

[Notes]

R20TS0928EJ0100

Rev.1.00

Feb. 21, 2023

On-chip Debuggers

E2 emulator and E2 emulator Lite (RA Connection)

Outline

When using the on-chip debugger E2 emulator or E2 emulator Lite, note the following point.

1. Notes on using E2 emulator or E2 emulator Lite for RA Family

1. Notes on Using E2 emulator or E2 emulator Lite for RA Family

1.1 Applicable Products

- E2 emulator, E2 emulator Lite

When the emulators are used with the following devices and IDE (integrated development environment), the problem below occurs.

- Device family that requires attention: RA4M2
- Applicable IDE: e² studio (FSP v4.3.0 and all earlier versions that support RA4M2)

1.2 Applicable Devices

- RA4M2 Family

- R7FA4M2AB3CFL, R7FA4M2AB3CNE, R7FA4M2AB3CFM, R7FA4M2AB3CFP
- R7FA4M2AC3CFL, R7FA4M2AC3CNE, R7FA4M2AC3CFM, R7FA4M2AC3CFP

1.3 Details

If an RA project is created in e² studio with any of the RA4M2 Family devices above, the sizes of code flash memories become smaller than those specified in the RA4M2 Group User's Manual: Hardware. As a result, a problem such as download failure occurs (data fails to be downloaded to some areas) even though the command appears to have run successfully.

For the original memory sizes (shown in the user's manual) and the reduced sizes in the condition, see the table below.

Error example: R7FA4M2AB3CFL is selected as the device and download of a 256 KB program is attempted. The download seems to have completed but only 128 KB of the program is downloaded.

Code flash memory: Reduction in memory sizes and areas

Part number	Memory size	Allocated area addresses
R7FA4M2AB3xxx	Original: 256 KB	Original: 0x0000_0000 to 0x0004_0000
	Reduced: 128 KB	Reduced: 0x0000_0000 to 0x0002_0000
R7FA4M2AC3xxx	Original: 384 KB	Original: 0x0000_0000 to 0x0006_0000
	Reduced: 256 KB	Reduced: 0x0000_0000 to 0x0004_0000

1.4 Conditions

The problem described in [1.3 Details] occurs if you select any of the RA4M2 Family devices in [1.2 Applicable Devices], and then create an RA project in e² studio.

Note that the problem does not occur when the following devices are used (not listed in 1.2).

- R7FA4M2ADCFL, R7FA4M2ADCNE, R7FA4M2ADCFM, R7FA4M2ADCFP

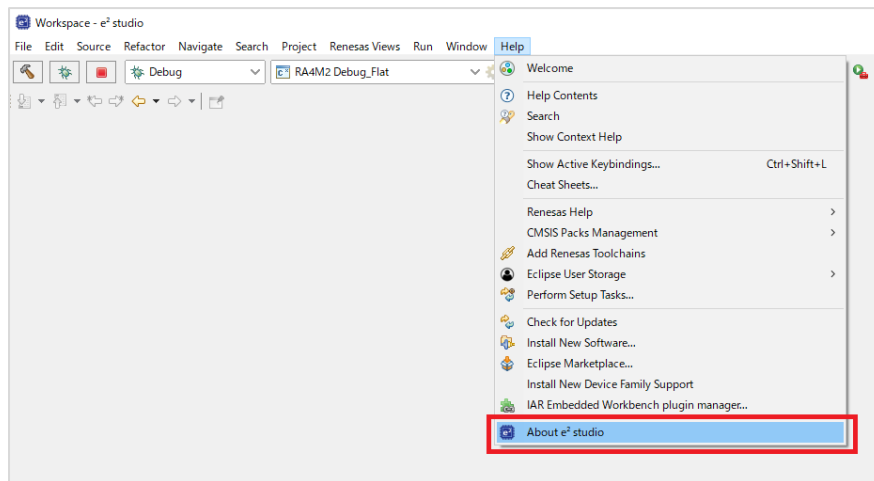
1.5 Workaround

Download a zip file from the following URL, and then overwrite and update the file as follows.

