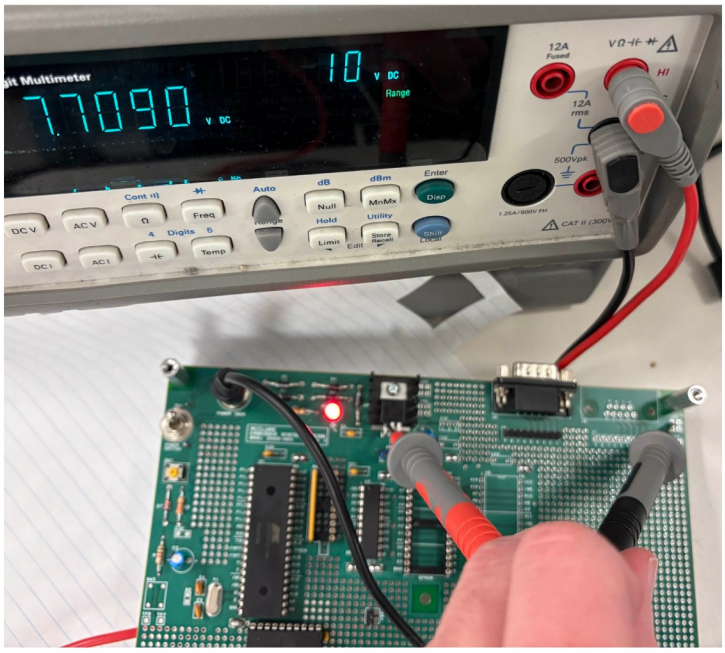
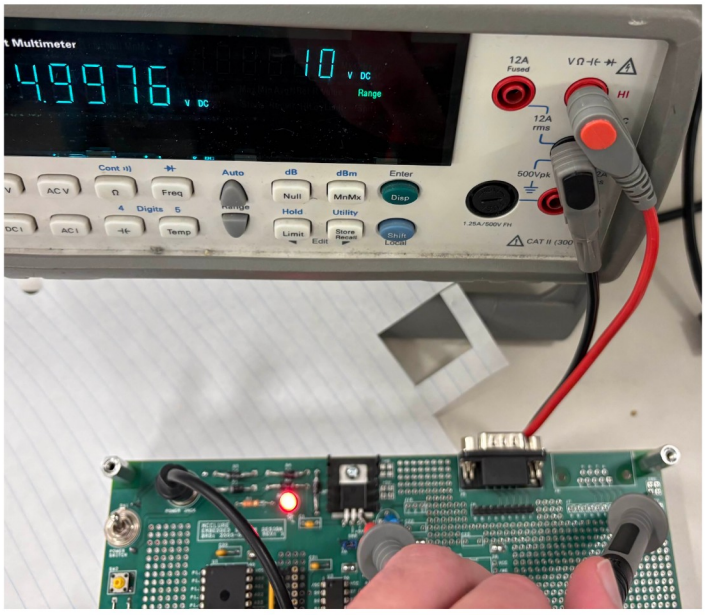
What voltage is present at the regulator input?
7.709 V



What voltage is present at the regulator output?
4.9976 V



What peak to peak noise is present across the processor VCC and GND?
Measured value at processor package pins on top side of board: 480mV
Measured value at wire wrap socket pins on bottom side of board: 440mV

Left is top PIN (inserting probe into VCC location), Right is bottom side location of wire wrapping, that directly links into top pin.

