RENESAS Tool News

Note on Using RX E1/E20 Emulator Debugger V.1.02.00 (for High-performance Embedded Workshop)

When using the E1/E20 Emulator Debugger for the RX family of MCUs, take note of the following problem:

- With using the debugger in the "Writing the on-chip flash memory" mode

1. Product Concerned

RX E1/E20 Emulator Debugger V.1.02.00
  (for High-performance Embedded Workshop)

Note that the E1/E20 Emulator Debugger for the RX family included in the CubeSuite+ package is not concerned because it does not support the "Writing the on-chip flash memory" mode.

2. Description

When you load a program onto the Data Flash area in the "Writing the on-chip flash memory" mode, a verification error may appear even if the programming is complete.

3. Conditions

The problem arises if the following conditions are all satisfied:
(1) An MCU belonging to any of the following groups is used:
     RX610 group, RX62N group, RX621 group, and RX62T group,
(2) The program loaded onto the Data Flash area does not begin at the beginning address of a block of this area, or the program does not end at the ending address of the same or another one.

We show the examples where this problem arises and does not in the illustration in the below.

Examples:

Data Flash Area

nth block

n+1th block

(1) (2) (3) (4)
Error does not appear.

n+2th block
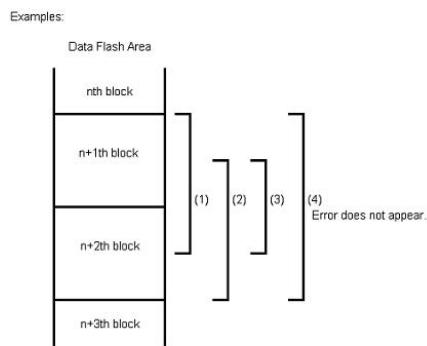
n+3th block

(1) Example where the loaded program does not end at
   the ending address of a block
      If the loaded program begins at the beginning address
      of the n+1th block and ends before the ending one of
      the next block, a verification error may appear.
(2) Example where the loaded program does not begin at
   the beginning address of a block
      If the loaded program begins after the beginning
      address of the n+1th block and ends at the ending
      one of the next block, a verification error may
      appear.
(3) Example where the loaded program does not begin at
   the beginning address of a block and does not end
   at the ending one of another block
      If the loaded program begins after the beginning
      address of the n+1th block and ends before the ending
      one of the next block, a verification error may appear.
(4) Example where no verification error appears
      If the loaded program begins at the beginning address
      of the n+1th block and ends at the ending one of the
      next block, no verification error appears.

4. Workarounds

If you are using any MCU satisfying Condition (1) above except the
R5F562T6 and the R5F562T (both in the RX62T group), do either of
the following:
(1) Load the program onto the Data Flash area so that it
   can begin at the beginning address of a block of this area and
   end at the ending address of the same or another one.
(2) Make programming by using Flash Development Toolkit or Renesas
   Flash Programmer.
If you are using the R5F562T6 or the R5F562T, do not use the debugger
in the "Writing the on-chip flash memory" mode, but do Workaround (2).
For another problem relating to this mode, see RENESAS TOOL NEWS

Document No. 120216/tn8 at:
https://www.renesas.com/search/keyword-search.html#genre=document&q=120216tn8

5. Schedule of Fixing Problem

We plan to fix this problem in the next version of the product.