

MSPM0 EVENT module introduction

— MSPM0 peripheral training series

Presented by Sal Ye

MSPM0 EVENT module introduction

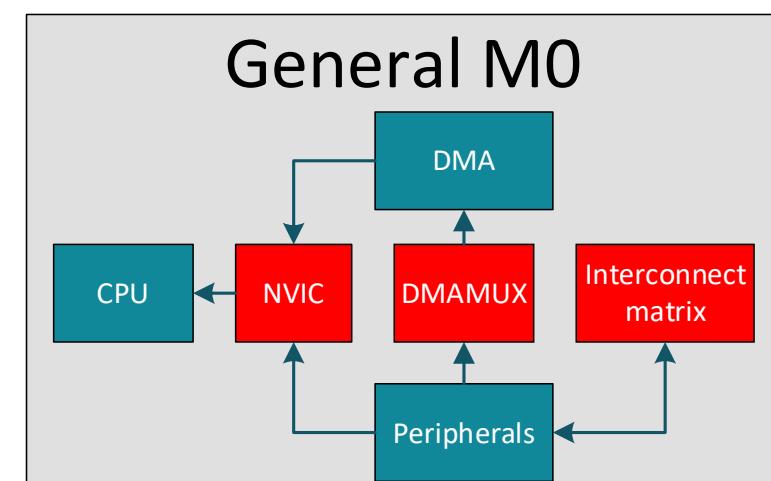
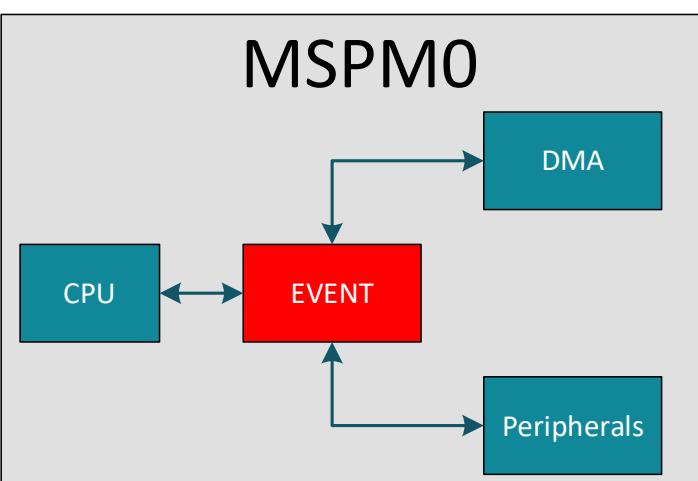
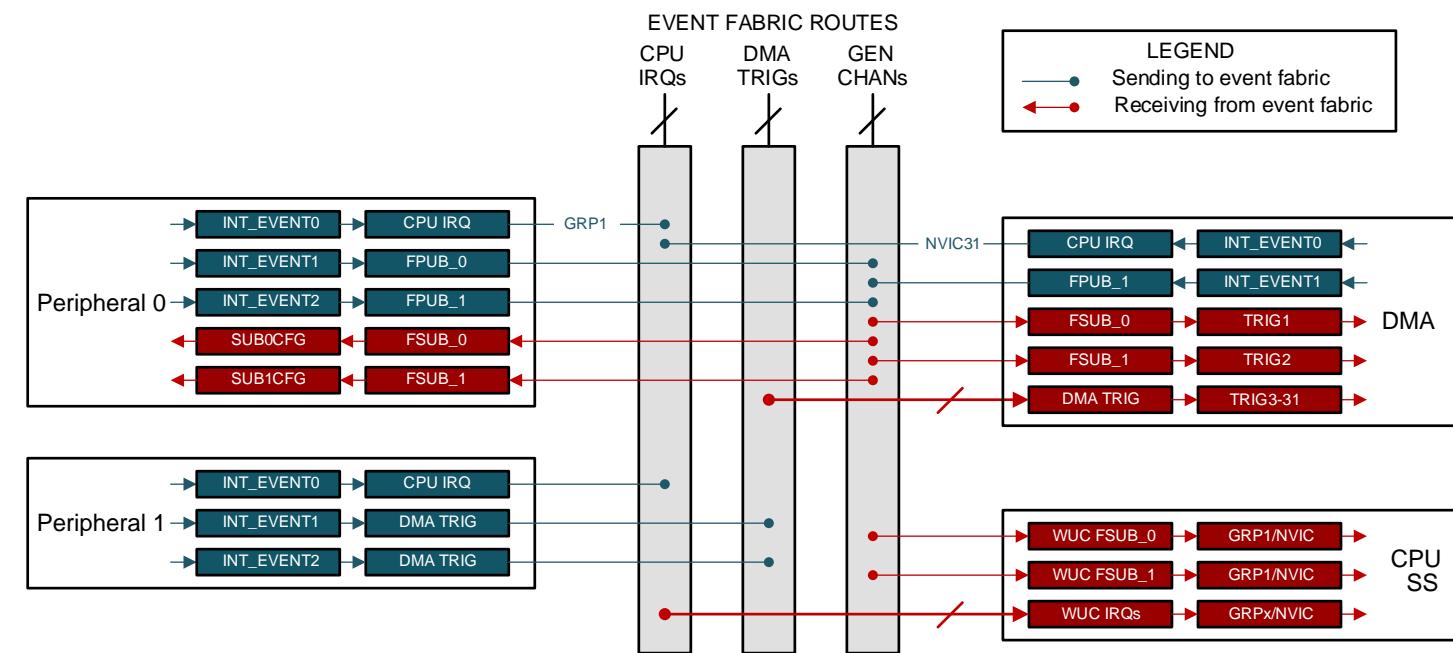
Key Features

