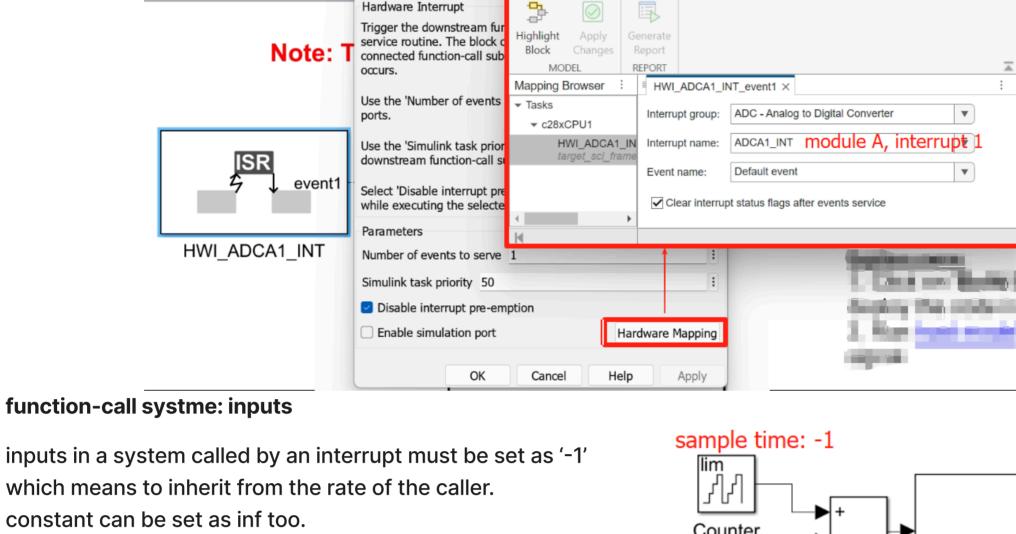


In the function-call subsystem, the PWM generator can be set to generate pulses with period of 50e-6s and generate an event at a condition to enable ADC start of conversion (SOC). So ADC also converts at 50e-6s. At the end of conversion (EOC), ADC should generate an interrupt which is exactly the trigger of the function-call system to close the loop. Therefore, the function-call subsystem will be executed at 50e-6s. **ISR (Interrupt Service Routine)** 

ADC interrupt will trigger a function-call subsystem, in which ADC conversion is done and PWM is generated.

◆ Hardware Mapping: target\_sci\_frame\_tx



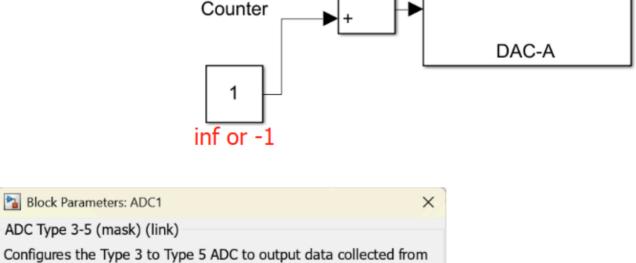
Block Parameters: ADC1

SOC: Start of Conversion EOC: End of Conversion

ADC Type 3-5 (mask) (link)

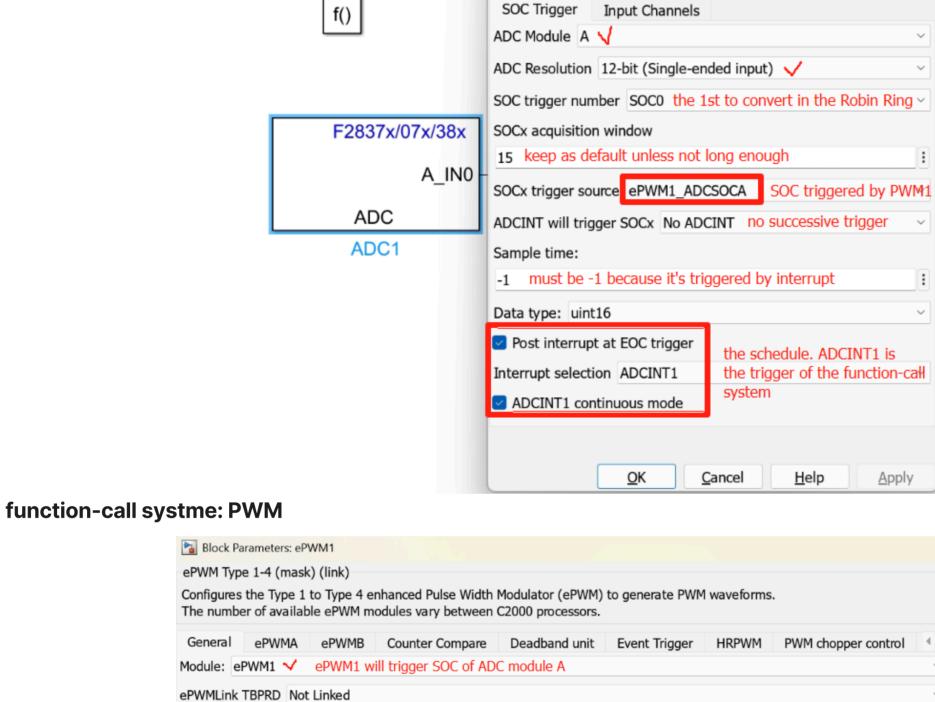
the ADC pins on the processor.

