RENESAS Tool News

Note on Using the C Compiler Package for RH850 Family

When using the CC-RH C Compiler package for the RH850 Family, take note of the problem described in this note regarding the following point.

- The pow Function Returning Incorrect Values (No.9)
  Note: The number which follows the description of the precautionary note is an identifying number for the precaution.

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1. Applicable Products
   CC-RH V1.00.00 to V1.03.00

2. Description
   When the pow function is used to calculate a power, if the first argument
   is negative, and the second argument is an odd-numbered integer from
   2147483649 to 4294967295, or from -4294967295 to -2147483649, the sign bit
   of the return value incorrectly becomes positive.

3. Conditions
   This problem arises if the following conditions are all met:
   (1) Either of options (a) or (b) is used.
       (a) -Xcpu=g3kh option or -Xcpu=g3k option
       (b) -Xfloat=soft option
   (2) -Xdbl_size=4 option is not designated.
   (3) The first argument of the pow function is a negative number.
   (4) The second argument of the pow function is an odd number within either
       of the following ranges.
       (a) From 2147483649 to 4294967295
       (b) From -4294967295 to -2147483649

   Example where the -Xfloat=soft and -Xdbl_size=8 options (conditions 1
   and 2) are specified:

   #include

```
void func(void) {
  double result;
  double x = -1.00000001;  /* Condition (3) */
  double y = 4294967295ul; /* Condition (4) */

  result = pow(x, y);
}
```

The value of the result becomes +4.49579e+018 instead of -4.49579e+018.

4. Workaround
   There is currently no way to prevent this problem.

5. Schedule for Fixing the Problem
   This problem will be fixed in a later version.