

RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-SH7-A0921A/E	Rev.	1.00
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
SH7147	SH7147,SH7142	SH7147 Group Hardware Manual	1.00	REJ09B0230-0100
SH7254R	SH72543R,SH72544R	SH7254R Group User's Manual: Hardware	4.00	R01UH0480EJ0400
SH72546R	SH72546R	SH72546R User's Manual: Hardware	2.00	R01UH0235EJ0200
SH7256	SH72567R	SH7256 Group User's Manual: Hardware	3.00	R01UH0344EJ0300
SH72531	SH72531,SH72531D	SH72531 User's Manual: Hardware	3.00	R01UH0267EJ0300
SH72533	SH72533,SH72533D	SH72533 User's Manual: Hardware	3.00	R01UH0401EJ0300
SH7227	SH72277,SH72276, SH72275	SH7227 Group User's Manual: Hardware	3.20	R01UH0201EJ0320
SH7251	SH72513	SH7251Group User's Manual: Hardware	4.00	R01UH0054EJ0400