

**A Note on Using
the Emulation Probe R0E521000EPB00
or
the Compact Emulator R0E521000CPE00
for the R8C MCU Family
--With Handling Interrupt Requests--**

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/2A, R8C/2B, R8C/2C, and R8C/2D groups:

- With handling interrupt requests
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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/2A and R8C/2B groups

EPB packages: R0E5212BAEPB00, R0E5212BAEPB10

CPE packages: R0E5212BACPE00, R0E5212BACPE10

(b) For the R8C/2C and R8C/2D groups

EPB package: R0E5212DAEPB00

CPE package: R0E5212DACPE00

2. Problem

Even if any of the following interrupts is requested while a system designed with an MCU of the R8C/2A, R8C/2B, R8C/2C, and R8C/2D groups is debugged, the interrupt request bit may be forcibly cleared to 0, and the interrupt request may disappear:

- Compare 1 interrupt
- Timer RF interrupt
- Compare 0 interrupt
- A/D conversion interrupt
- Capture interrupt

This problem doesn't occur when the actual MCU is used.

3. Conditions

This problem occurs if the following conditions are all satisfied:

(1) In any of the following interrupt control registers, any bit except the interrupt request bit is rewritten by the OR, AND, BSET, or BCLR instruction:

- Compare 1 Interrupt Control register CMP1IC
- Timer RF Interrupt Control register TRFIC
- Compare 0 Interrupt Control register CMP0IC
- A/D Conversion Interrupt Control register ADIC
- Capture Interrupt Control register CAPIC

(2) During execution of the OR, AND, BSET, or BCLR instruction described in (1) above, the interrupt request bit of the control register involved is set to 1, and an interrupt request is generated.

4. Workaround

When evaluating and debugging a program containing the portions where any bit of the interrupt control register involved except its interrupt request bit is rewritten by the OR, AND, BSET, or BCLR instruction, use the E8a, E8 emulator or the actual MCU instead of the emulation probe or the compact emulator.

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