- The event manager can transfer digital events from one entity (IRQ / DMA_TRIGGER / FPUB) to another (WUC IRQ / DMA TRIG / FSUB).

Event Type	Publisher	Subscriber
1	Peripheral	CPU
2	Peripheral	DMA
3	Peripheral	Peripheral

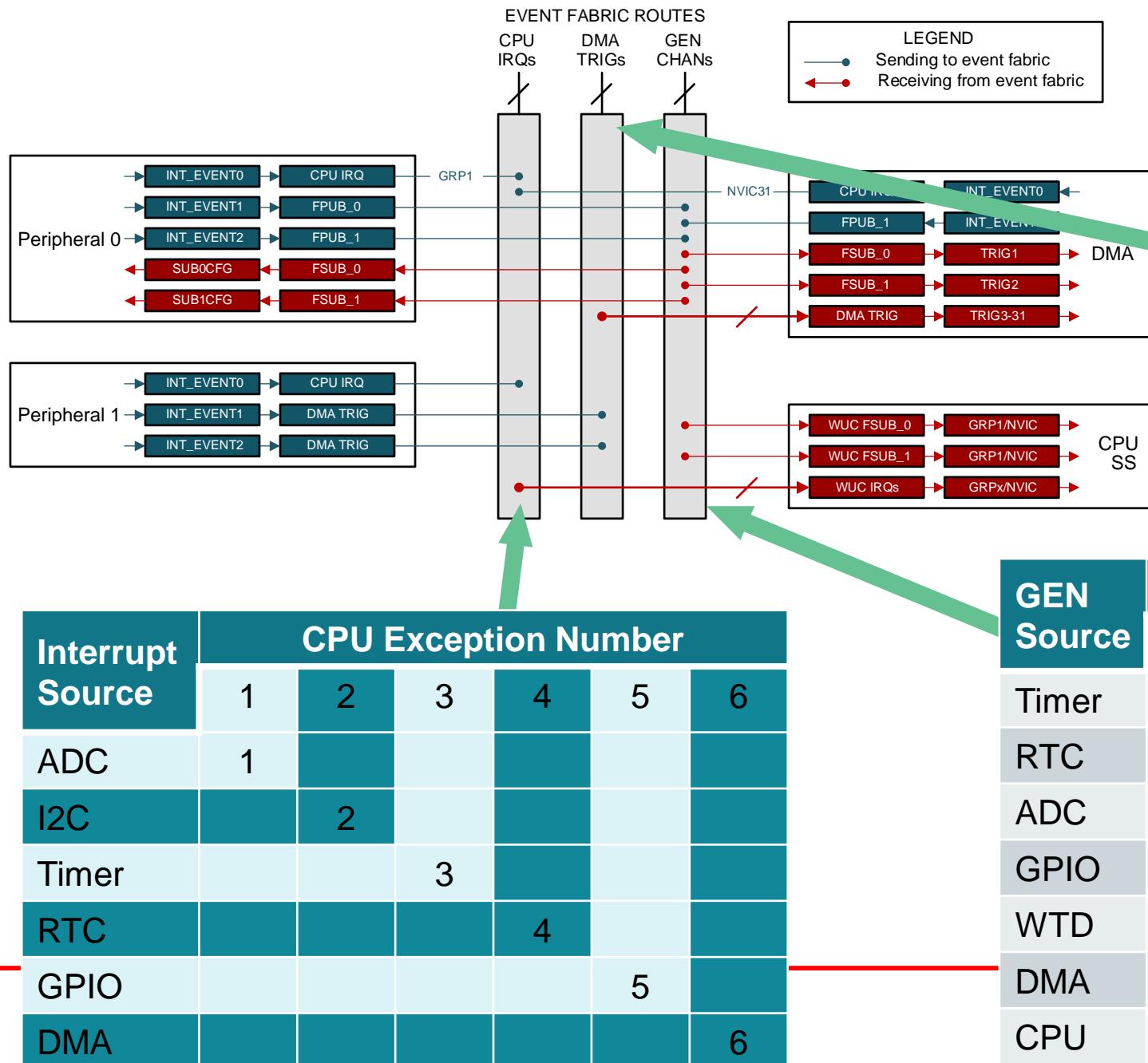
Some Use Cases

- RTC interrupt is sent to the CPU (CPU IRQs)
- UART triggers DMA transfer (DMA TRIGs)
- TIM triggers ADC sampling(GEN CHANs)



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A Combination of Flexible Matrix



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DMA Source	DMA input Channel			
	1	2	3	4
ADC	Selectable	Selectable	Selectable	Selectable
I2C				
SPI				
Timer				

GEN Source	GEN Destination (1:1 or 1:2)				
	Timer	ADC	GPIO	DMA	CPU
Timer	Selectable				
RTC		Selectable			
ADC			Selectable		
GPIO				Selectable	
DMA					Selectable

Note: The tables only list partial of EVENT module, and full information please refer to TRM.

