

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 points that are described in this note.

- Complementary PWM mode setting of the MTU

Applicable products: RX230 and RX231 groups

1. Applicable Products

- V1.08.00 of the CS+ code generator for RX
- V4.0.2.008 of the e2 studio (V2.0.2 of the Code Generator Plug-in)
- V1.07.00 of the AP4 coding assistance tool for RX

2. Applicable MCUs

RX family: RX230 and RX231 groups

3. Description

An error appears in the generated code when complementary PWM mode is selected for MTU3 of the multi-function timer pulse unit (MTU).

A build error occurs since an undefined symbol is used when the timer counter register (TCNT) of MTU3 is set in the function void R_MTU2_Create (void), which is in the r_cg_mtu2.c file.

The dead time is set in the timer counter register (TCNT) of MTU3.

4. Workaround

Modify the output code of void R_MTU2_Create (void) in the way shown below. The function is in the r_cg_mtu2.c file. This modification is required every time code is generated.

Before modification: In the case below, the output code was generated with the dead time set to 10 us.

```
-----  
void R_MTU2_Create(void)  
{  
.....  
    /* Channel 3 is used in complementary PWM mode 1 */  
    .....  
    MTU.TGCR.BYTE = _80_MTU_BDC_OUT;  
    MTU3.TCNT = _00A0_3TCNT_VALUE; /* <- faulty code */  
                /* undefined symbol */  
    MTU4.TCNT = 0x0000U;  
    MTU.TSYR.BYTE &= 0x3FU;  
.....  
}
```

After the modification: Again with the dead time setting as 10 us.

```
-----  
void R_MTU2_Create(void)  
{  
.....  
    /* Channel 3 is used in complementary PWM mode 1 */  
    .....  
    MTU.TGCR.BYTE = _80_MTU_BDC_OUT;  
    MTU3.TCNT = 0x00A0U; /* <- correct code */  
                /* Please describe the character string */  
                /* added to the head of the undefined */  
                /* symbol as the constant value. */  
    MTU4.TCNT = 0x0000U;  
    MTU.TSYR.BYTE &= 0x3FU;  
.....  
}
```

5. Schedule for Fixing the Problem

This problem will be fixed in the next version.

6. Remark

Refer to the release notes regarding points for caution and notes other than that in this note for the given products.

- V1.08.00 of the CS+ code generator for RX

CS+ Code Generator for RX V1.08.00 Release Note

- V4.0.2.008 of the e2 studio (the Code Generator Plug-in)

https://www.renesas.com/e2studio_document

e2 studio V4.0.2.008 Release Note

Note: For the code generation function for devices, also refer to the Release Note for V1.08.00 of the CS+ code generator for RX.

- V1.07.00 of the AP4 coding assistance tool for RX

<https://www.renesas.com/products/software-tools/tools/code-generator/ap4-application-leading-tool-applilet.html#documents>

AP4 for RX V1.07.00 Release Note

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