

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>

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Renesas Electronics Corporation

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RENESAS TECHNICAL UPD

Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
RenesasTechnology Corp.

Product Category	MPU&MCU	Document No.	TN-SH7-A539B/E	Rev.	2.0
Title	Limitation for use of SH7615/SH7616/SH7710/SH7712/R4J7710ABG internal Ethernet controller.		Information Category	Technical Notification	
Applicable Product	HD6417615 HD6417616 HD6417710 HD6417712 R4J7710ABG	Lot No.	Reference Document	SH7615 Hardware manual (ADE-602-198 Rev.1.0) SH7616 Hardware manual (ADE-602-243 Rev.1.0) SH7710 Hardware manual (REJ09B0079-0100Z Rev.1.00)	
		ALL			

The SH7615/SH7616/SH7710/SH7712/R4J7710ABG has the following usage notice.

There is a limitation for use of Ethernet controller direct memory access controller (E-DMAC) in SH7615/SH7616/SH7710/SH7712/R4J7710ABG, and their countermeasures are shown below.

<Phenomenon>

If the transmit and receive descriptor active bit has the "inactive" setting, the EDTRR register: TR bit (Transmit Request) and the EDRRR register: RR bit (Receive Request) are cleared and the operation of transmit DMAC is halted.

When the timing of clear TR/RR request bit and set TR/RR request bit by user's firmware are matched, E-DMAC can't recognize the exact condition of TR/RR bit.

<Condition>

When TR/RR request bit is always set by the firmware without checking the state of TR/RR request bit.

<Countermeasures>

Please check the TR/RR request bit is cleared by E-DMAC first, and then set the TR/RR request bit by user's firmware.

(1) There are two ways to check TR request bit that is cleared by E-DMAC.

- a) Possible to check read "0" of TR bit of E-DMAC directly.
- b) Possible to check read "1" of TDE (Transmit Descriptor Exhausted) in EESR register after the interrupt on.

(2) There are two ways to check RR request bit that is cleared by E-DMAC.

- a) Possible to check read "0" of RR bit of E-DMAC directly.
- b) Possible to check read "1" of RDE (Receive Descriptor Exhausted) in EESR register after interrupt on.