

RENESAS TECHNICAL UPDATE

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Product Category	MPU/MCU		Document No.	TN-SH7-A845A/E	Rev.	1.00
Title	Notice on Use of SH7786 PCIEC (PCI Express Controller)		Information Category	Technical Notification		
Applicable Product	SH7786 Group	Lot No.	Reference Document	SH7786 Group User's Manual: Hardware Rev.1.00 Nov 30, 2010 (REJ09B0501-0100)		
		All lots				

There is a notice on use of the SH7786 PCIEC about target transfer.

[Notice on use]

When a target I/O or memory transfer from the external device to the SH7786 PCIEC occurs with the following condition, the read or write access may not be executed correctly.

- Condition

1) Data payload size of target transfer to the PCIEC is 4-byte.

(I/O read or write access, or memory read or write access)

2) Bit 18 to 16 of the access address to the PCIEC target transfer is B'010.

3) Bit 15 to 0 of the access address to the PCIEC is as follows.

H'0044, H'0200, H'0208, H'0210, H'0214, H'0218, H'0220, H'0228, H'0230, H'0234, H'0238, H'0240, H'0248,

H'0250, H'0254, H'0258, H'0260, H'0268, H'0270, H'0274, H'0278, H'0280, H'0288, H'0290, H'0294, H'0298,

H'02A0, H'02A8, H'02B0, H'02B4, H'02B8

When a target transfer to the PCIEC is executed with the condition 1) to 3) all, the PCIEC internal register that address corresponds to the above condition 2) and 3) is accessed inadvertently. This leads to miss-writing of the internal register in a target write access and miss-reading of the internal register in a target read access and then that read data is transferred to the external device as a target read data.

- Workaround

If target transfer may occur with conditions 1) to 3), the external device must not execute transfer to the above address. To mask the address on the system;

(1) If the data payload size of target transfer is 4-byte, do not generate any request from the external device to the above address.

(2) Specify the access area size as smaller as possible by PCIELAMR register for areas that target transfer may occur with 4-byte data payload size and set the PCIELAR register to accept other than B'010 for address bit 18 to 16.

Note that, when using workaround (1), it is possible to avoid this problem that the I/O space should be obtained other than above address because 4-byte access is required and the space to be obtained above address should always be accessed with 8-byte or longer data payload size.

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