

Notes on Using the Following Tools CS+ Code Generator for RX e2 studio (Code Generator Plug-in) AP4 Coding Assistance Tool for RX

When using the CS+ Code Generator for RX, the e2 studio (Code Generator plug-in), and the AP4 coding assistance tool for RX, take note of the problems on the following point that is described in this note.

- Interrupts when the MTU is set for complementary PWM mode
Applicable RX23T group
products: RX230 and RX231 groups
 RX110, RX111, and RX113 groups

1. Applicable Products

- V1.00.00 and later versions of the CS+ Code Generator for RX
- V2.1.0.21 and later versions of the e2 studio
(V1.0.0 and later versions of the Code Generator plug-in)
- V1.05.00 and later versions of the AP4 coding assistance tool for RX*

*: This note also applies to the following products.

- V1.00.00 and later versions of the Application Leading Tool
which is a coding assistance tool for RX

Note: The Application Leading Tool for RX is listed separately because its name has been changed to AP4 for RX from V1.05.00 (the latter are the newer versions of the former).

2. Applicable MCUs

- RX family: RX23T group
 RX230 and RX231 groups

3. Description

The code output for the following functions is erroneous when the use of the multi-function timer pulse unit 3 of the RX23T group or the multi-function timer pulse unit 2 of other groups in complementary PWM mode is selected.

- RX23T group
void R_MTU3_Create(void) function in the r_cg_mtu3.c source file
- Other than the RX23T group
void R_MTU2_Create(void) function in the r_cg_mtu2.c source file

The code for setting the interrupt priority level of the following interrupts, which should be set up in the above functions, is not output, so they are not generated even if they are set as "enabled".

- Compare match interrupt (TGIA4)
- Compare match interrupt (TGIB4)
- Underflow interrupt (TCIV4)

4. Workaround

Add the settings for interrupt priority level (level 1 to 15) to the function as follows. The symbols defined in r_cg_mtu3.h or r_cg_mtu2.h can be used for setting the interrupt priority level. This modification is required every time code is generated.

- RX23T group
void R_MTU3_Create(void) function in the r_cg_mtu3.c source file

Example of required code: Setting to interrupt priority level 15

```
-----  
/* Setting compare match interrupt (TGIA4, TGIB4) priority level */  
IPR(MTU4, TGIA4) |= _0F_MTU_PRIORITY_LEVEL15; /* Interrupt priority */  
/* Level 15 */
```

```
/* Setting underflow interrupt (TCIV4) priority level */  
IPR(MTU4, TCIV4) |= _0F_MTU_PRIORITY_LEVEL15; /* Interrupt priority */  
/* Level 15 */  
-----
```

- Other than the RX23T group
void R_MTU2_Create(void) function in the r_cg_mtu2.c source file

Example of required code: Setting to interrupt priority level 15

```
-----  
/* Setting compare match interrupt (TGIA4, TGIB4) priority level */  
IPR(MTU4, TGIA4) |= _0F_MTU_PRIORITY_LEVEL15; /* Interrupt priority */  
/* Level 15 */  
  
/* Setting underflow interrupt (TCIV4) priority level */  
IPR(MTU4, TCIV4) |= _0F_MTU_PRIORITY_LEVEL15; /* Interrupt priority */  
/* Level 15 */  
-----
```

5. Schedule for Fixing the Problem

This problem will be fixed in the next version.

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