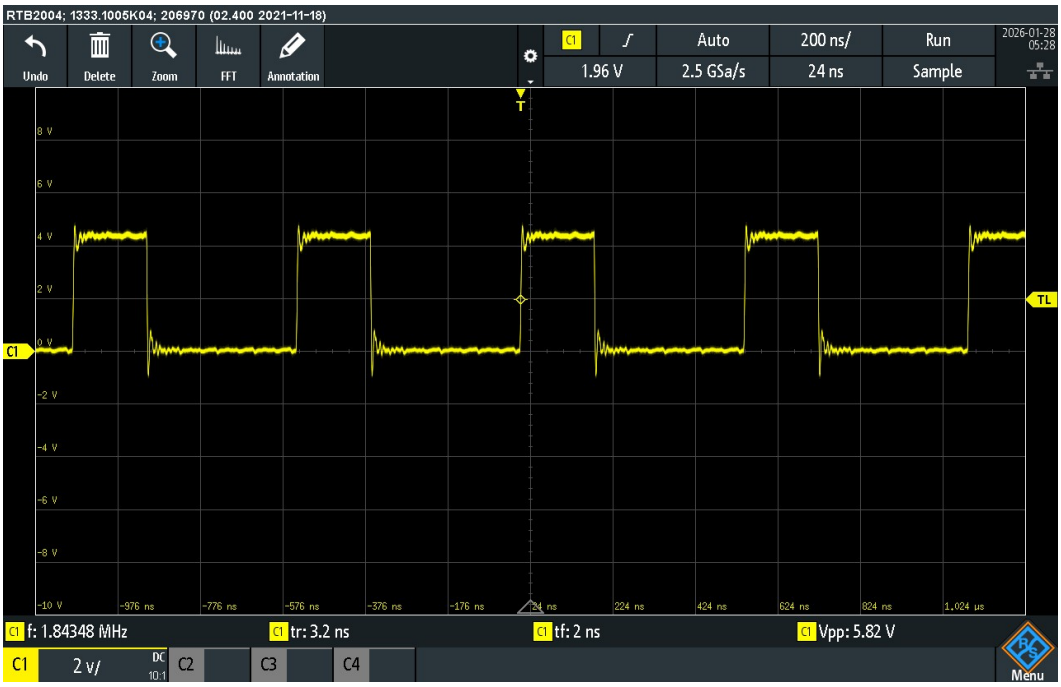
How long is the processor held in reset after the run-time reset pushbutton is released? Use an oscilloscope and try to measure the time between the release of the pushbutton and the time when noise from ALE is observed on the RST signal.

Measured value: ~37.5 ms

C2 is the reset pin, C1 is the ALE pin

What frequency is present at the ALE pin?

1.84348 MHz



Probing of ALE pin

How much power is dissipated in the regulator, assuming a load current of 160mA? Assume that the regulator is drawing the max quiescent current shown in the data sheet (use the correct data sheet for the regulator you have on your board). Neatly show all your work and be able to explain how current flows into and out of the regulator.

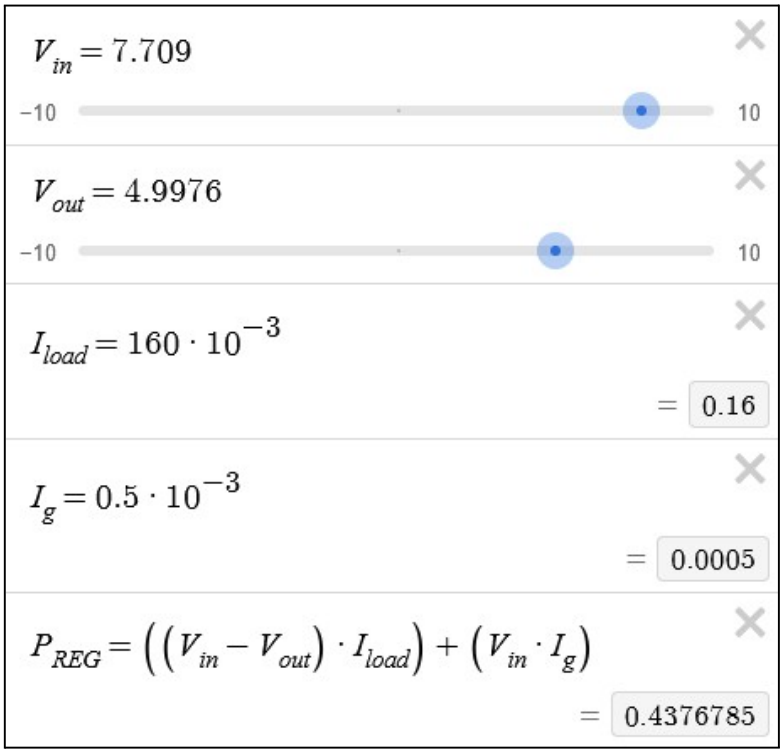
Calculated value: 437.6785 mW

From Slide 51 of Lecture 3:

$$P_{REG} = ((V_{IN} - V_{OUT}) * I_{LOAD}) + (V_{IN} * I_G)$$

We have all but I_G from the earlier parts, and from the datasheet:

ΔI_Q	Quiescent Current	5 mA ≤ I_O ≤ 1A	0.5	mA



Calculations for power dissipated in regulator

Which gives 437.6785 mW