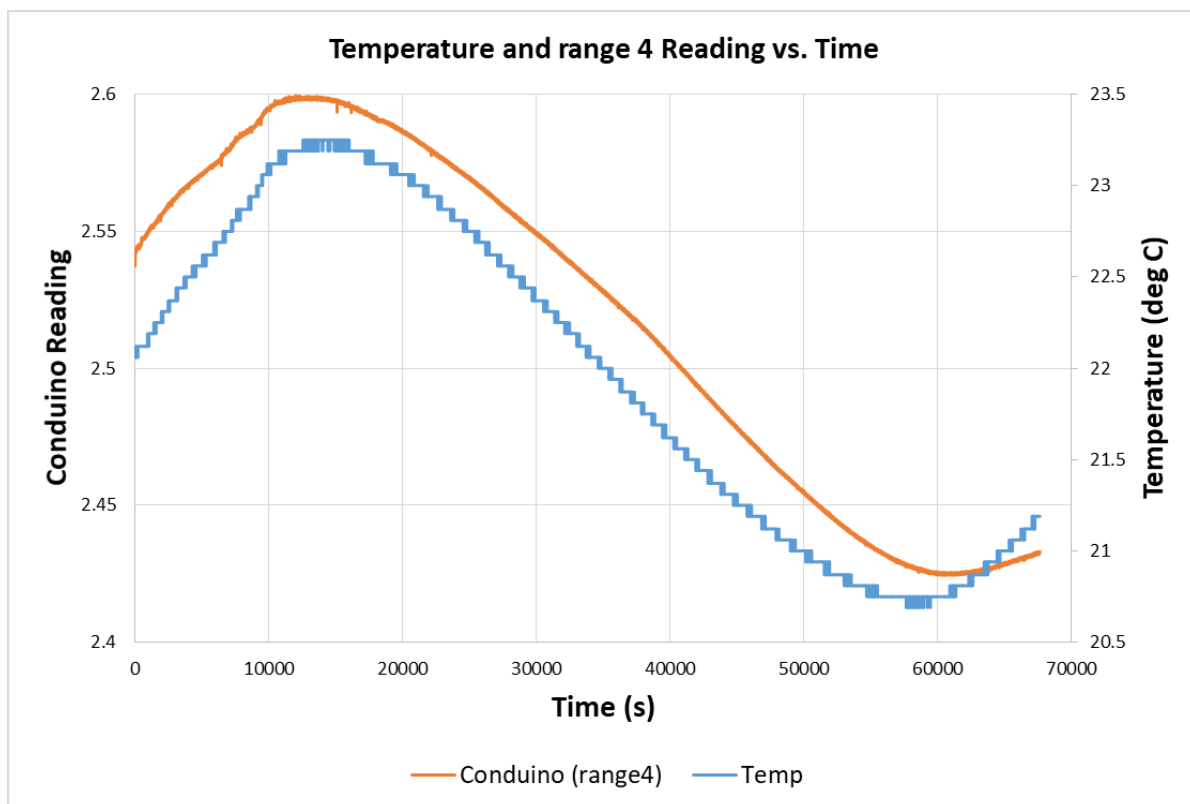


Conduino V03 Characterization

V03 uses a low noise LDO (LP5907) to create a local 3.3v supply for the Conduino analog circuitry. Resistor dividers are used to bias the amplifiers (per Analog Devices app note CN-0217). Series AC capacitors are shorted. LDO is cycled on and off for each measurement once a second.

