

MSPM0 EVENT module introduction

— MSPM0 peripheral training series

Presented by Sal Ye

MSPM0 EVENT module introduction

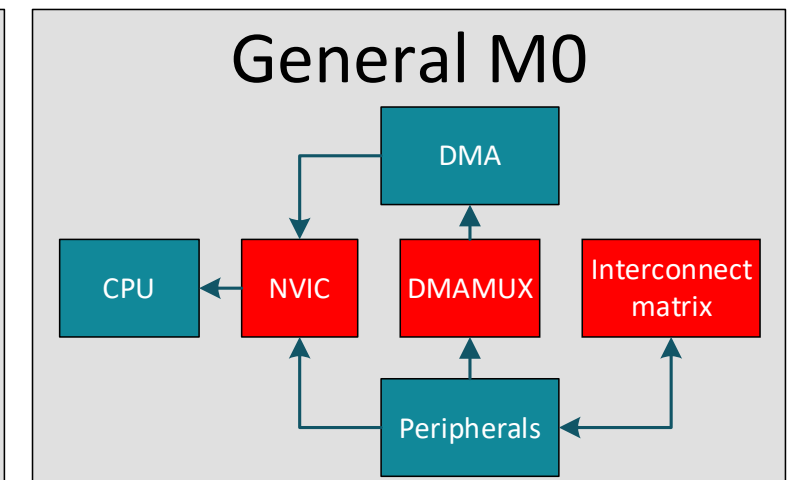
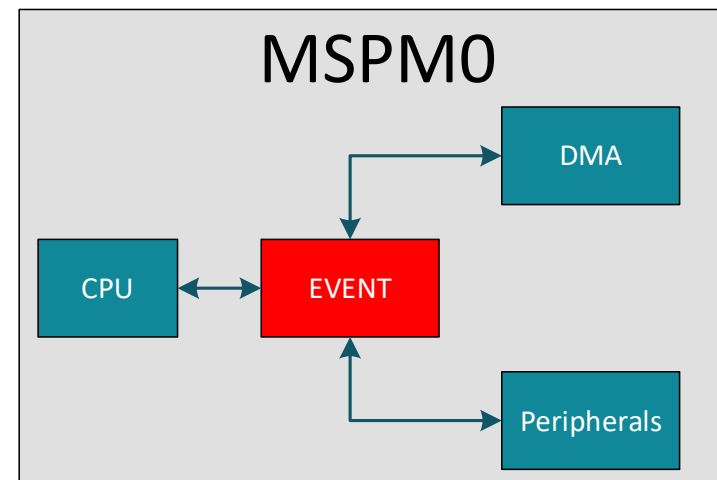
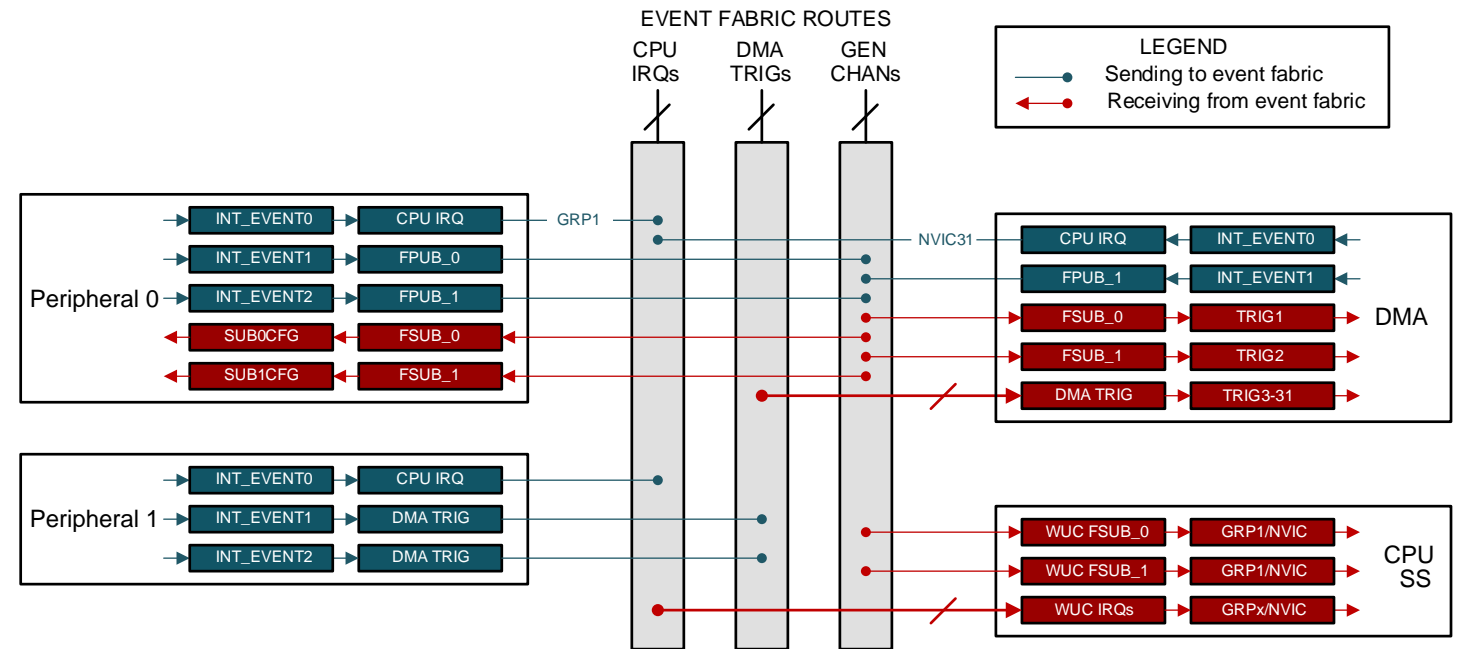
Key Features

