[Notes]e² studio Code Generator Plug-in andAP4 Coding Assistance Tool for RZ

R20TS0656EJ0100 Rev.1.00 Feb. 16, 2021

Overview

When using any of the products in the title, note the following point.

- 1. Notes on counter clear setting for multi-function timer pulse unit 3 in complementary PWM mode
- Notes on counter clear setting for multi-function timer pulse unit 3 in complementary PWM mode

1.1 Applicable Products

e² studio V4.0.0.26 (V2.0.0 and later versions of the Code Generator Plug-in)

V1.00.00 and later versions of the AP4 coding assistance tool for RZ

1.2 Applicable MCUs

RZ family: RZ/T1 group

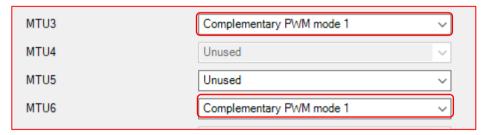
1.3 Description

Counter clear control for multi-function timer pulse unit 3 in complementary PWM mode has an error. If [Counter clear on another channel performing synchronous operation] is set, a malfunction occurs after the first synchronous clearing.

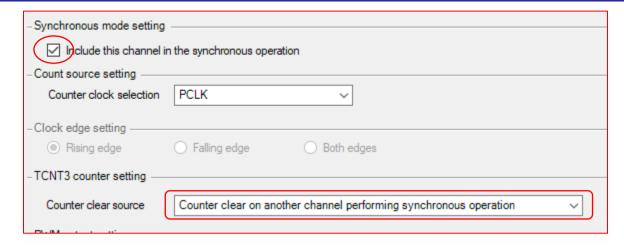
1.4 Conditions

The problem arises when settings (1) and (2) are used.

(1) In the [General Setting] tab for multi-function timer pulse unit 3, [MTU3] or [MTU6] is set to complementary PWM mode.



- (2) In the [MTU3] tab or [MTU6] tab for multi-function timer pulse unit 3, the following are set:
- Under [Synchronous mode setting], the [Include this channel in the synchronous operation] check box is selected.
 - Under [TCNT3(or 6) counter setting], [Counter clear source] is set to [Counter clear on another channel performing synchronous operation].



1.5 Workaround

Add a code to specify synchronous clearing to the CCLR[2:0] bit of the timer control register (TCR) for MTU4^{*1} and MTU7^{*2} in the generated code (r_cg_mtu3.c), as shown below.

This modification is required every time code is generated.

- *1: When MTU3 is used
- *2: When MTU6 is used
- Function in the source file r_cg_mtu3.c: R_MTU3_Create(void)

Before modification

After modification

```
* Function Name: R MTU3 Create
* Description : This function initializes the MTU3 Unit0 module.
* Arguments : None
* Return Value : None
*****************************
void R MTU3 Create(void)
{
   Omitted
  MTU3.TCR.BYTE = _MTU_PCLK_1 | _MTU_CKCL_SYN;
  MTU4.TCR.BYTE = _MTU_PCLK_1 | _MTU_CKCL_SYN;
                                Add
   Omitted
  MTU6.TCR.BYTE = _MTU_PCLK_1 | _MTU_CKCL_SYN;
  MTU7.TCR.BYTE = _MTU_PCLK_1 | _MTU_CKCL_SYN;
                                Add
```

1.6 Permanent Measure

This problem will be fixed in the next version.

Revision History

		Description	
Rev.	Date	Page	Summary
1.00	Feb.16.21	-	First edition issued

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