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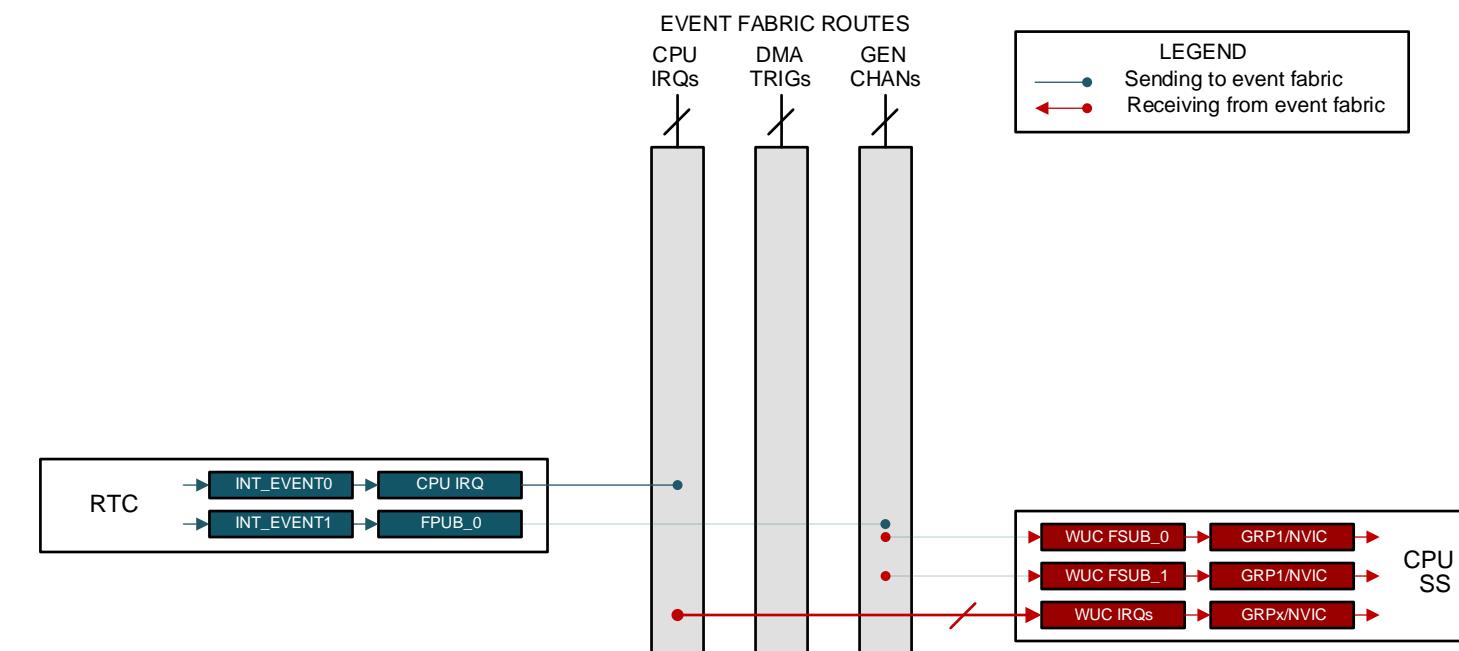
Some Use Cases

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Event Type	Publisher	Subscriber