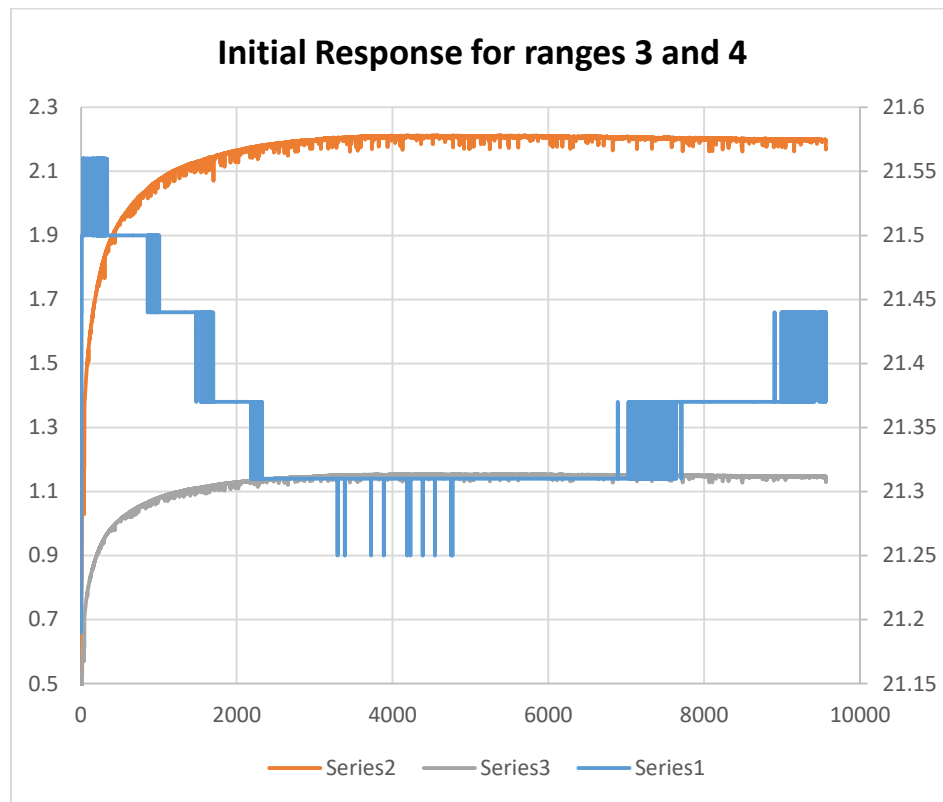
V03 also has a low input offset (65uV) amplifier (ADA8606) with plenty of bandwidth (10 MHz).

Result of long soak, measurement following temperature (decent?):