function-call systme: ADC



C28x

General



Timer period units: Clock cycles 🗸 Specify timer period via: Specify via dialog Timer period: needs to be divided by 2 because the counting mode is up-down floor((100e6\*50e-6)/2) EPWMCLK\*Ts/2 2500 Active period register load option (PRDLD) Counter equals to zero in case of change of period, when to update Counting mode: Up-Down 🗸 Synchronization action: Disable ☐ Specify software synchronization via input port (SWFSYNC) ☐ Enable digital compare A event1 synchronization (DCAEVT1) ☐ Enable digital compare B event1 synchronization (DCBEVT1) Synchronization output (SYNCO): Disable Peripheral synchronization event (PWMSYNCSEL): Counter equals to period (CTR=PRD) Time base clock (TBCLK) prescaler divider: 1 High speed time base clock (HSPCLKDIV) prescaler divider: 1 ✓ keep it as default Enable swap module A and B <u>C</u>ancel Block Parameters: ePWM1 ePWM Type 1-4 (mask) (link) Configures the Type 1 to Type 4 enhanced Pulse Width Modulator (ePWM) to generate PWM waveforms. The number of available ePWM modules vary between C2000 processors. PWM chopper control Deadband unit Event Trigger HRPWM ePWMA ePWMB Counter Compare Enable ADC start of conversion for module A Number of event for start of conversion A (SOCA) to be generated: First event Start of conversion for module A event selection: Counter equals to zero (CTR=Zero) when the event will be generated Enable ADC start of conversion for module B Enable ePWM interrupt function-call systme: TX every data will be transmitted at 50e-6s, so 600 data in a frame will be at 0.03s. host RX needs to be set to 0.03s.

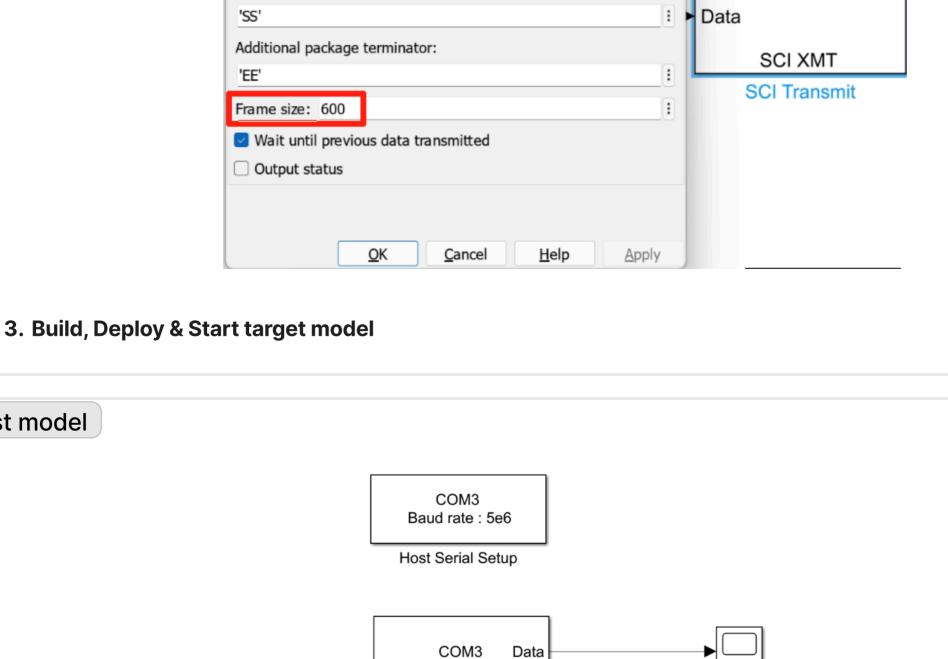
peripherals. **Parameters** SCI module: A C28x

