Outline

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.

1. Built-in function __stcw ( ) (No. 10)

Note: The number which follows the description of the precautionary note is an identifying number for the precaution.

1. Built-in Function __stcw ( ) (No. 10)

1.1 Applicable Product
CC-RH V1.00.00 and later versions

1.2 Details
Reference to the same value as the second argument of __stcw( ) after the call of the built-in function __stcw( ), the value referred to may incorrectly become 0 or 1.

1.3 Conditions
This problem arises if the following conditions are all met:
(1) The built-in function __stcw( ) is used.
(2) Reference to the same value* as the second argument of the built-in function occurs later than the call of __stcw( ).
*: Optimization by the compiler affects whether the result of the reference will or will not be the same. This error may occur even if the reference to the second argument is part of a calculation in a formula.

```c
long x, y;
void func(long a) {
    __stcw(&x, a); /* Condition (1) */
    y = a; /* Condition (2) */
}
```

The value of a should replace y, but y is incorrectly replaced by 0 or 1.
1.4  Workaround
To avoid this problem, take either of the following steps.

(1) Specify values to be used as the second argument of __stcw( ) as volatile variables.

```c
long x, y;
void func(long a) {
    volatile long v;
    v = a;
    __stcw(&x, v); /* Specify v as the second argument */
    y = a;
}
```

(2) Replace __stcw( ) with an inline assembler function which uses #pragma inline_asm.

```c
#pragma inline_asm stcw
static void stcw(long* a, long b) {
    stc.w r7, [r6]
}
```

1.5  Schedule for Fixing the Problem
This problem will be fixed in a later version.
## Revision History

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