

# RENESAS TECHNICAL UPDATE

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Product Category	MPU & MCU	Document No.	TN-16C-A220A/E	Rev.	1.00
Title	Descriptions Changed in the M16C/6C Group Manual		Information Category	Technical Notification	
Applicable Product	M16C/6C Group	Lot No.	Reference Document	M16C/6C Group User's Manual: Hardware Rev.2.10	
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Some specifications of the M16C/6C Group have been changed. MCU usage and setting procedures have also been added or changed.

➔: Indicates the titles in the M16C/6C Group User's Manual: Hardware Rev.2.10.

## 1. Bus

### ➔ 11.3.5.7 BCLK Output

When in memory expansion mode, the value output from the P3\_0 pin is not A8, but an undefined value.

Table 11.7 Pin Functions for Each Processor Mode

Processor Mode	Memory Expansion Mode or Microprocessor Mode		Memory Expansion Mode
Bits PM05 to PM04	00b (separate bus)	01b ( $\overline{CS2}$ is for multiplexed bus and the others are for separate bus) 10b ( $\overline{CS1}$ is for multiplexed bus and the others are for separate bus)	11b (the entire $\overline{CS}$ space is for multiplexed bus)
Data bus width	8 bits	8 bits	8 bits
(omission)			
P3_0	A8	A8	<b>Undefined value is output <sup>(1)</sup></b>
(omission)			

Note:

- The change is indicated in bold text.

## 2. Timer S

### 2.1 G1BT Register in Timer S

#### ➔ 20.2.5 Base Timer Register (G1BT)

Do not write to this register.

The G1BT register becomes 0000h when the BTS bit in the G1BCR1 register is set to 0 (base timer reset). This function works same as before without any change.

## 2.2 Interrupt Request When Selecting Time Measurement Function

### ➔ 20.5.6 Interrupt Request When Selecting Time Measurement Function

When the FSCj bit (j = 0 to 7) in the G1FS register is set to 1, and the IFEj bit in the G1FE register is also set to 1, the G1IRj bit in the G1IR register, or the IR bits in registers ICOCiIC (i = 0, 1) or ICOCHjIC (j = 0 to 3) may become 1 (interrupt requested) after a maximum of two fBT1 cycles.

When using IC/OC interrupt i or IC/OC channel j interrupt, set bits FSCj and IFEj to 1, then perform the following:

- (1) Wait for two or more fBT1 cycles.
- (2) Set the IR bit in the ICOCiIC register and/or the ICOCHjIC register to 0.
- (3) Wait for three or more fBT1 cycles after the time measurement function is selected. Set the G1IR register to 00h after setting the IR bit in the ICOCiIC register to 0.

## 3. USB Function

### 3.1 USBSTS Bit in the USBMC Register

The bit explanation has been partially changed.

#### ➔ 24.2.33 USB Module Control Register (USBMC), USBSTS (USB module status flag) (b6)

Premodification:

After setting the USBE bit to 0 (USB clock supplied) and a stable USB clock is supplied, the USBSTS bit becomes 0 (USB module enabled). Access USB associated registers other than the USBMC register when the USBSTS bit is 0 (USB module enabled).

Post modification:

When the USB module is enabled after setting the USBE bit to 0 (USB clock supplied), the USBSTS bit becomes 0 (USB module enabled). Access USB associated registers other than the USBMC register when the USBE bit is 0 and the USBSTS bit is 0 (USB module enabled).