1	Peripheral	CPU



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1	Peripheral	CPU
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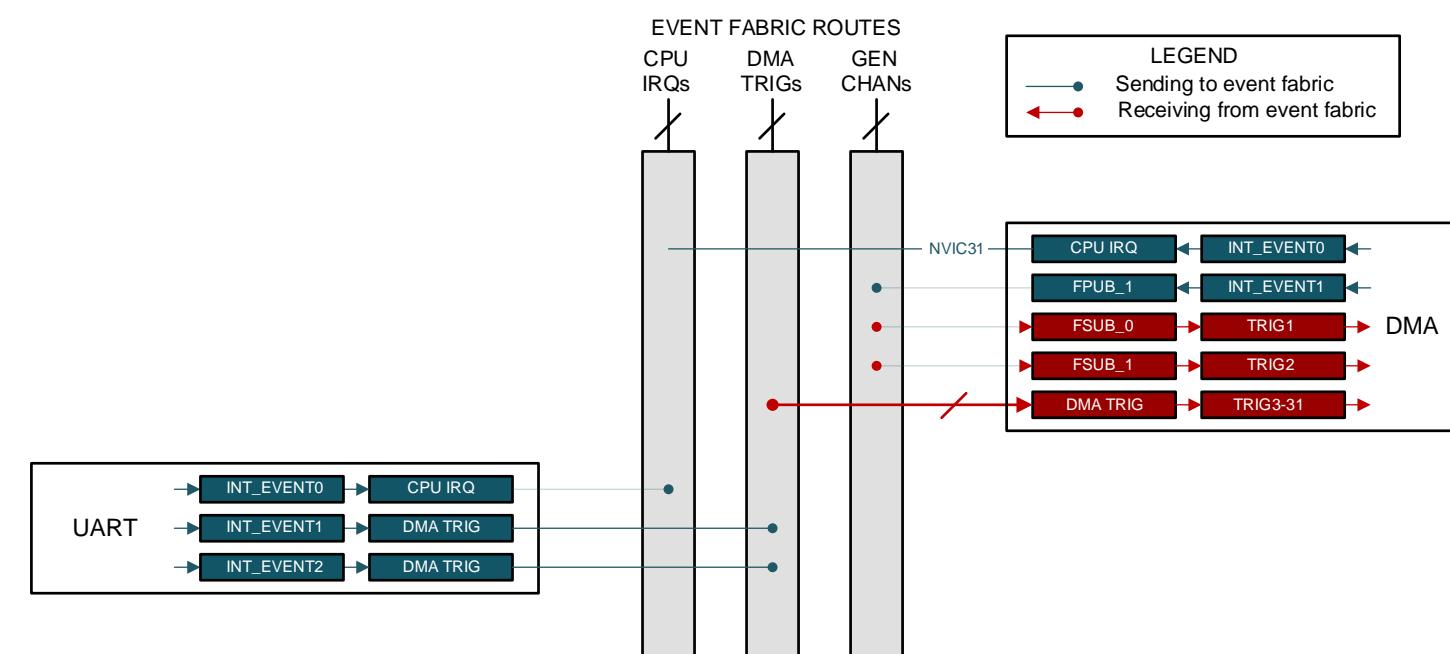
Some Use Cases