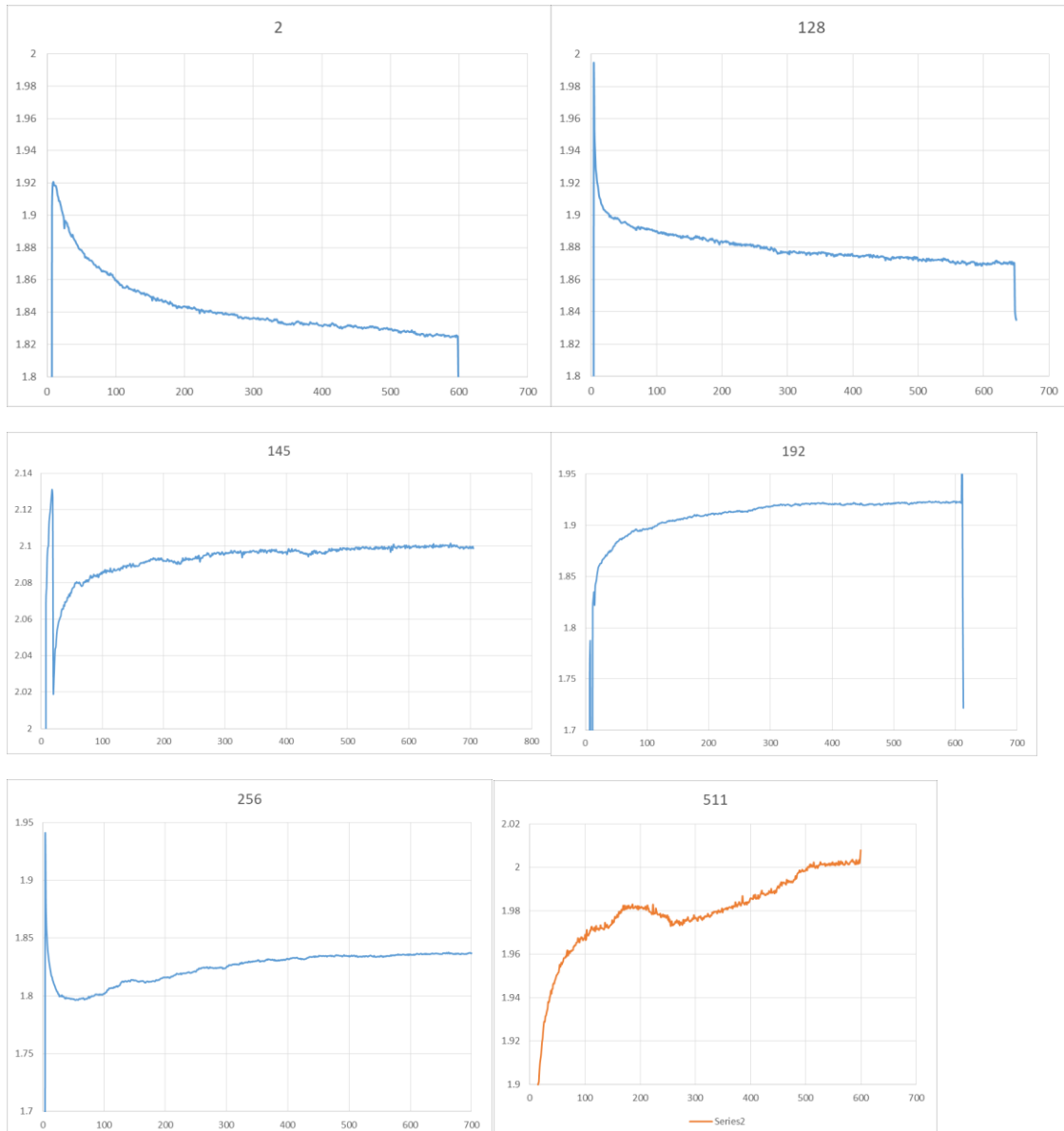


At the end of this run, the USB probes broke off.

Startup is still lengthy, here with a different probe (also looking at range 3 and 4 which controls the amplitude of the stimulus 100 kHz signal):



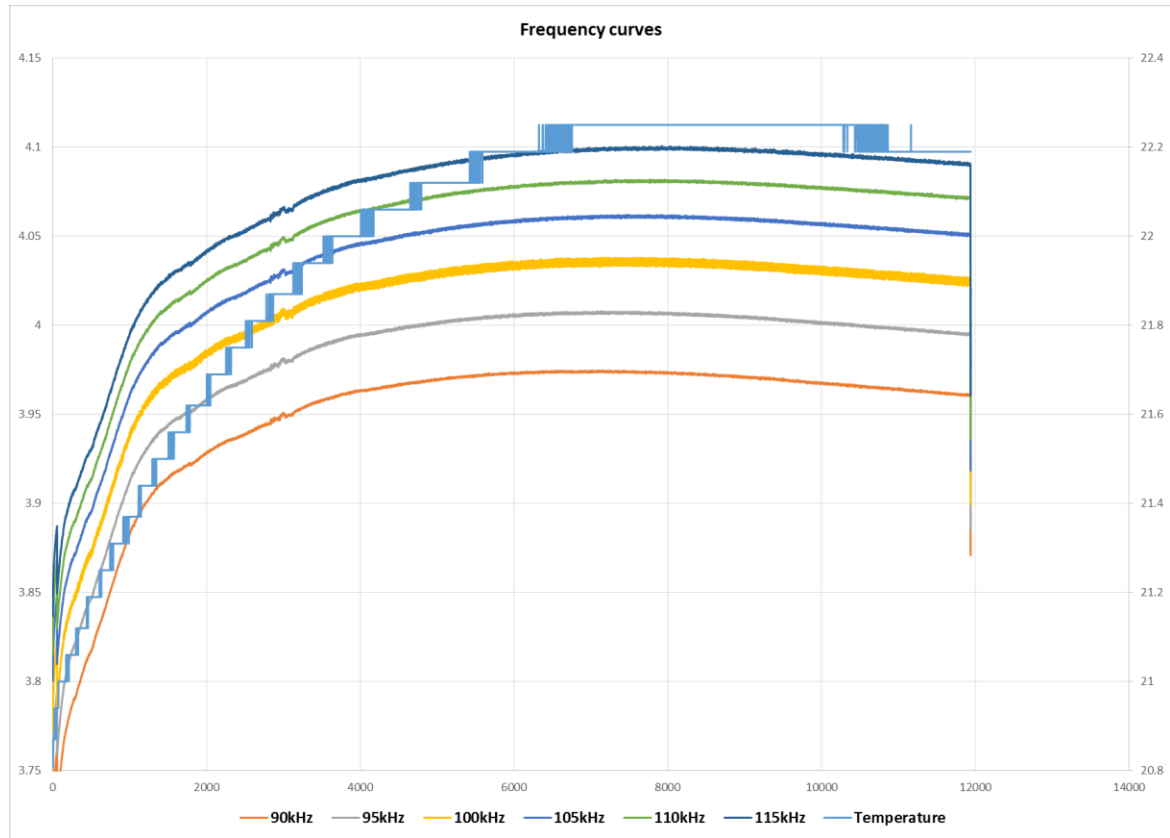
Experimenting with start time. The settling time (number of samples before the actual sample is taken by the AD5933) affects the characteristic of the startup (title of plot is the number of settling times):



