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Forum: [8-bit PIC](#)

Topic: [使用ADC時配合FVR的問題](#)

Subject: Re: [使用ADC時配合FVR的問題](#)

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PIC16F1939 的參考電壓是從 1.8V ~ Vdd，但低於 3V 的參考電壓就有比較大的誤差。

如下表所示：

附加檔案：

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TABLE 31-8: PIC16F/LF1938/39 A/D CONVERTER (ADC) CHARACTERISTICS:

Standard Operating Conditions (unless otherwise stated)							
Operating temperature $-40^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$							
Param No.	Sym.	Characteristic	Min.	Typ†	Max.	Units	Conditions
AD01	NR	Resolution	—	—	10	bit	
AD02	EIL	Integral Error	—	—	± 1.7	LSb	VREF = 3.0V
AD03	EDL	Differential Error	—	—	± 1	LSb	No missing codes VREF = 3.0V
AD04	E0FF	Offset Error	—	—	± 2.5	LSb	VREF = 3.0V
AD05	EGN	Gain Error	—	—	± 2.0	LSb	VREF = 3.0V
AD06	VREF	Reference Voltage ⁽³⁾	1.8	—	VDD	V	= (VREF+ minus VREF-)
AD07	VAIN	Full-Scale Range	VSS	—	VREF	V	
AD08	ZAIN	Recommended Impedance of Analog Voltage Source	—	—	50	k Ω	Can go higher if external 0.01 μ F capacitor is present on input pin.

* These parameters are characterized but not tested.

† Data in "Typ" column is at 3.0V, 25°C unless otherwise stated. These parameters are for design guidance only and are not tested.

Note 1: Total Absolute Error includes integral, differential, offset and gain errors.

2: The A/D conversion result never decreases with an increase in the input voltage and has no missing codes.

3: ADC VREF is from external VREF, VDD pin or FVREF, whichever is selected as reference input.

4: When ADC is off, it will not consume any current other than leakage current. The power-down current specification includes any such leakage from the ADC module.