[Notes]

RX Family

Board Support Package Module Firmware Integration Technology,

RX Driver Package

R20TS0507EJ0100
Rev.1.00
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Outline

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

1. Inclusion of "iodefine.h" when using CS+

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1.1 Applicable Products

(1) Board Support Package Module Firmware Integration Technology (BSP FIT module)

The applicable revision numbers and document numbers are as follows.

Table 1.1 BSP FIT module applicable products

BSP FIT module revision number	Document number
Rev.5.20	R01AN1685EJ0520
Rev.5.21	R01AN1685EJ0521

(2) RX Driver Package

The BSP FIT module in (1) is also included in the RX Driver Package.
The product names and revision numbers of the applicable RX Driver Package and the revision numbers of the included BSP FIT module are as follows.

Table 1.2 Products that include the BSP FIT module

RX Driver Package product name	RX Driver Package revision number	Document number	Revision number of the included BSP FIT module
RX Family RX Driver Package, Ver.1.20	Rev.1.20	R01AN4794EJ0120	Rev.5.20
RX Family RX Driver Package, Ver.1.22	Rev.1.22	R01AN4873EJ0122	Rev.5.20

1.2 Applicable Devices

- RX110, RX111, RX113, and RX130 groups
- RX230, RX231, RX23T, RX23E-A, RX24T, and RX24U groups
- RX64M, RX65N, RX651, and RX66T groups
- RX71M, RX72T, and RX72M groups

1.3 Details and Conditions

The following phenomena may occur:

(1) "iodefine.h" for a compiler different from the one in use is included.

This problem arises if the following conditions are all met:

(a) Rev. 5.20 or later version of BSP FIT module is incorporated into a CS+ project manually or by using the [Generate Code] of the Smart Configurator.

(b) "iodefine.h" is included because it is directly specified in a user-created source file.

[Details]

The "additional include paths" setting of CS+ adds the following "iodefine.h" paths automatically (Note). Therefore, "iodefine.h" which is set on top is included irrespective of the compiler in use.

Note: Automatic path addition occurs when newly registering "iodefine.h", or a folder including this file, in a CS+ project.

- “ iodefine.h” path

  - src¥smc_gen¥r_bsp¥mcu¥<Device name>¥register_access¥iccrx
  - src¥smc_gen¥r_bsp¥mcu¥<Device name>¥register_access¥gnuc
  - src¥smc_gen¥r_bsp¥mcu¥<Device name>¥register_access¥ccrx

Note that, if automatic path addition occurs again after one of the paths above is deleted manually, the order of paths may be different from the one above.

(2) Build error by multiple definitions (applicable only to the RX65N and RX651 groups)

This problem arises if the following conditions are all met:

(a) CS+ is used.

(b) Both "platform.h" and "iodefine.h" are included in a user-created source file.

[Details]

A build error occurs because an include guard for "iodefine.h" does not work for the following reasons:

(i) ".¥board¥<Board name>¥r_bsp.h" included in "platform.h" will include "iodefine.h" appropriate for the compiler in use according to the following source code:

```
#if defined(__CCRX__)
#include    "mcu/rx72m/register_access/ccrx/iodefine.h"
#elif defined(__GNUC__)
#include    "mcu/rx72m/register_access/gnuc/iodefine.h"
#elif defined(__ICCRX__)
#include    "mcu/rx72m/register_access/iccrx/iodefine.h"
#endif /* defined(__CCRX__), defined(__GNUC__), defined(__ICCRX__) */
```

(ii) If a user-created source file also includes "iodefine.h", "iodefine.h" inappropriate for the compiler in use may be included as described in (1) in section 1.3.

(iii) In the BSP FIT module for RX65N and RX651, the definition for an include guard differs between "iodefine.h" files for different compilers (Renesas CC-RX complier, IAR Systems' compiler and GNU complier) as follows:

・src¥smc_gen¥r_bsp¥mcu¥<Device name>¥register_access¥ccrx¥iodefine.h

```
#ifndef __RX651IODEFINE_HEADER__
#define __RX651IODEFINE_HEADER__
-------------------------(Omitted)-------------------------
#endif
```

・src¥smc_gen¥r_bsp¥mcu¥<Device name>¥register_access¥iccrx¥iodefine.h, and src¥smc_gen¥r_bsp¥mcu¥<Device name>¥register_access¥gnuc¥iodefine.h

```
#ifndef __RX65NIODEFINE_HEADER__
#define __RX65NIODEFINE_HEADER__
-------------------------(Omitted)-------------------------
#endif
```

1.4 Workaround

You can avoid phenomena (1) and (2) in section 1.3 by one of the following methods.

(1) Correct the user-created source file

In the user-created source file, include "platform.h" instead of "iodefine.h". "platform.h" will include "iodefine.h" appropriate for the compiler in use.

Below is an example of modification. Modification is shown in red.

- Before modification

```
#include "iodefine.h"
```

- After modification

```
#include "platform.h"
```

(2) Change the "additional include paths" setting

In the "additional include paths" setting of CS+, delete the "iodefine.h" include paths for compilers not in use(Note).

Note: If you re-register a BSP FIT module after removing it from a project, the state before removal is restored. You need to delete the module again.

1.5 Schedule for Fixing the Problem

This problem will be fixed in a later version.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Nov.01.19	-	First edition issued

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