RTC interrupt is sent to the CPU (CPU IRQs)

UART triggers DMA transfer (DMA TRIGs)

TIM triggers ADC sampling(GEN CHANs)

Event Type	Publisher	Subscriber
2	Peripheral	DMA



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Key Features

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Event Type	Publisher	Subscriber
1	Peripheral	CPU
2	Peripheral	DMA
3	Peripheral	Peripheral

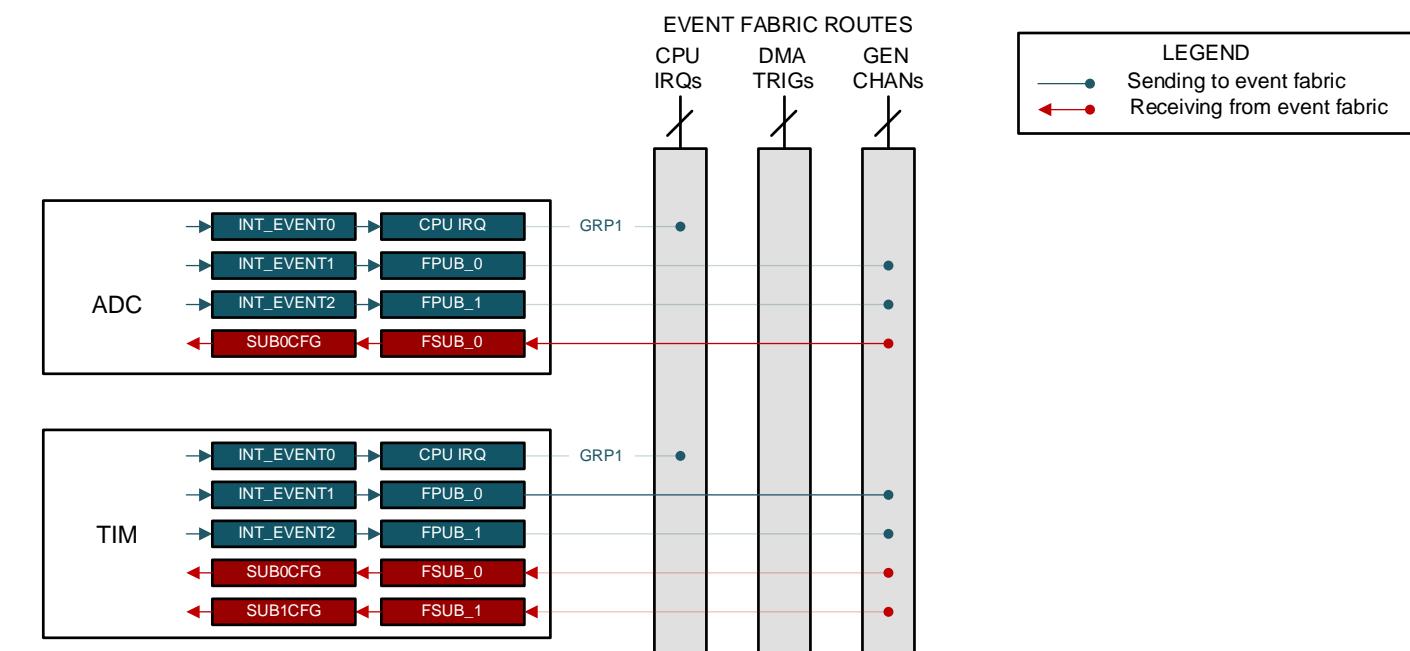
Some Use Cases

RTC interrupt is sent to the CPU (CPU IRQs)

UART triggers DMA transfer (DMA TRIGs)

TIM triggers ADC sampling(GEN CHANs)

Event Type	Publisher	Subscriber
3	Peripheral	Peripheral



EVENT module quick start

Academy

[Event introduction lab](#)

Driverlib Examples

MSPM0L13xx :

- 📁 comp_dac_to_timer_event
- 📁 adc12_triggered_by_timer_event
- 📁 event_input_triggers_output
- 📁 adc12_triggered_by_timer_event_stop

- 📁 adc12_simultaneous_trigger_event
- 📁 adc12_simultaneous_trigger_event_stop
- 📁 adc12_triggered_by_timer_event
- 📁 adc12_triggered_by_timer_event_stop

MSPM0G350x :

- 📁 comp_dac_to_timer_event
- 📁 dac12_fifo_timer_event
- 📁 event_input_triggers_output

Related Links

[MSPM0 online resource](#)

[MSPM0 Quick start guide](#)

