

Maximum voltage: $4.2\text{ V} * (2\text{ M}/(0.8\text{ M}+2\text{ M})) = 3\text{ V}$
Minimum voltage: $2.7\text{ V} * (2\text{ M}/(0.8\text{ M}+2\text{ M})) = 1.93\text{ V}$
ADC value at 4.2 V - 12 bit setup: $3\text{ V} * (1/5) / 0.6\text{ V} * 4095 = 4095$
ADC value at 2.7 V - 12 bit setup: $1.93\text{ V} * (1/5) / 0.6\text{ V} * 4095 = 2634$
Usable ADC resolution - 12 bit setup: $4095 - 2634 = 1461$