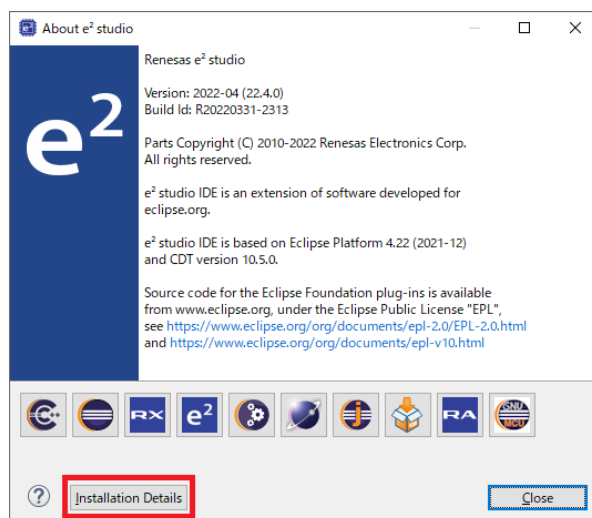
<https://www.renesas.com/document/scd/notes-chip-debuggers-e2-emulator-and-e2-emulator-lite-ra-connection-sample-code>

Steps:

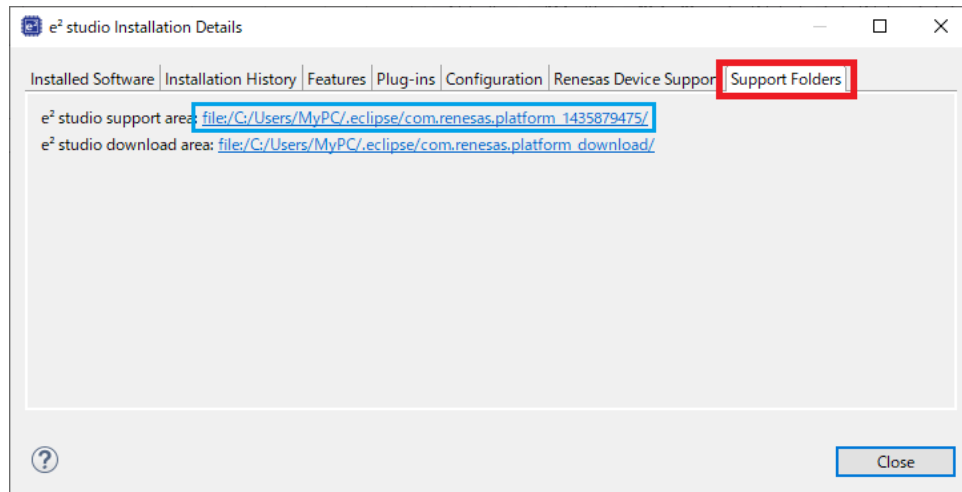
- ① Download the zip file from the URL above and unzip it.
- ② Open the support folder as follows.
- ③ Start e² studio.
- ④ In e² studio, select [Help] and [About e² studio] (framed in red).



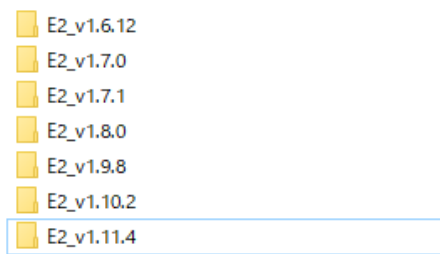
- ⑤ [About e² studio] opens. Click [Installation Details] (framed in red).



- ⑥ [e² studio Installation Details] opens. Click [Support Folders] (framed in red).
 - ⑦ In [Support Folders], click the link of [e² studio support area] (framed in blue)*.
- *The link in the image is an example. The link varies depending on the user environment.



- ⑧ The e² studio support area opens in Explorer. Move to the following folder:
 DebugComp > RA~~4~~ARM > E2_vx.xx.x > MCUFiles > RA4M2*
 *xx in E2_vx.xx.xx varies depending on the user environment.
- ⑨ Overwrite the contents of the folder with those unzipped in step ①.
 If more than one E2_vx.xx.xx appears (as shown below), update all the folders.



- ⑩ Restart e² studio.

1.6 Schedule for Fixing the Problem

This problem will be fixed in the next version of Flexible Software Package (FSP).

(Scheduled for release in April 2023 or later.)

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Feb.21.23	-	First edition issued

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