

RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-RZ*-A011A/E	Rev.	1.00
Title	RZ/A1 Series: Notes about when USB_X1 is not used		Information Category	Technical Notification		
Applicable Product	See following	Lot No.	Reference Document	See following		
		All				

In RZ/A1H Group, RZ/A1M Group, and RZ/A1L Group, description deficiency of specification about notes about when USB_X1 pin is not used is found.

The detail of description deficiency is shown in bellow. According to this update, relevant manuals will be revised.

Applicable products and relevant documents

Applicable products		Relevant documents	Rev.	Document number
series	Group			
RZ/A	RZ/A1H, RZ/A1M	RZ/A1H Group, RZ/A1M Group User's Manual: Hardware	Rev 2.00	R01UH0403EJ0200
	RZ/A1L	RZ/A1L Group User's Manual: Hardware	Rev 2.00	R01UH0437EJ0200

[1] The detail of description deficiency of specification

Notes when USB_X1 pin is not used is not described in the User's Manual.

[2] The effect of description deficiency

If procedure described [3] is not executed, following current consumption will be increased If it meets all of the following conditions

- 48MHz clock is not supplied to USB_X1 pin
- Other than in the deep standby mode

Power Supply	Increase current (Typ)
USBAVcc + USBDVcc + USBUVcc (1.18V)	7 mA
USBAPVcc + USBDPVcc (3.3V)	0.8 mA

However, violation of current consumption specified by electrical characteristics in the User's Manual by above current increase is only current consumption of 3.3V domain in software standby mode (Plsstby).

Other than Plsstby current consumption does not violate current consumption described in the User's Manual.

[3] Additional specification details

Following notes (colored in red) will be added to Page55-45 “55.4 Usage Notes” of the User’s Manual. (For RZ/A1L Group, it will be added to Page 42-42 “42.4 Usage Notes”.)

55.4.3 Usage Notes Applying when the USB_X1 Pin is not to be used

When a 48MHz clock is not being supplied to the USB_X1 pin, set registers according to the below procedure in the initial settings after release from the power-on reset state or deep standby mode.

(1) When the USB2.0 host/function module is not to be used

1. Set the MSTP71 bit in the STBCR7 register to 0 and dummy-read STBCR7 register.
2. Set the UCKSEL bit in the SYSCFG0_0 register to 1.
3. Wait for at least 20 clocks of the EXTAL clock.
4. Set the MSTP71 bit in the STBCR7 register to 1 and dummy-read STBCR7 register.

(2) When the USB2.0 host/function module is to be used

1. Set the MSTP71 bit * in the STBCR7 register to 0 and dummy-read STBCR7 register.
2. Set the UCKSEL bit in the SYSCFG0_0 register to 1.
3. Follow the procedure of example1 in 29.4.1 (5) Setting the Clock Supply for the USB Module.
(For RZ/A1L Group, please refer “28.4.1 (5) Setting the Clock Supply for the USB Module”)
4. Make the initial settings of the USB2.0 host/function module.

Note:* When channel 1 of the USB2.0 host/function module is to be used, also set the MSTP70 bit to 0.

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