CX32L003 Application Note 2

Use Internal 2.5V as ADC Reference Input for Absolute Value Measurement

1 Background

The ADC in CX32L003 uses supply voltage (Vcc) as the reference voltage. Because nomally the supply voltage is fluctuating or changing, customer can only get a relative value.

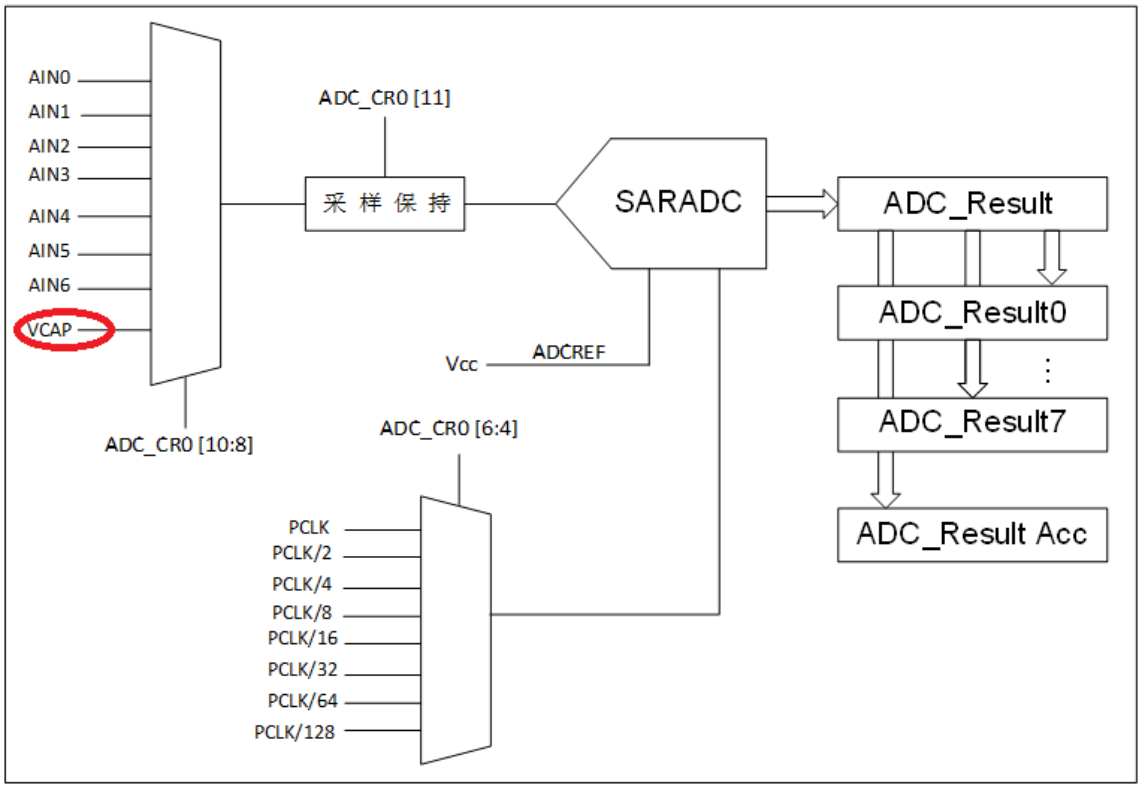
This application note describes a method to use internal 2.5V as ADC reference input to enable custome to get absolute value measurement.

2 Method

VCAP is an internal 2.5V signal already connected to ADC input channel as shown in below diagram. VCAP (2.5V) can be used as ADC reference input. Users can set ADC to sample targeted channel (0~6) and VCAP channel at the same time, and then calculate the absolute voltage value with the following fomula:

ADC_ABSOLUTE_VOLTAGE_VALUE = (VCAP * ADC_Resultn) / ADC_Result7

Note: VCAP = 2.5V, ADC_Resultn (0~6)



3 Attentions

VCAP (2.5V) is affected by temperature. There is error of around 100 mV.

4 Revision History

Revision	Issue Date	Change Log
0.1	2019/6/11	Initial Version