RENESAS TECHNICAL UPDATE

Product classification	MPU & MCU	Document No.	TN-V85-A016A/E	Rev.	1.00
Title	Usage restriction about the competition of the DMA transfer for internal RAM and instruction fetch between external memory area and the internal RAM.	Notification classification	Technical Information		
Affected Products	In the main part	Affected production lot All lots	Related documents	User's Manual : Hardware of affected products	

The following restriction for the V850 series microcontrollers on the 4.Affected Products has been found.

1. Notification

In the constitution to fetch instruction from both internal RAM area and external memory area, when DMA transfer competes with instruction fetch between internal RAM area and external memory area, instruction is fetched incorrectly. Therefore, malfunction occurs.

2. occurrence condition

When two following conditions correspond together, instruction is fetched incorrectly.

Condition 1: A program is executed in internal RAM, and branch to the external RAM area by branch instruction occurs. Or a program is executed in the external memory area, and branch to the internal RAM by branch instruction occurs.

Condition 2: DMA transfer is carried out (a transfer object is internal RAM).

3. Workaround

It is avoidable by having you do control not to correspond to 2.occurrence condition

(1) Don't fetch instruction between internal RAM area and external memory area.

(2) Stop DMA transfer when instruction is fetched between internal RAM area and external memory area.

(3) A transfer object is not internal RAM, when instruction is fetched between internal RAM area and external memory area and DMA transfer is carried out.

4. Affected Products

Products series			
V850ES/Hx2 series	V850ES/Hx3 series	V850ES/Jx2 series	V850ES/Jx3 series
V850ES/Jx3-E series	V850ES/Jx3-L series	V850ES/Jx3-H series	V850ES/Jx3-U series
V850ES/Kx1 series	V850ES/Kx1+ series	V850ES/Kx2 series	V850ES/SA2 series
V850ES/SA3 series	V850ES/ST3 series	-	-