RENESAS Tool News

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A Note on Using the Emulation Probe R0E521000EPB00 or the Compact Emulator R0E521000CPE00 for the R8C MCU Family --With Using Bit CM13--

Please take note of the following problem in using the emulation probe R0E521000EPB00 or the compact emulator R0E521000CPE00 to debug systems designed with MCUs of the R8C/2x series:

- With using bit CM13 (See NOTE 1.)

NOTE 1.
Bit CM13 is for switching the XIN and XOUT pins to the P4_6 and P4_7 pins.

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1. Products Concerned

(1) Emulation probe R0E521000EPB00
(2) Compact emulator R0E521000CPE00
(3) Package products
In the list below, "EPB packages" represents the package products containing the emulation probe concerned and "CPE packages" the package products containing the compact emulator concerned.
(a) For the R8C/20, R8C/21, R8C/22, and R8C/23 groups
EPB package: R0E521237EPB00
CPE package: R0E521237CPE00
(b) For the R8C/24 and R8C/25 groups
EPB package: R0E521258EPB00
CPE package: R0E521258CPE00
(c) For the R8C/26 and R8C/27 groups
EPB package: R0E521276EPB00
CPE package: R0E521276CPE00

(d) For the R8C/28 and R8C/29 groups
EPB package: R0E521174EPB00
CPE package: R0E521174CPE00
(e) For the R8C/2A and R8C/2B groups
EPB packages: R0E5212BAEPB00 and R0E5212BAEPB10
CPE packages: R0E5212BACPE00 and R0E5212BACPE10
(f) For the R8C/2C and R8C/2D groups
EPB package: R0E5212DAEPB00
CPE package: R0E5212DACPE00
(g) For the R8C/2K and R8C/2L groups
EPB package: R0E5212L4EPB00
CPE package: R0E5212L4CPE00

2. Problem

In the emulation circuits of the products concerned, a write of 0 to bit CM13 that has once been set to 1 switches the P4_6/XIN pin function from XIN to P4_6, stopping supplying main clocks to the evaluation chip, so the products concerned cannot function properly. (See NOTE 2.)
Bit CM13 in any actual MCU of the R8C/2x series cannot be changed to 0 if it has once been set to 1 by the program, so this problem doesn't occur when the actual MCU is used.

NOTE 2.
A write of 1 to bit CM13 switches to XIN-XOUT pins, and a write of 0 to this bit switches to the input port (P4_6, P4_7 pins.)

3. Workaround

When evaluating and debugging systems designed with MCUs of the R8C/2x series, do not write 0 to bit CM13 that has once been set to 1.