Date: Mar. 8, 2017

RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-RX*-A169A/E	Rev.	1.00
Title	Note regarding increase of supply current in low power consumption mode for RX231 Group		Information Category	Technical Notification		
Applicable Product	RX231 Group Chip Version A (R5F5231xAxxx) Chip Version B (R5F5231xBxxx)	Lot No. All	Reference Document	RX230 Group, RX231 Group User's Manual: Hardware Rev.1.10 (R01UH0496EJ0110)		

This document describes a note on supply current in low-speed operating mode or software standby mode with regard to the RX231 Group product.

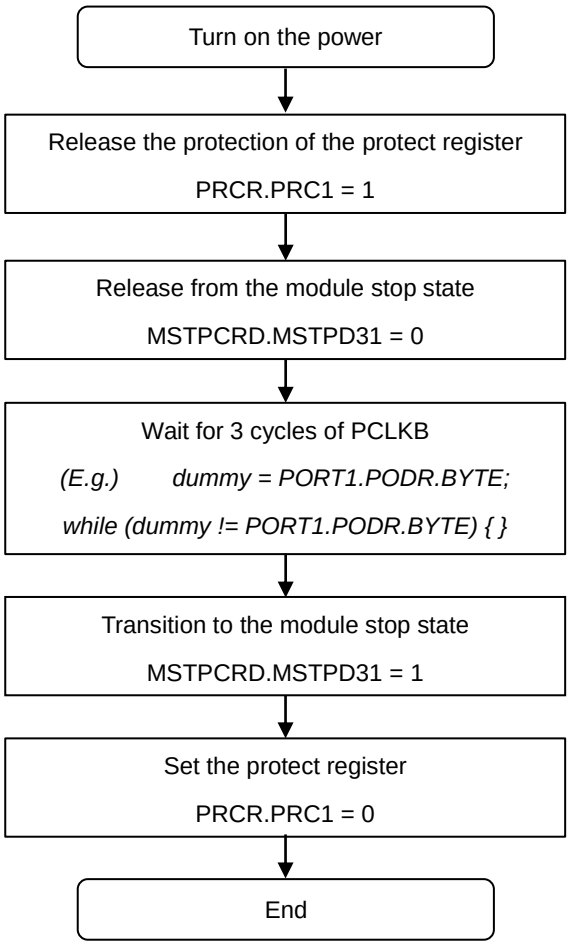
This note applies only to chip versions A and B, but not to chip version C (R5F5231xCxxx).

1. Note

A circuit which is not used in user mode may not be reset and may keep operating in an unstable state because clocks are not being supplied during an MCU reset. Therefore, supply current may increase to a value greater than that stated in the user's manual by up to 600 µA when the MCU transitions to low-speed operating mode or software standby mode.

2. Measure

Perform the following procedure at the initial setting for the MCU to initialize the unused circuit mentioned above.



3. Supplementary

The inadequate descriptions in the user's manual in regard to the above are corrected as follows.

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The description of 11.2.5 Module Stop Control Register D (MSTPCRD) in Major Specification Differences by Product Group and Chip versions (1/2) is corrected as follows.

Before correction

Section		Section			RX230 Group
		Chip version B	Chip version A	Chip version C	
11. Low Power Consumption	11.2.5 Module Stop Control Register D (MSTPCRD)	The security function module stop bit (MSTPD31) is present.	The security function module stop bit (MSTPD31) is not present.		

After correction

Section		RX231 Group			RX230 Group
		Chip version B	Chip version A	Chip version C	
11. Low Power Consumption	11.2.5 Module Stop Control Register D (MSTPCRD)	The security function module stop bit (MSTPD31) is present.	The MSTPD31 bit is reserved.	The security function module stop bit (MSTPD31) is not present. Bit 31 in the MSTPCRD register is reserved.	

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The footnotes are added to the MSTPD31 bit in section 11.2.5, Module Stop Control Register D (MSTPCRD) as shown below.

Before correction

Bit	Symbol	Bit Name	Description	R/W
b31	MSTPD31	Security Function	Target module: Security function 0: This module clock is enabled 1: This module clock is disabled	R/W

After correction

Bit	Symbol	Bit Name	Description	R/W
b31	MSTPD31	Security Function (TSIP-Lite) Module Stop*2, *3, *4	Target module: Security function 0: This module clock is enabled 1: This module clock is disabled	R/W

Note 2. This bit is reserved in chip version A for RX231 group. Set this bit once to 0 at the beginning of the program to initialize unused circuits.

Note 3. Set this bit once to 0 at the beginning of the program to initialize unused circuits even if the security function is not used in chip version B for RX231 group.

Note 4. This bit is reserved in chip version C for RX231 group, and in RX230 group. This bit is read as 1. The write value should be 1.

End of document