Date: Mar. 25, 2015

RENESAS TECHNICAL UPDATE

1753, Shimonumabe, Nakahara-ku, Kawasaki-shi, Kanagawa 211-8668 Japan
Renesas Electronics Corporation

Product Category	MPU/MCU		Document No.	TN-R8C-044A/E	Rev.	1.00
Title	Serial Interface (UART2) Special Mode1 (I2C Mode) Conditions		Information Category	Technical Notification		
Applicable Product	Described below	Lot No.	Reference Document			
		-				

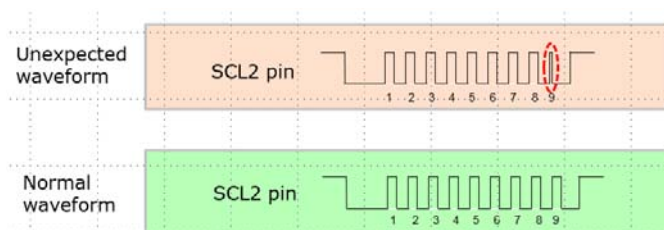Precaution described below is added to the following products in the User's Manual.

1. Products

R8C/32A group, R8C/33A group, R8C/35A group*, R8C/3GA group, R8C/3JA group,
R8C/32C group, R8C/33C group, R8C/34C group, R8C/35C group*, R8C/3GC group, R8C/3JC group,
R8C/L35A group, R8C/L35B group, R8C/L36A group, R8C/L36B group,
R8C/L38A group, R8C/L38B group, R8C/L3AA group, R8C/L3AB group,
R8C/L35C group, R8C/L36C group, R8C/L38C group, R8C/L3AC group,
R8C/L35M group, R8C/L36M group, R8C/L38M group, R8C/L3AM group,
R8C/LA6A group, R8C/LA8A group

*: The program memory size of the target product is 16kB to 32kB

2. Condition when using master

When using serial interface (UART2) Special Mode 1 (I2C mode) as master mode under the following condition, the 9th clock pulse of SCL2 output possibly be shorter than the normal width.

- Internal/External clock select bit (CKDIR) of UART2 Transmit /Receive mode Register (U2MR) as "0" (Internal clock).
- Clock synchronization bit (CSC) of UART2 Special Mode Register 2 (U2SMR2) as "1" (Approved).
- U2BRG count source select bit (CLK1/0) of UART2 Transmit /Receive Control Register 0 (U2C0) as 00:f1/01:f8 select

3. Countermeasure (by Software)

If customers can use under CSC (Clock Synchronization bit) ="0", please select CSC = "0" in order to avoid this issue. Also, in some case, customers can avoid this issue by selecting clock source f32 (CLK1/0 bit = "10"). Please contact Renesas in this case. "I2C bus interface / SSU" module does not have this limitation. (This limitation is only for "UART2" module.)

RENESAS