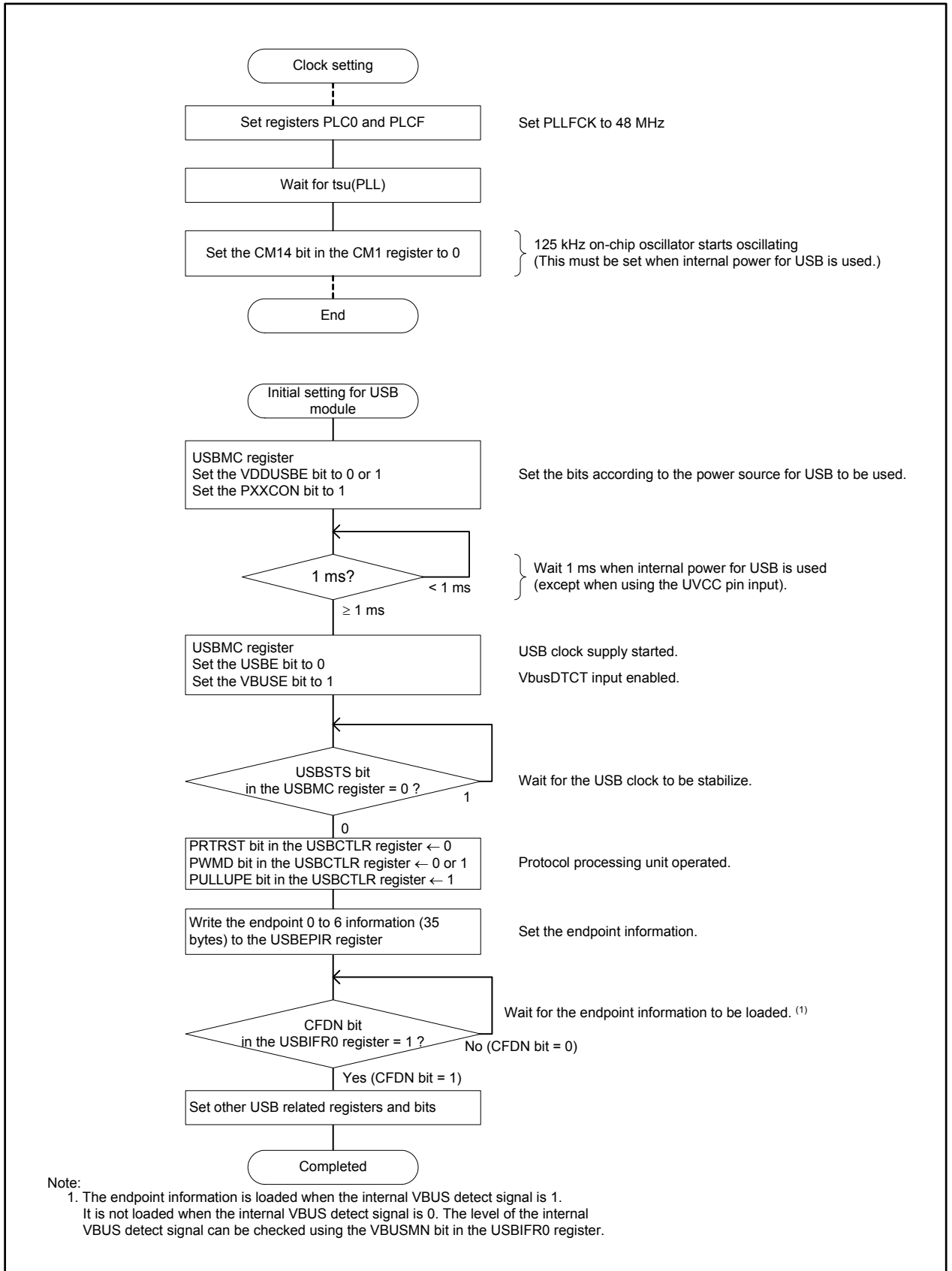
Once the USBSTS bit becomes 0, then it remains 0 even if the USBE bit is set to 1.

### 3.2 USB Initial Setting

Conditions for the initial setting and when connecting a cable are now described separately. The procedures also have been changed.

