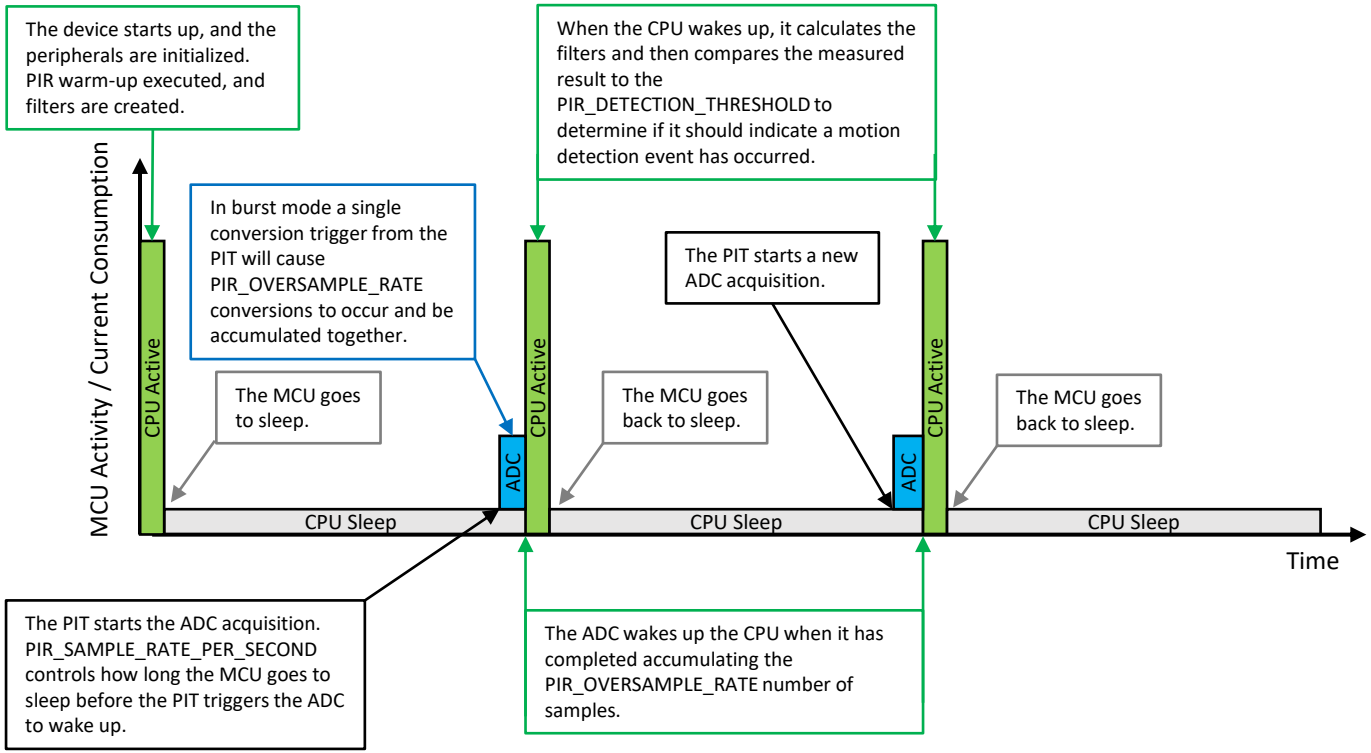
The device starts up, and the peripherals are initialized. PIR warm-up executed, and filters are created.
When the CPU wakes up, it calculates the filters and then compares the measured result to the PIR_DETECTION_THRESHOLD to determine if it should indicate a motion detection event has occurred.
MCU Activity / Current Consumption
In burst mode a single conversion trigger from the PIT will cause PIR_OVERSAMPLE_RATE conversions to occur and be accumulated together.
The PIT starts a new ADC acquisition.
CPU Active
The MCU goes to sleep.
ADC
CPU Active
The MCU goes back to sleep.
ADC
CPU Active
The MCU goes back to sleep.
CPU Sleep
CPU Sleep
CPU Sleep
Time
The PIT starts the ADC acquisition. PIR_SAMPLE_RATE_PER_SECOND controls how long the MCU goes to sleep before the PIT triggers the ADC to wake up.
The ADC wakes up the CPU when it has completed accumulating the PIR_OVERSAMPLE_RATE number of samples.