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

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

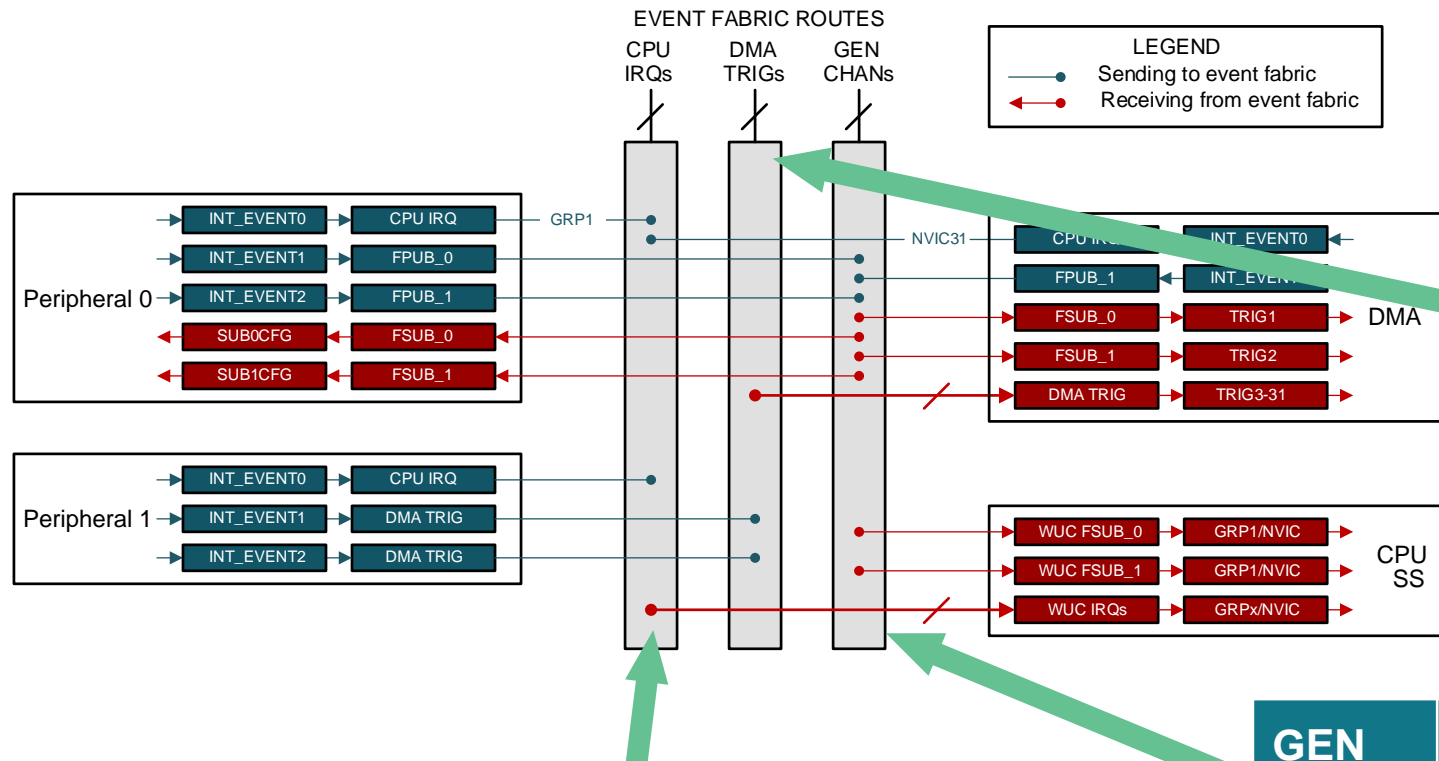
Some Use Cases

- 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



Some Use Cases

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

Interrupt Source	CPU Exception Number					
	1	2	3	4	5	6
