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AN206432

F²MC-16LX Family, MB90330A series, Notes on Debug Environment Setting for MB90330A series

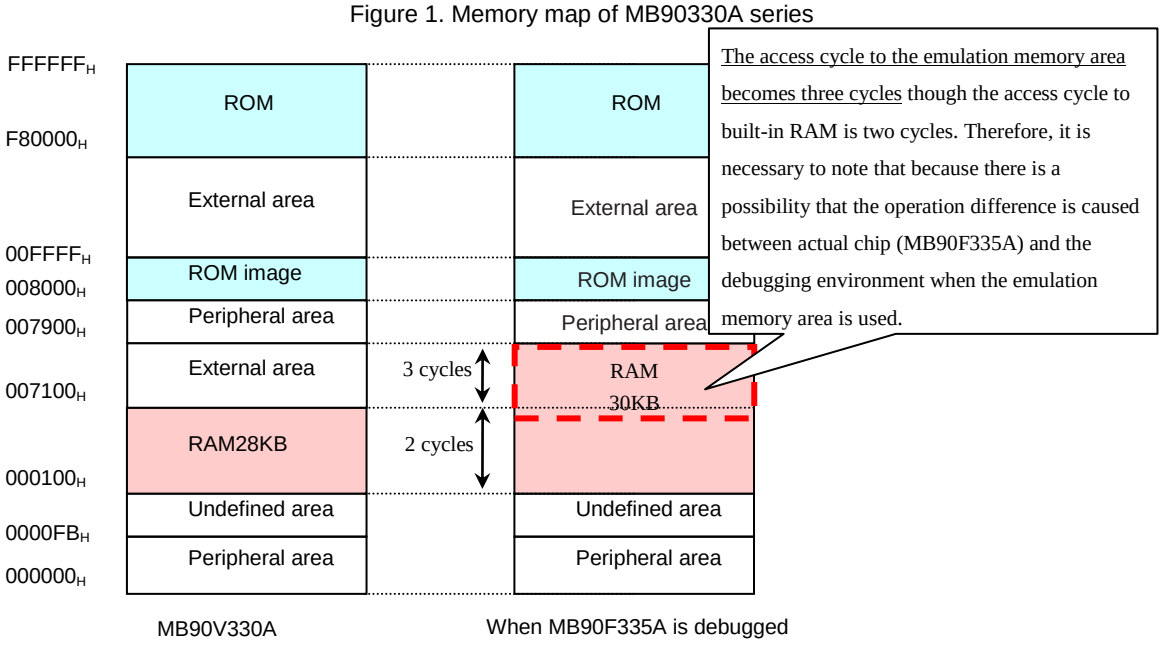
MB90F335A is a microcontroller equipped with RAM of 30KB. MB90V330A, the evaluation chip common to MB90330A series, is used to debug MB90F335A, though the RAM capacity of the common evaluation chip, MB90V330A, is 28KB. Therefore, when MB90F335A is debugged, RAM area is insufficient by 2KB (area of 007100h to 0078FFh)

1 Introduction

MB90F335A is a microcontroller equipped with RAM of 30KB. MB90V330A, the evaluation chip common to MB90330A series, is used to debug MB90F335A, though the RAM capacity of the common evaluation chip, MB90V330A, is 28KB. Therefore, when MB90F335A is debugged, RAM area is insufficient by 2KB (area of 007100h to 0078FFh). (See the figure below.)

Use the emulation memory installed in the debugger as a memory of 007100h to0078FFh area in the debugging environment of MB90F335A to deal with this problem. Using the area of 007100h to 0078FFh becomes possible though the access cycle to the emulation memory becomes three cycles.
This document explains the setting procedures of the emulation memory area in the debugging environment of MB90F335A.

