

Outline

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

1. Addresses of the stack area symbols `__@STBEG` and `__@STEND`

1. Addresses of the Stack Area Symbols `__@STBEG` and `__@STEND`

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 V1.10 (CubeSuite integrated development environment)

1.2 Details

When specifying any of the following options: `-self`, `-selfw`, `-ocdtr`, `-ocdtrw`, `-ocdhpi`, or `-ocdhpiw`, the addresses of the stack area symbols `__@STBEG` and `__@STEND` generated by a linker may be incorrect.

1.3 Conditions

The addresses of the stack area symbols may be incorrect when all the following conditions are met.

- (1) For CA78K0R V1.40 to V1.72

(1-1) Any of the following options is specified: `-self`, `-selfw`, `-ocdtr`, `-ocdtrw`, `-ocdhpi`, or `-ocdhpiw`.

(1-2) The `saddr` area has free space (except the general-purpose register area).

(1-3) The start address of free space in (1-2) is located within the `saddr` area.

Example: If the address range of free space is `0FFE10H - 0FFE30H`, the condition is not met because the start address is located before the start address of the `saddr` address (`0FFE20H`).

- (2) For CA78K0R V1.10 to V1.30

(2-1) Either the `-self` or `-selfw` option is specified.

(2-2) The largest free space within the internal RAM area includes the `saddr` area.

Example: If the address range of free space is `0FFE10H - 0FFE30H`, the condition is met because it includes the `saddr` area (`0FFE20H`).

1.4 Examples

A map file in which incorrect addresses are generated is shown below. The incorrect addresses are shown in red.

[Map file]

```

*** Public symbol list ***

MODULE      ATTR      VALUE      NAME
           NUM      FFE20H    __@STBEG
           NUM      FFE2AH    __@STEND
    
```

In the above map file, the addresses are incorrect because the bottom address of stack (`__@STEND`) is located above `__@STBEG`, which is the top address of stack +1.

1.5 Workaround

Use a memory directive in the link directive file to specify the saddr area and internal RAM area separately.

[Link directive file example]

memory RAM: (0FE300H, 01B20H)	#RAM area
memory SDR: (0FFE20H, 000E0H)	#SADDR area

1.6 Schedule for Fixing the Problem

There is no schedule for fixing this problem.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Jul.01.19	-	First edition issued

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