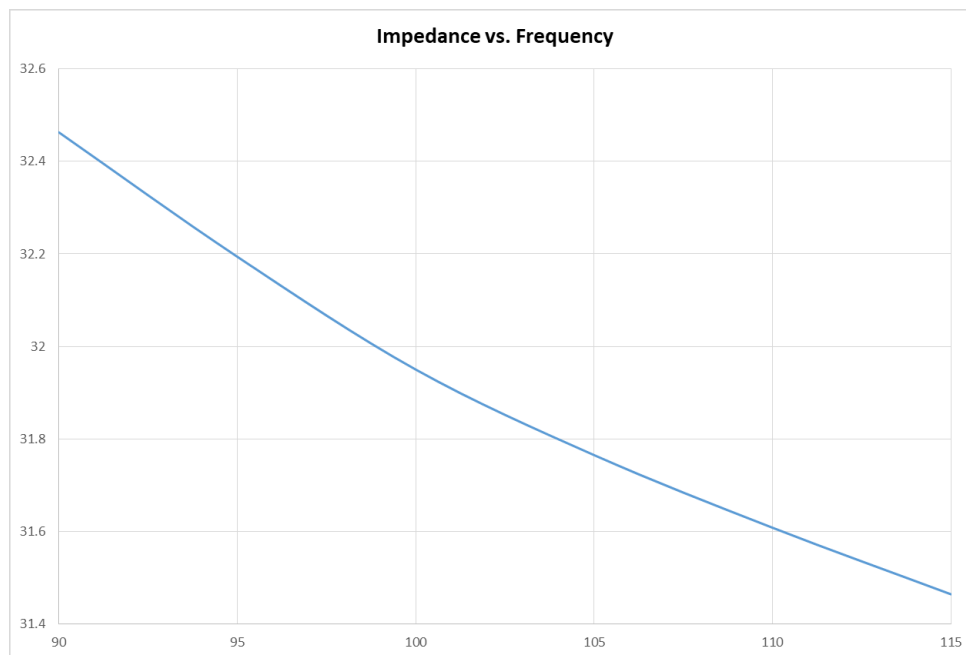
Range Characterization

The range setting controls the stimulus amplitude, and shows up in magnitude, but not in the curve characteristic. Range 3 is 400mV p-p, and Range 4 is 200mV p-p.