ADC	1					
I2C		2				
Timer			3			
RTC				4		
GPIO					5	
DMA						6

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

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

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Key Features

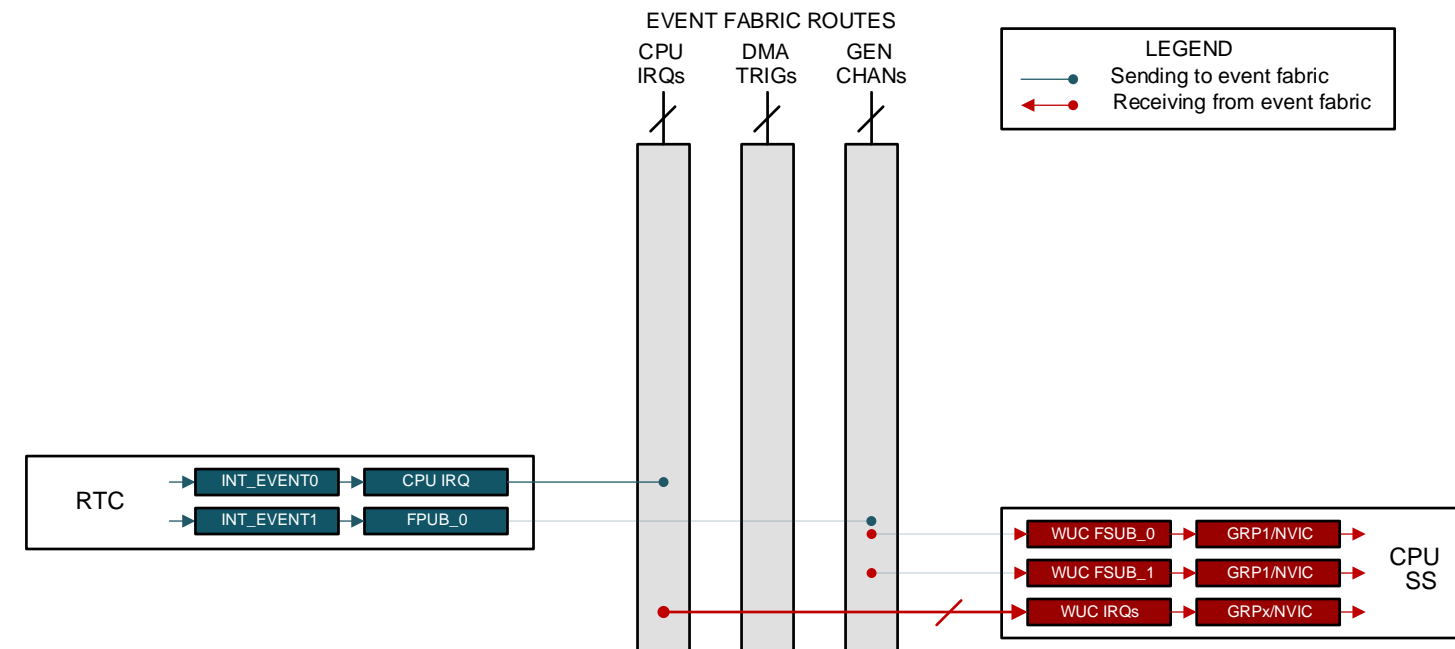
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Some Use Cases

