To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: http://www.renesas.com

April 1st, 2010
Renesas Electronics Corporation

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RENESAS TECHNICAL UPDATE

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Product Category	MPU&MCU		Document No.	TN-SH7-A664A/E	Rev.	1.00
Title	SH7720,SH7721,SH7727 Hardware Manual About clock accuracy of USBH		Information Category	Technical Notification		
Applicable Product	SH7720 Group SH7721 Group SH7727 Group	Lot No. All	Reference Document	SH7720,SH7721 hardware manual Rev2.00 (REJ09B0033-0200) Rev3.00 (REJ09B0033-0300) SH7727 hardware manual Rev5.00 (REJ09B0254-0500)		

The following notes exist about the accuracy of the clock frequency of USB host controller (USBH) of the SH7720 group, the SH7721 group, and the SH7727 group.

The accuracy of the USB clock when the USB host controller is used provides "min 47.9MHz,max 48.1MHz" for the clock frequency for USB to satisfy the following regulations of the USB2.0 standard book.

Table 7-9. Full-speed Source Electrical Characteristics

"Full-speed Data Rate for devices which are not highspeed capable"

"Min 11.9700 Mb/s Max 12.0300 Mb/s"

However, there is the following regulations for the USB host as SOF transmission timing, and it is necessary to input "min 47.976MHz,max 48.024MHz" to satisfy this.

"Frame Interval Min 0.9995 ms Max 1.0005 ms"

Therefore, we will revise regulations of "EXTAL_USB clock frequency (48MHz)" of "USB module signal timing" as follows.

(1) USB clock frequency, when USB function controller (USBF) is used.

"min 47.9MHz, max 48.1MHz".

(2) USB clock frequency, when USB host controller (USBH) is used.

"min 47.976MHz, max 48.024MHz".

However, even if the clock frequency for USB is "min 47.9MHz, max 48.1MHz", it seems that there is no problem in the communication for the application (the isochronous transfer is not used or the USB hub is not used) that doesn't need a strict SOF interval in the USB host.