Configures Serial Communication Interface (SCI) of the C2000 MCUs to transmit data via SCITXD pin. This enables asynchronous serial digital communications between the MCU and other connected

Block Parameters: SCI Transmit

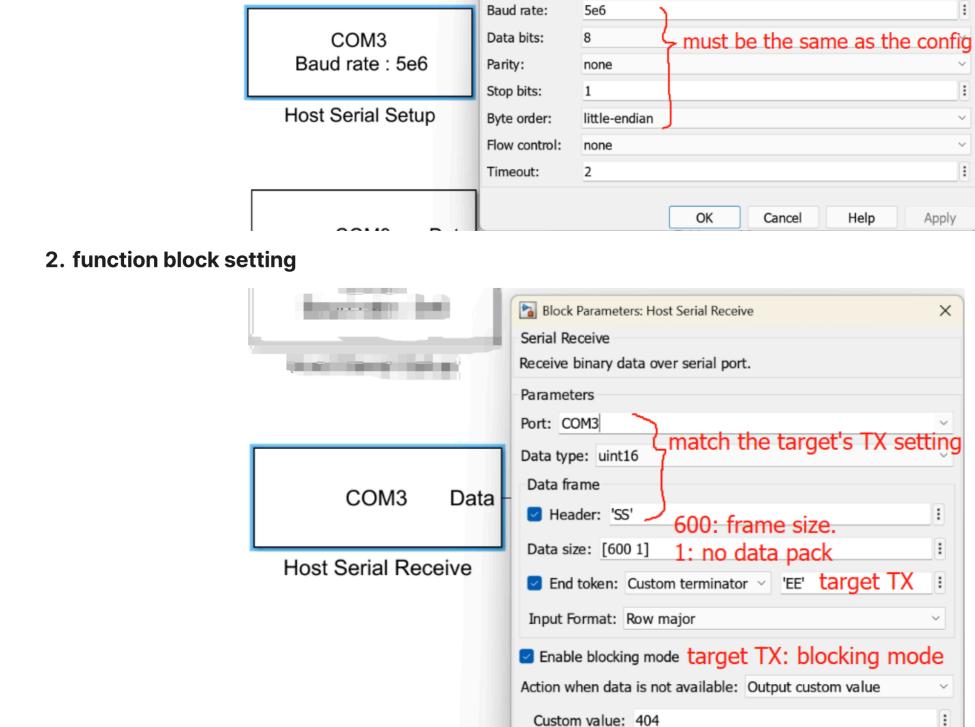
C28x SCI Transmit (mask) (link)

Additional package header:





host model



Host Serial Receive

Block Parameters: Host Serial Setup

Configure the parameters for the serial port.

COM3

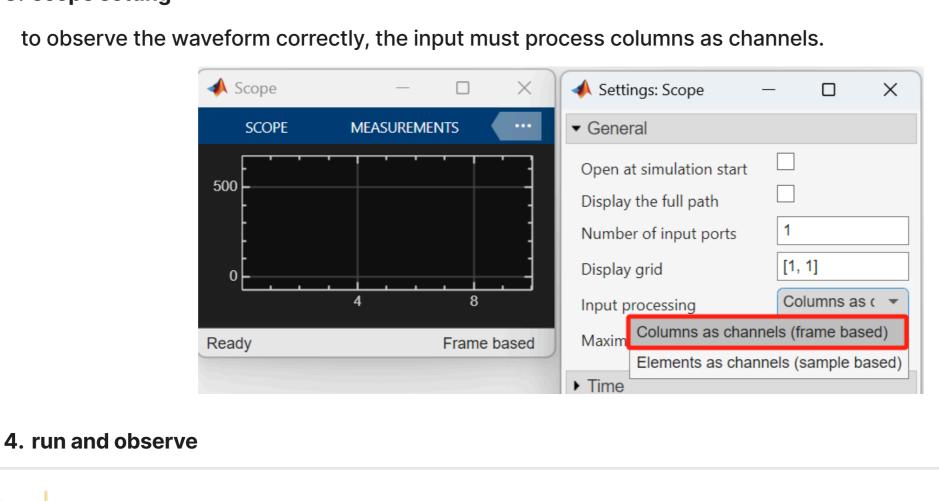
from device manager

Serial Configuration

**Parameters** 

Port:

3. scope setting to observe the waveform correctly, the input must process columns as channels.



Block sample time: 0.03 = 50e-6\*600