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Event Type	Publisher	Subscriber
1	Peripheral	CPU



MSPM0 EVENT module introduction

Key Features

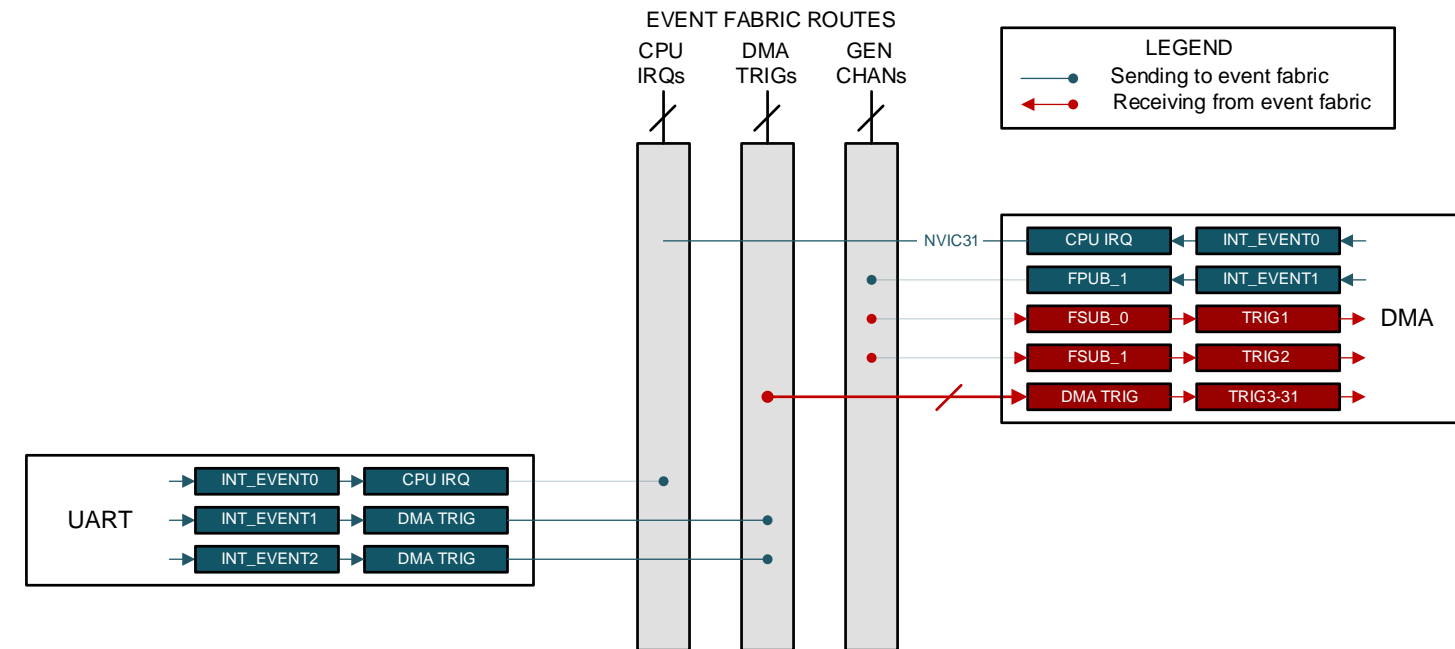
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Event Type	Publisher	Subscriber
1	Peripheral	CPU
2	Peripheral	DMA
3	Peripheral	Peripheral