Figure 1. Memory map of MB90330A series

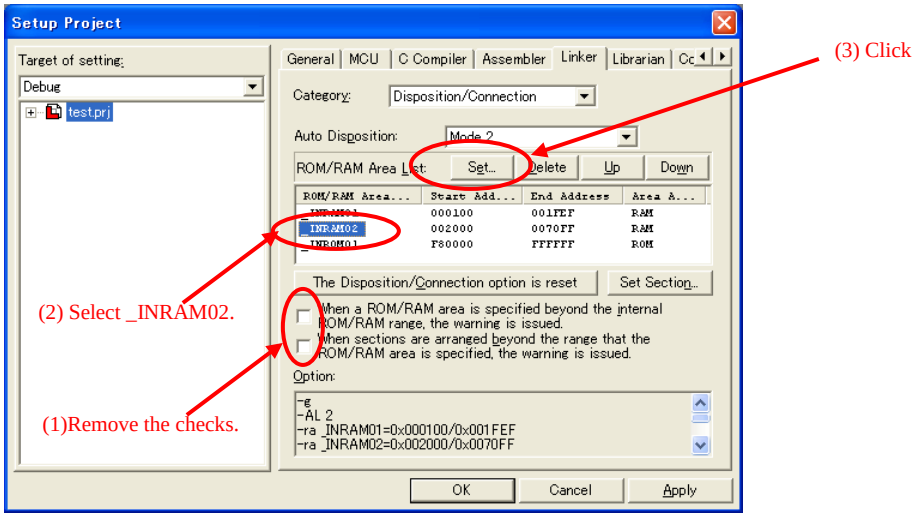


2 Method of setting debug environment when MB90F335A is used

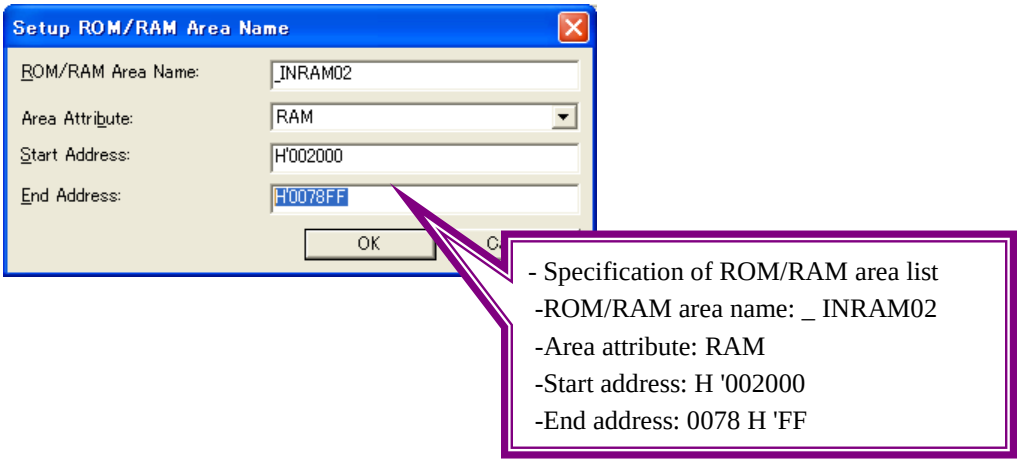
2.1 Setting change of linker of SOFTUNE

The program development of MCU of the F2MC-16LX family is executed by using integrated environment SOFTUNE development. In SOFTUNE, the ROM and RAM areas that can be used in the developed program are defined beforehand. However, when MB90F335A is selected as target MCU, the area to address 0070FFh is defined for RAM. Therefore, when the area of 007100h to 0078FFh is used, it is necessary for the user to add RAM area definition. Add the RAM area conforming to the following procedures.

1. Select “Setup Project" from "Project" menu, and open the “Setup Project" window. Select the tab of “Linker" in the window and “Disposition/Connection" from the menu of the category to show the window in the figure below.
2. Remove the checks on the following setting items.
   - “When a ROM/RAM area is specified beyond the internal ROM/RAM range. The warning is issued.”
   - “When section are arraigned beyond the range that the ROM/RAM area is ROM/RAM specified. The warning is issued.”
3. Select “_INRAM02" and then “Set" of ROM/RAM Area List to open the window of "Setup ROM/RAM Area Name".



4. Change the End address in "Setup ROM/RAM Area Name" window to " H'0078FF ".



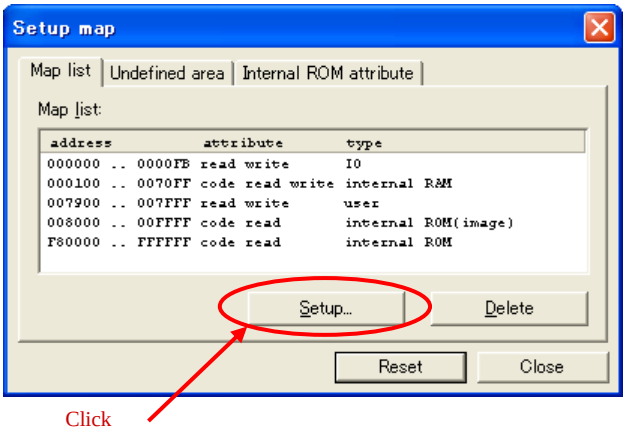
5. Execute the operation in Item (4) to display the following message windows. If the setting is changed here, adding procedures of RAM area are completed.



