

RENESAS TECHNICAL UPDATE

TOYOSU FORESIA, 3-2-24, Toyosu, Koto-ku, Tokyo 135-0061, Japan
Renesas Electronics Corporation

Product Category	MPU/MCU		Document No.	TN-ECL-A001A/E	Rev.	1.00
Title	EC-1 Low-Power Consumption Function Adding a description concerning about releasing from the module-stop state		Information Category	Technical Notification		
Applicable Product	EC-1	Lot No.	Reference Document	EC-1 User's Manual: Hardware Rev.1.0 R01UH0691EJ0100		
		All lots				

There is added description concerning about exiting the module-stop state of Module Stop Function in the user's manual of EC-1.

■ Release from the module-stop state procedure:

When in need to release from the module-stop state of Module Stop Function for any peripheral module listed in Table 1, follow the procedures described below to release from the module-stop state. For the peripheral module not listed in In **Table 1**, follow the procedures specified in Initializing section for that peripheral module described in user's manual.

“Procedures”

1. Immediately after set “0” to the corresponding bit of Module Stop Control Register MSTPCRm (m = A~E) to release from the module-stop state, dummy read that MSTPCRm register once.
2. Dummy read any one of registers of the peripheral module which exited the module-stop state of.

After then, access to all of registers of that peripheral module will be possible.

Remarks : It is preconditioned that the access control attribute for peripheral register memory region is set to ‘Strongly-ordered’ or ‘Device’ by MPU.

<Example code>.

```
volatile unsigned long dummy;           // Declared volatile to prevent it from omitted by Optimization

SYSTEM.MSTPCRA.BIT.MSTPCRA0 = 0;      // Exit module-stop of CMTW unit 1
dummy = SYSTEM.MSTPCRA.BIT.MSTPCRA0;  // Procedure 1. Dummy-read MSTPCRm register

dummy = CMTW1.CMWIOR.WORD;            // Procedure 2. Dummy-read any register of CMTW unit 1
CMTW1.CMWIOR.WORD = 0x81;             // The first setting to CMTW unit 1 (value picked as e.g.)
```

Table 1 Corresponding peripheral module and Module Stop Control Register

Peripheral Modules	Corresponding Module Stop Control Register
CMTW unit 1	MSTPCRA register MSTPCRA0 bit
CMTW unit 0	MSTPCRA register MSTPCRA1 bit
CMT unit 2	MSTPCRA register MSTPCRA2 bit
CMT unit 1	MSTPCRA register MSTPCRA3 bit
CMT unit 0	MSTPCRA register MSTPCRA4 bit
RSCAN	MSTPCRB register MSTPCRB1 bit
RIIa unit 1	MSTPCRB register MSTPCRB2 bit
SCIFA unit 4	MSTPCRB register MSTPCRB5 bit
SCIFA unit 3	MSTPCRB register MSTPCRB6 bit
SCIFA unit 2	MSTPCRB register MSTPCRB7 bit
SCIFA unit 1	MSTPCRB register MSTPCRB8 bit
SCIFA unit 0	MSTPCRB register MSTPCRB9 bit
RSPIa unit 1	MSTPCRB register MSTPCRB12 bit
RSPIa unit 0	MSTPCRB register MSTPCRB13 bit
ELC	MSTPCRC register MSTPCRC6 bit
SPIBSC	MSTPCRC register MSTPCRC9 bit
CRC	MSTPCRC register MSTPCRC11 bit
CLMA unit 2	MSTPCRC register MSTPCRC12 bit
CLMA unit 1	MSTPCRC register MSTPCRC13 bit
CLMA unit 0	MSTPCRC register MSTPCRC14 bit
DMAC unit 1	MSTPCRE register MSTPCRE4 bit
DMAC unit 0	MSTPCRE register MSTPCRE5 bit