

# TOSHIBA

SP-900-009

## EVNTCT

--Counting Events Using 16-bit Timer--

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### 1. Target MCU

This sample program is created targeting at the TLCS-900/H series.  
When using an MCU other than the TLCS-900/H series, refer to the data sheet for that MCU.

### 2. Overview

This sample program counts events using a 16-bit timer.

### 3. Description

Timer 8 and 9 can operate as an event counter when external input TI8 or TIA is used as a timer clock.

The following describes timer 8 as an example.

The UC8 16-bit up counter increments the count on the rising edge of the TI8 input. The program performs software capture and reads the captured value. Timer input pin TI8 is shared with P90 but it does not provide a feature to select whether it is used as a port or timer input. Starting timer 8 always enables event counting.

- Stop timer 8 and clear its contents to 0.
- Set P90 to input mode.
- Disable a trigger.
- Set the input clock to TI8.
- Set a 16-bit counter value.
- Enable INTTR9 and set its interrupt level to 5 (or any appropriate level between 1 and 6).
- Start timer 8.

#### 4. Passing Data

The counter values for activating timers 8 using the T18 input clock is the input parameter. This sample program uses register WA to set a counter value.

Input: Timer register values (WA = 0x00c8)

#### 5. Interrupts

- INTTR8 : Cycle depending on an external pulse

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