
Pseudo-code for Hall_Effect Module

StartInputCapture

Enable the clock for the input capture interrupt
End StartInputCapture

StopInputCapture

Disable the clock for the input capture interrupt
End StopInputCapture

HallEffectInputCaputreISR

Clear the source of the interrupt
Get the captured value
If the number of samples is 0
 save the current capture as LastCapture variable
Else
 Calculate the current period (last capture - this capture)
 Add the current period to the sum of all periods (Hall
 Period Sum)
Endif

If the number of samples equals the desired number of samples
 Calculate the average Hall Period (Hall Period Sum/number
 of samples/ticks per microsecond)
 Call a function that decides the code corresponding to the
 period
 Send an ES_SEND_FREQ event to change to SendingFrequency_1
 state
 Stop the input capture interrupt
Endif

Update Last Period
Increment number of samples
End HallEffectInputCaputreISR

DecideCode

Takes a float (Period), returns nothing

For every code in our array (codes are stored in an array, 16
of them)

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Find which code within a tolerance matches our measured
period
If the period is within the tolerance of the current
period in the array
    Set the period code as the index value
Endif
Endfor
```