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
2	Peripheral	DMA



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Key Features

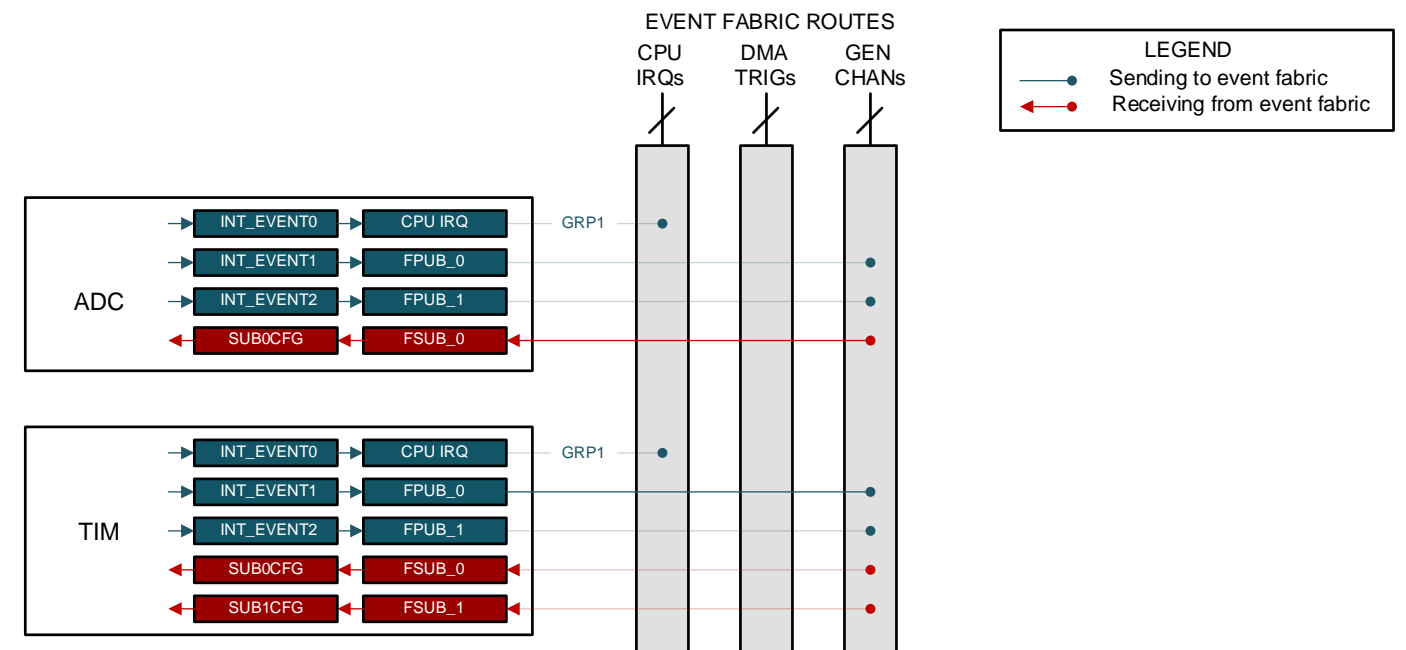
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Event Type	Publisher	Subscriber
1	Peripheral	CPU
2	Peripheral	DMA
3	Peripheral	Peripheral

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

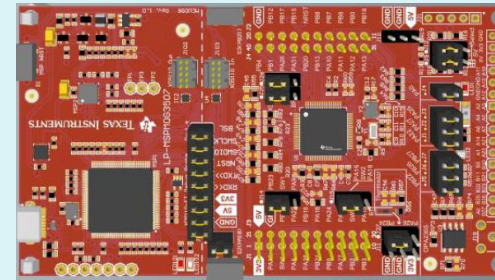
Related Links

- [MSPM0 online resource](#)
- [MSPM0 Quick start guide](#)
- [MSPM0 Sysconfig user's guide](#)

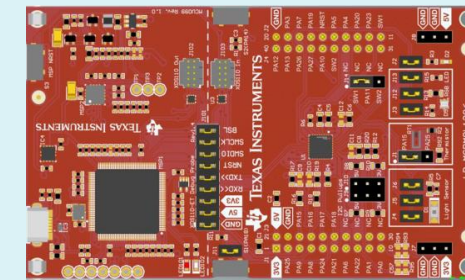
- [MSPM0G350x datasheet](#)
- [MSPM0L13xx datasheet](#)
- [MSPM0Gxx technical reference manual](#)
- [MSPM0Lxx technical reference manual](#)

Launchpad

LP-MSPM0G3507



LP-MSPM0L1306



Sysconfig Entrance for Event Setting

Step 1: ADC12 1/2 ✓

Step 2: Trigger Source @ Event

Step 3: Event Configuration

Event Publisher Channel ID: Disabled (0)

Event Subscriber Channel ID: 1 - TIMER_0 => ADC12_0

Enable Events: None

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- [Bilibili](#)
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