RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-SH7-A0922B/E	Rev.	2.00
Title	Notes on transmit end (TEND) in clock synchronous mode and internal clock selection in serial communication interface (SCI).		Information Category	Technical Notification		
Applicable Product	Refer to the following below No.3 chapter	Lot No.	Reference Document	Refer to the following below No.3 chapter		
		All				

Regarding the serial communication interface (SCI) of the applicable product, this document describes the notes on the transmit end (SCSSR.TEND) when the internal clock source is selected (SCSCR.CKE [1] = 0) in the clock synchronous mode (SCSMR. C / A bit = 1).

1. Note

When the internal clock source is selected in clock synchronous mode and transmission is operated by the CPU, if the clearing of the transmit data register empty (SCSSR.TDRE) by the CPU conflicts with the setting of the TEND flag by the SCI, the data written to the transmission data register may be transmitted even though the TEND flag is set to 1. After that, if set the transmission enable (SCSCR.TE) to 0 after confirming TEND flag is 1, the transmission will be aborted halfway.

2. Measures

In order to perform the next transmission continuously, after writing the transmission data to SCTDR, clear the TDRE flag within the time ($t\_1frame - t\_1peripheral$ clock) obtained by subtracting one peripheral clock from the transmission time of one frame.

If the TDRE flag cannot be cleared within this time, confirm that the TEND flag has been set to 1 and wait at least the time which sum the transmission time of one frame and one bit time ($t\_1frame + t\_1bit$). After that, set the TE bit to 0.

3. Applicable Product and Reference Document

Series	Product name	Reference Document	Rev.	Document Number
SH7216	SH7214,SH7216	SH7214 Group、SH7216 Group User's Manual: Hardware	4.00	R01UH0230EJ0400
SH7080	SH7083,SH7084, SH7085,SH7086	SH7080 Group User's Manual: Hardware	6.00	R01UH0198EJ0600
SH7146	SH7146,SH7149	SH7146 Group User's Manual: Hardware	4.00	R01UH0049EJ0400
SH7137	SH7131,SH7132, SH7136,SH7137	SH7137 Group Hardware Manual	3.00	REJ09B0402-0300
SH7280	SH7285,SH7286	SH7280 Group、SH7243 Group User's Manual: Hardware	3.00	R01UH0229EJ0300
SH7243	SH7243			
SH/Tiny	SH7125,SH7124	SH7125 Group、SH7124 Group Hardware Manual	5.00	REJ09B0243-0500
SH7239	SH7239,SH7237	SH7239 Group、SH7237 Group User's Manual: Hardware	2.00	R01UH0086EJ0200

Series	Product name	Reference Document	Rev.	Document Number
SH7231	SH7231	SH7231 Group User's Manual: Hardware	2.00	R01UH0073EJ0200

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SH7231	SH7231	SH7231 Group User's Manual: Hardware	2.00	R01UH0073EJ0200

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