EJ0190

The problem also applies to the following product which includes the above RIIC FIT module*.

*: The RIIC FIT module is included as r_riic_rx_v1.90.zip.

- RX110, RX111, RX113, RX130, RX230, RX231, RX23T, RX24T Group RX Driver Package Ver.1.03

Revision: Rev1.03

The following document is relevant.

- RX110, RX111, RX113, RX130, RX230, RX231, RX23T, RX24T Group RX Driver Package Ver.1.03
User's Manual and Application Note
Document number: R01AN3233EJ0103

1.2 Applicable MCUs

RX110 group

1.3 Details

A build error occurs since the pin function settings in functions "riic_mcu_mpc_enable()" and "riic_mcu_mpc_disable()" of the RIIC FIT module source code file r_riic_rx110.c have an error.

1.4 Conditions

This problem arises if an RX110 project is newly created with reference to 2.9, Adding the FIT Module to Your Project, in the RIIC FIT module application note (document no. R01AN1692EJ0190), and the project is built* after embedding Rev.1.90 of the RIIC FIT module.

*: Building is to include the RIIC FIT module source code file r_riic_rx110.c.

1.5 Workarounds

Correct the following.

- “riic_mcu_mpc_enable()” and “riic_mcu_mpc_disable()” functions in the RIIC FIT module source code file r_riic_rx110.c.
- The value defined for the PORT_PFS_OFFSET macro in RIIC FIT module source code file r_riic_rx110_private.h.

The details of the modification are as follows. Modify the handling in blue to the handling in red for each function.

- “riic_mcu_mpc_enable()” function in RIIC FIT module source code file r_riic_rx110.c

Before modification: Extracts (2 parts) from pin function settings

```
void r_riic_target_mcu_mpc_enable(uint8_t channel)
{
(Omit)

    ppfs = (((&MPC.P03PFS.BYTE) + (port_gr * 8)) + pin_num) -
    PORT_PFS_OFFSET);

    (*ppfs) = RIIC_MPC_SCL0_ENABLE;           /* Pin function select
    to RIIC SCL pin. */

(Omit)

    ppfs = (((&MPC.P03PFS.BYTE) + (port_gr * 8)) + pin_num) -
    PORT_PFS_OFFSET);

    (*ppfs) = RIIC_MPC_SDA0_ENABLE;           /* Pin function select
    to RIIC SDA pin. */
```

After modification:

```
void r_riic_target_mcu_mpc_enable(uint8_t channel)
{
(Omit)

    ppfs = (((&MPC.P14PFS.BYTE) + (port_gr * 8)) + pin_num) -
    PORT_PFS_OFFSET);

    (*ppfs) = RIIC_MPC_SCL0_ENABLE;           /* Pin function select
    to RIIC SCL pin. */

(Omit)

    ppfs = (((&MPC.P14PFS.BYTE) + (port_gr * 8)) + pin_num) -
    PORT_PFS_OFFSET);

    (*ppfs) = RIIC_MPC_SDA0_ENABLE;           /* Pin function select
    to RIIC SDA pin. */
```

- “riic_mcu_mpc_disable()” function in RIIC FIT module source code file r_riic_rx110.c.

Before modification: Extracts (2 parts) from pin function settings

```
void r_riic_target_mcu_mpc_disable(uint8_t channel)
{
(Omit)

    ppfs = ((((&MPC.P03PFS.BYTE) + (port_gr * 8)) + pin_num) -
    PORT_PFS_OFFSET);

    (*ppfs) = RIIC_MPC_SCL0_INIT;                /* Pin function select
    to Hi-Z. */

(Omit)

    ppfs = ((((&MPC.P03PFS.BYTE) + (port_gr * 8)) + pin_num) -
    PORT_PFS_OFFSET);

    (*ppfs) = RIIC_MPC_SDA0_INIT;                /* Pin function select
    to Hi-Z. */
```

After modification:

```
void r_riic_target_mcu_mpc_disable(uint8_t channel)
{
(Omit)

    ppfs = ((((&MPC.P14PFS.BYTE) + (port_gr * 8)) + pin_num) -
    PORT_PFS_OFFSET);

    (*ppfs) = RIIC_MPC_SCL0_INIT;                /* Pin function select
    to Hi-Z. */

(Omit)

    ppfs = ((((&MPC.P14PFS.BYTE) + (port_gr * 8)) + pin_num) -
    PORT_PFS_OFFSET);

    (*ppfs) = RIIC_MPC_SDA0_INIT;                /* Pin function select
    to Hi-Z. */
```

- The value defined for the PORT_PFS_OFFSET macro in RIIC FIT module source code file r_riic_rx110_private.h.

Before modification: Extract (1 part) from pin function settings

```
(Omit)

/* port register setting */
#define PORT_PFS_OFFSET      (3)                /* minimum PORT PIN
NUM for PFS */
```

After modification:

```
(Omit)
/* port register setting */
#define PORT_PFS_OFFSET      (12)                /* minimum PORT PIN
NUM for PFS */
```

1.6 Schedule for Fixing the Problem

- RX Family I²C Bus Interface (RIIC) Module Using Firmware Integration Technology

This problem will be fixed in the next revision.

- RX110, RX111, RX113, RX130, RX230, RX231, RX23T, RX24T Group RX Driver Package Ver.1.03

The RIIC FIT module modified in accord with this note will be included in Ver.1.11 of the RX Family Driver Package, which will be the next release.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Sep. 01, 2016	-	First edition issued

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