[Notes]

CS+ Code Generator for RX,

e² studio Code Generator Plug-in,

AP4 Coding Assistance Tool for RX

Outline

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

1. When using the I²C bus interface in slave mode

1.   When Using the I²C Bus Interface in Slave Mode

1.1   Applicable Products

➢   V1.03.00 and later versions of CS+ Code Generator for RX

➢   V3.1.0.024 and later versions of e² studio (V1.1.2 of the Code Generator plug-in)

➢   V1.03.00 and later versions of the AP4 coding assistance tool for RX

1.2   Applicable MCUs

➢   RX family: RX110, RX111, RX113, and RX130 groups

RX230, RX231, RX23T, RX24T, and RX24U groups

RX64M, RX651, RX65N, and RX71M groups

1.3   Details

When the I²C bus interface is used in slave mode, communication may not be performed correctly because the SCL synchronous circuit enable bit (SCLE) of the I²C bus function enable register (ICFER) is set to "0" in the code generated by the applicable products.

1.4   Workaround

Set the SCL synchronous circuit enable bit (SCLE) of the I²C bus function enable register (ICFER) to "1" in the following function.

- Function in the source file "r_cg_riic.c": "void R_RIIC*n*_Create(void)" (Note 1)

This modification is required every time code is generated. However, the modified definition can be maintained when code is generated again by using the user code protection function and adding the modification in the following function. Refer to the following FAQ for the details. (Note 2)

- Function in the source file "r_cg_riic_user.c": "void R_RIIC*n*_Create_UserInit(void)" (Note 1)

Note 1: *n* means the channel number.

Note 2: FAQ

https://www.renesas.com/en-sg/search/keyword-search.html#q=FAQNo%3A1011900

The following is an example of the required modification for RX230. The modification is shown in red.

Before modification:

```
/****************************************************************
* Function Name: R_RIIC0_Create
* Description  : This function initializes the RIIC0 Bus Interface.
* Arguments    : None
* Return Value : None
****************************************************************/
void R_RIIC0_Create(void)
{
    Omitted
    /* Set ICFER */
    RIIC0.ICFER.BYTE = _00_IIC_TIMEOUT_FUNCTION_DISABLE |
                       _00_IIC_MASTER_ARBITRATION_DISABLE |
                       _00_IIC_NACK_ARBITRATION_DISABLE |
                       _00_IIC_SLAVE_ARBITRATION_DISABLE |
                       _10_IIC_NACK_SUSPENSION_ENABLE |
                       _20_IIC_NOISE_FILTER_USED;
    Omitted

}
```

After modification:

```
/****************************************************************
* Function Name: R_RIIC0_Create
* Description  : This function initializes the RIIC0 Bus Interface.
* Arguments    : None
* Return Value : None
****************************************************************/
void R_RIIC0_Create(void)
{
    Omitted
    /* Set ICFER */
    RIIC0.ICFER.BYTE = _00_IIC_TIMEOUT_FUNCTION_DISABLE |
                       _00_IIC_MASTER_ARBITRATION_DISABLE |
                       _00_IIC_NACK_ARBITRATION_DISABLE |
                       _00_IIC_SLAVE_ARBITRATION_DISABLE |
                       _10_IIC_NACK_SUSPENSION_ENABLE |
                       _20_IIC_NOISE_FILTER_USED;
    RIIC0.ICFER.BIT.SCLE = 1U;
    Omitted

}
```

1.5   Schedule for Fixing the Problem

This problem will be fixed in the next version. (January 2018)

Revision History

Rev.	Date	Description	
		Page	**Summary**
1.00	Sep. 1, 2017	-	First edition issued

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