

[Notes]

R20TS0672EJ0100

Rev.1.00

Mar. 16, 2021

C Compiler CA78K0R for RL78 Family and 78K0R, C Compiler CC78K0R for 78K0R

Overview

When using the C compiler CA78K0R for RL78 family and for 78K0R, and C compiler CC78K0R for 78K0R, note the following point.

1. When the control expression of a switch statement is 32-bit long

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1.1 Applicable Products

CA78K0R V1.70 to V1.72 (CS+ integrated development environment)

CA78K0R V1.20 to V1.70 (CubeSuite+ integrated development environment)

CA78K0R V1.00 to V1.10 (CubeSuite integrated development environment)

CC78K0R V2.00 to V2.13 (PM+ integrated development environment)

1.2 Details

The following phenomena may occur when the control expression of a switch statement is 32-bit long:

- (a) The switch statement cannot appropriately branch to some of the case labels.
- (b) An internal error occurs during compilation.
- (c) The compiler terminates abnormally.

1.3 Conditions

These phenomena may occur if all of the conditions from (1) to (3) are met:

- (1) The control expression of a switch statement is either long type or unsigned long type.
- (2) There are two or more case labels whose constant values share the same upper 16 bits.
- (3) There are one or more case labels whose constant values have different upper 16 bits from the case labels in (2).

```
int f(long v) { /*(1)*/
    switch(v) {
        case 0x00000001: /*(2)*/
            return 2;
        case 0x00000010: /*(2)*/
            return 3;
        case 0x80000002: /*(3)*/
            return 4;
        default:
            return 5;
    }
}
```

```
}  
void main(void) {  
    f(1);  
}
```

In this example, although function `f()` is supposed to return 2, it branches to the default label and returns 5.

1.4 Workaround

To avoid this problem, replace the switch statement with an if statement.

```
int f(long v) {  
    if (v==0x1)  
        return 2;  
    else if (v==0x10)  
        return 3;  
    else if (v==0x80000002)  
        return 4;  
    else  
        return 5;  
}  
void main(void) {  
    f(1);  
}
```

1.5 Permanent Measure

We do not plan to make modifications.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Mar.16.21	-	First edition issued

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