

CUSTOMER NOTIFICATION

SUD-TT-0215-1-E
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IE-703114-MC-EM1  
(Control Code: A, B)

Operating Precautions

Be sure to read this document before using the product.

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# Notes on Using IE-703114-MC-EM1

## 1. Product Version

Control Code	Peripheral EVA Chip	Board Version
A	UPD70F3114GJ ES1.1 UPD70F3114GJ ES1.2	1.00
B	UPD70F3114GJ ES1.6	1.01

## 2. Production History

No.	Cautions and Restrictions	Control Code <sup>Note</sup>	
		A	B
1	Caution regarding continuous UART0 transfer	Δ	Δ
2	Caution regarding A/D conversion result register read timing	Δ	Δ
3	Restriction on A/D converter	×	√

√: Restriction does not apply, Δ: Restriction will also apply in future, ×: Restriction applies

**Note** The “control code” is the second digit from the left in the 10-digit serial in the warranty supplied with the product you purchased. If the product has been upgraded, a label indicating the new version is attached to the product and the x in V-UP LEVEL x on this label indicates the control code.

## 3. Details of Cautions and Restrictions

No. 1 Caution regarding continuous UART0 transfer

[Description]

The UART0 in this product has a two-stage buffer configuration consisting of a transmit buffer (TXB0) and a transmit shift register, each of which includes a status flag that indicates the status of the buffer (the TXBF and TXSF bits of the ASIF0 register). If these two bits are read simultaneously, although “10” changes to “01”, depending on the timing, “11” or “00” may be inadvertently read out because the timing at which “10” changes to “01” is in the period in which data is transferred from the transmit buffer to the transmit shift register. As a result, illegal operation may occur in a program that reads data from the TXBF and TXSF bits simultaneously.

[Workaround]

When performing continuous transmission, be sure to read only the ASIF0 register’s TXBF bit. Correction is not planned. Regard this as a permanent caution.

No. 2 Caution regarding A/D conversion result register read timing

[Description]

The conversion operation is stopped by setting ADCEn = 0 during A/D conversion. After that, if the value of the A/D conversion result register (ADCRn<sub>m</sub>) is read, an illegal value may be read (n = 0, 1; m = 0 to 5 when n = 0, m = 0 to 7 when n = 1).

[Workaround]

Read the ADCRnm value during A/D conversion (ADCEn = 1).

Correction is not planned. Regard this as a permanent caution.

### No.3 Restriction on A/D converter

[Description]

The following three types of triggers are defined for convenience below.

- Timer trigger: The timer trigger source selected by the ITRG0 and ITRG1 registers
- External trigger: The trigger input from the ADTRG0/INTP2/P03 and ADTRG1/INTP3/P04 pins
- Software trigger: The trigger used to start A/D conversion by software (described as “A/D trigger” in the user’s manual).

A/D conversion may not be started in the following two cases.

- (1) When timer trigger mode is selected as the A/D conversion trigger and when the timing at which a timer trigger is generated and an external trigger is input conflicts, A/D conversion started by the timer trigger may not start.
- (2) When external trigger mode is selected as the A/D conversion trigger and the timing at which a timer trigger is generated and an external trigger is input conflicts, A/D conversion started by the external trigger may not start.

#### External trigger pin

- The IE-703114-MC-EM1 includes two external trigger pins, ADTRG0 and ADTRG1, which alternately function as interrupt inputs (INTP02 and INTP03) and port inputs (P03 and P04), but the functions cannot be masked separately. Therefore, these pins function as external triggers by edge input even when they are used for interrupt input or port input.
- The IE-703114-MC-EM1 includes two A/D converters. External trigger ADTRG0 is used for A/D0, and ADTRG1 for A/D1. Therefore, ADTRG0 input does not affect the A/D1 conversion operation. In the same manner, ADTRG1 input does not affect A/D0 conversion.

#### Operation when conversion does not start:

The A/D conversion operation does not start when the above timing that causes this restriction occurs. However, A/D conversion is correctly started by the next trigger input and ends normally.

**This restriction does not apply when software trigger mode is selected.**

[Workaround]

Perform A/D conversion in software trigger mode.

This restriction has been corrected in control code B or later.