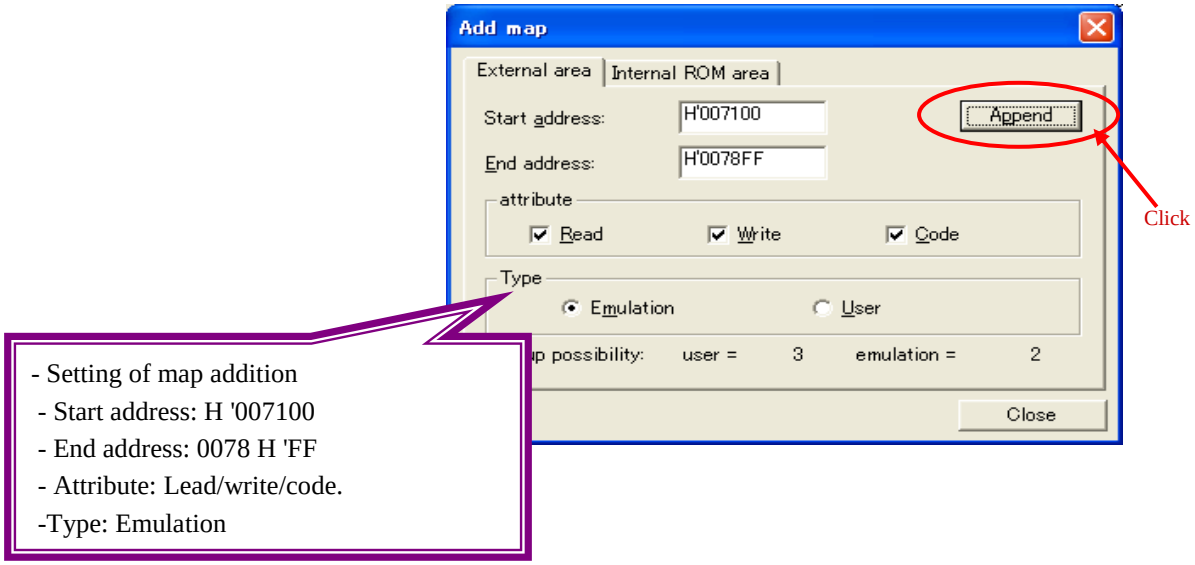
2.2 Setting procedures of emulation memory

To debug MB90F335A, substitute the emulation memory of the debugger for RAM area of 007100h to 0078FFh. Set the emulation memory of the debugger conforming to the following procedures.

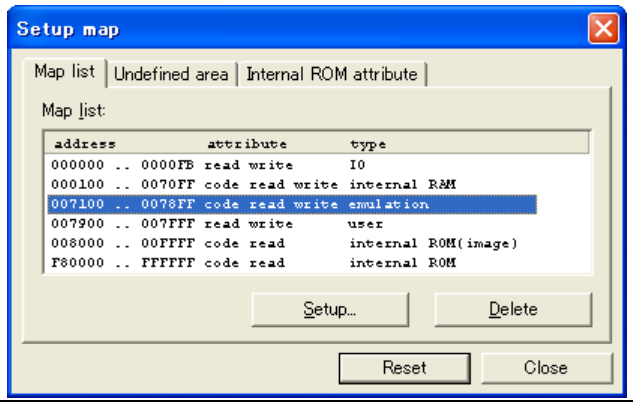
1. After starting the debugging, select “Memory Map" from the “Setup" menu and open the “Setup map" window.
2. Select “Setup" in “Setup map" window to open "Add map" window shown in the figure below.



3. Set “Start address/End address,” “attribute,” and “Type” in “Add map" window. Set “emulation" for Type. After the setting, click “Append" button and then close the “Add map" window.



4. And then, return to the “Setup map" window to confirm whether the memory area set in Item (3) is added. The access to the set memory area becomes possible if it is added.



Document History

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Revision	ECN	Orig. of Change	Submission Date	Description of Change
**	-	YUIS	08/13/2008	Initial Release
*A	5294876	YUIS	06/03/2016	Migrated Spansion Application Note “AN07-00179-1E” to Cypress format.
*B	5876112	AESATMP9	09/07/2017	Updated logo and copyright.

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