RENESAS Tool News

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A Note on Using C Compiler Packages M3T-NC308WA, M3T-NC30WA, M3T-NC79WA and M3T-NC77WA

Please take note of the following problem in using the M3T-NC308WA, M3T-NC30WA, M3T-NC79WA, and M3T-NC77WA C-compiler packages:

- On converting integer constants

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1. **Products and Versions Concerned**

M3T-NC308WA V.1.00 Release 1 through V.3.10 Release 3
for the M32C/80 and M16C/80 series MCUs
M3T-NC30WA V.1.00 Release 1 through V.4.00 Release 2
for the M16C/60, M16C/30, M16C/Tiny, M16C/20, M16C/10, and R8C/Tiny series MCUs
M3T-NC79WA V.2.00 Release 1 through V.4.10 Release 1C
for the 79xx series MCUs
M3T-NC77WA V.3.00 Release 1 through V.5.20 Release 4B
for the 77xx series MCUs

2. **Description**

Extending any integer constant in hexadecimal notation that is 16 bits wide to a 32-bit signed integer constant may generate an incorrect code at compilation.

2.1 Conditions

This problem occurs if the following four conditions are satisfied:

(1) An integer constant is expressed in hexadecimal notation.

(2) The integer constant in (1) is in a range of 0x8000 to 0xFFFF.

(3) The integer constant in (1) is followed by no suffix.

(4) The integer constant in (1) is converted to type signed long.

2.2 Example

```
-----------------------------------------------------------------
#define AAA  (int)0xFFFF    /* Conditions (1),(2), and (3) */

void  func(void)
{
      long    l;

      l = (long)AAA;      /* Condition (4) */
}                         /* 0x0000FFFF assigned */
-----------------------------------------------------------------
```

3. Workaround

Change the integer constant to that of 32 bits wide in hexadecimal notation, or express it in decimal notation.

An example of a 32-bit integer constant in hexadecimal notation

```
-----------------------------------------------------------------
#define AAA  (int)0xFFFFFFFFL

void func(void)
{
      long    l;

      l = (long)AAA;
}
-----------------------------------------------------------------
```

An example in decimal notation

```
-----------------------------------------------------------------
#define AAA  (int)-1

void func(void)
{
      long    l;

      l = (long)AAA;
}
-----------------------------------------------------------------
```

4. Schedule of Fixing the Problem

This problem has been fixed in the M3T-NC308WA and M3T-NC30WA whose versions are V.5.00 Release 1 and later, so please upgrade your product to the latest one by visiting Tools Download.

For the M3T-NC79WA and M3T-NC77WA, we plan to fix this problem in our next release of them.
