

RENESAS TECHNICAL UPDATE

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Product Category	Application specific IC		Document No.	TN-ASP-A024A/E	Rev.	1.00
Title	Usage precautions of clock control stop and restart on R8A66593 ,R8A66597		Information Category	Technical Notification		
Applicable Product	USB ASSP R8A66593, R8A66597	Lot No.	Reference Document	R8A66593 datasheet(R19DS0071E) R8A66597 datasheet(RJE03F0130)		
		All lots				

1. Phenomenon

In system that uses control to stop clock at the time of transition state to USB suspend or USB detach , USB ASSP may not recover to normal operating state from Low-power sleep state.

2. Occurring Conditions

This limitation does not apply to systems that do not control stop clock.

The phenomenon described above may occur when occur recovery event after stopping clock in all of following conditions.

Condition 1: LPSME=1

Condition 2: SCKE=0 , PLLC=0 , and XCKE=0

3. Solutions

The phenomenon can be worked around with the following methods.

1) Set to LPSME=0 (in initialize setting)

2) Please process in order of (a),(b) of the following for recovery from Low-power sleep state when occur recovery event.

(1) Set to XCKE=1

(2) Wait until SCKE=1 (Controller automatically starts the oscillation buffer and enables PLLC and SCKE.)

4. Others information

Supply current in Low-power sleep mode is following.

1)Before solution: USB suspend status(Peripheral function) 0.35mA(Typ.), USB cable detached 0.15mA(Typ.)

2)After solution : USB suspend status(Peripheral function) 3.20mA(Typ.), USB cable detached 3.00mA(Typ.)

5. Related information

(1)System configuration control register[SYSCFG1](R8A66593datasheet: Section 2.3,R8A66597datasheet:Section 2.3)

(2)Power-Consumption Control (R8A66593datasheet:Section 3.1.8, R8A66597datasheet: 3.1.9)

(3)Restart Internal Clock Suppy (R8A66593fdatasheet: section 3.1.9.3, R8A66597datasheet: 3.1.10.3)