[MSPM0 Sysconfig user's guide](#)

[MSPM0G350x datasheet](#)

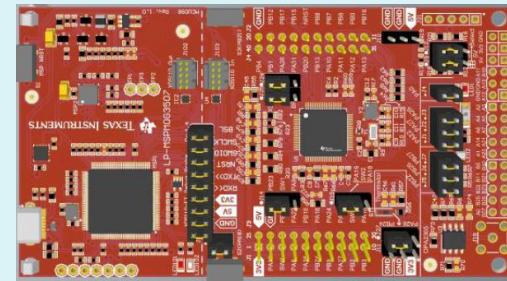
[MSPM0L13xx datasheet](#)

[MSPM0Gxx technical reference manual](#)

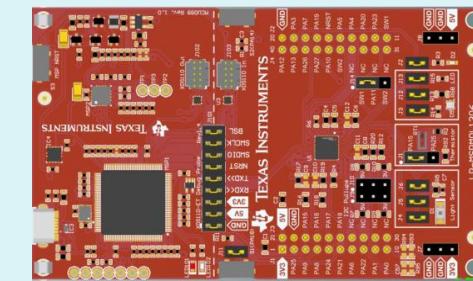
[MSPM0Lxx technical reference manual](#)

Launchpad

[LP-MSPM0G3507](#)



[LP-MSPM0L1306](#)



Sysconfig Entrance for Event Setting

Step1: Sampling Mode Configuration

Step2: Trigger Source: Event

Step3: Event Publisher Channel ID: 1 - TIMER_0 => ADC12_0

The screenshot shows the Sysconfig software interface for configuring the ADC12 module. The left sidebar lists various driver components: ADC12 (selected), COMM, DAC12, OPA, VREF, COMMUNICATIONS, TIMERS, DATA INTEGRITY, and READ-ONLY. The main configuration pane is titled "Sampling Mode Configuration" under "ADC12". It includes sections for "Conversion Mode", "Enable Repeat Mode", and "Sampling Mode". A "Trigger Source" dropdown is set to "Event". The "Event" section specifies "Binary unsigned, right aligned". Other sections like "Advanced Configuration", "Interrupt Configuration", "DMA Configuration", "Event Configuration", and "PinMux Peripheral and Pin Configuration" are also visible.

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