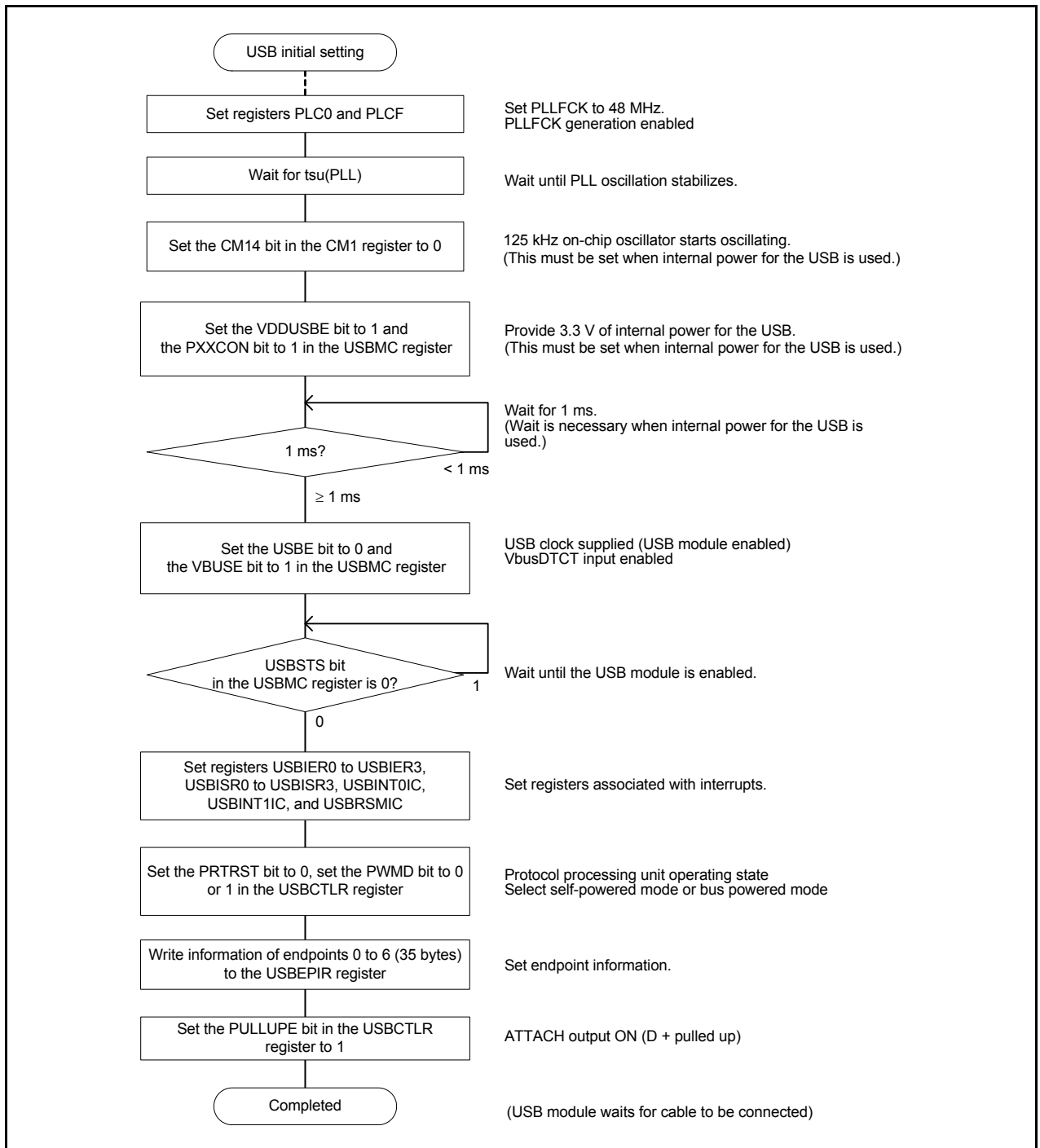
#### ➔ 24.3.7 USB Initial Setting, Figure 24.6 USB Module Initial Setting, Figure 24.7 Setting when Connecting the Cable

Premodification:



Post modification:

Initial Setting



Setting when Connecting a Cable