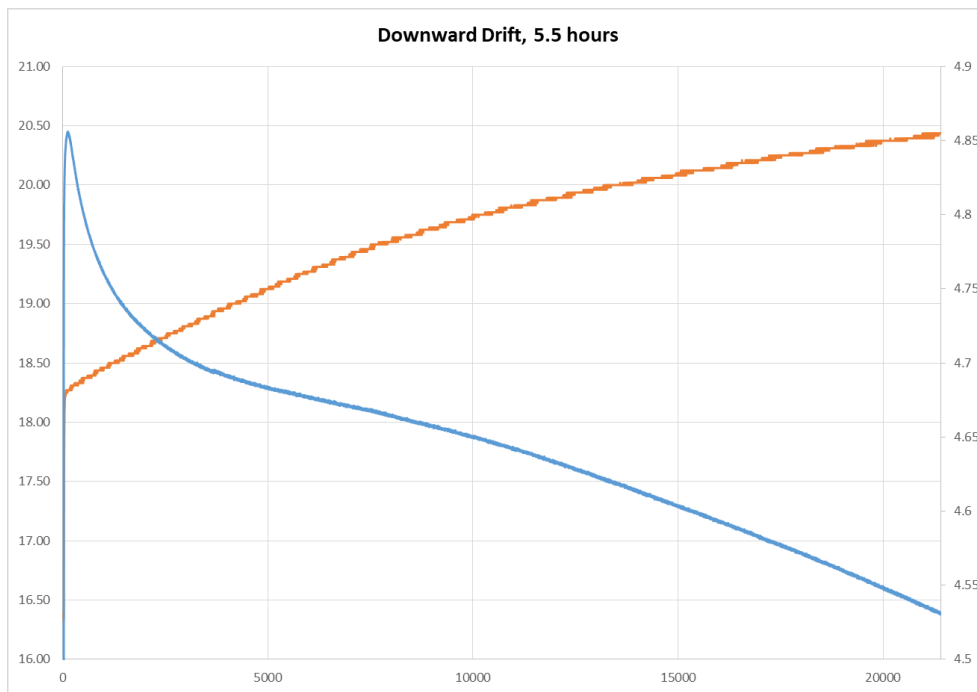
Frequency Characterization:



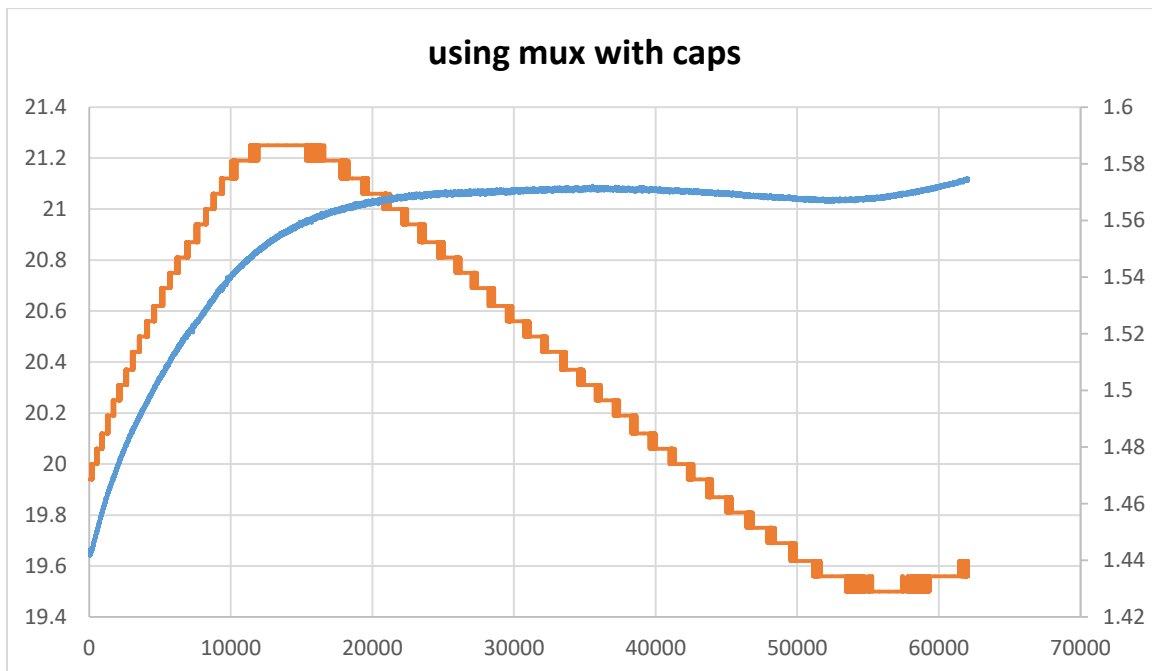
Sliced into Impedance vs. Frequency (generally agrees with the Conduino paper):



Drift with caps and previous mismatched biasing (previous board revision), looks pretty bad (blue is conduino, orange is temperature):



Here's one doing who-knows-what, using the mux. Not following temperature. Perhaps just a super long initial drift.



Mux is on vs. mux is off (WTF):

