



NS1 Oscilloscope Technical Datasheet

Vertical Specifications:

Channels	1
Bandwidth (+0.6dB, -3dB)*	7.5MHz
Vertical Ranges	±10V, ±5V, ±2V, ±1V full scale
Hardware Resolution	8 bit
DC Accuracy	±4% of full scale
Input Impedance	1MΩ 25pF

*The frequency response is shaped in software using a 3 point FIR filter

Horizontal Specifications:

Maximum Sample Rate	62.5MS/s
Buffer Length	16384 samples
Timeing Accuracy	±0.01%
Clock Divisions	1, 3, 5, 7, 9...
Capture Mode	Decimate

Triggering

Modes	Auto, Normal, Single
Types	Rising Edge, Falling Edge
Resolution	8 bit

Sourcing a Probe and USB Cable

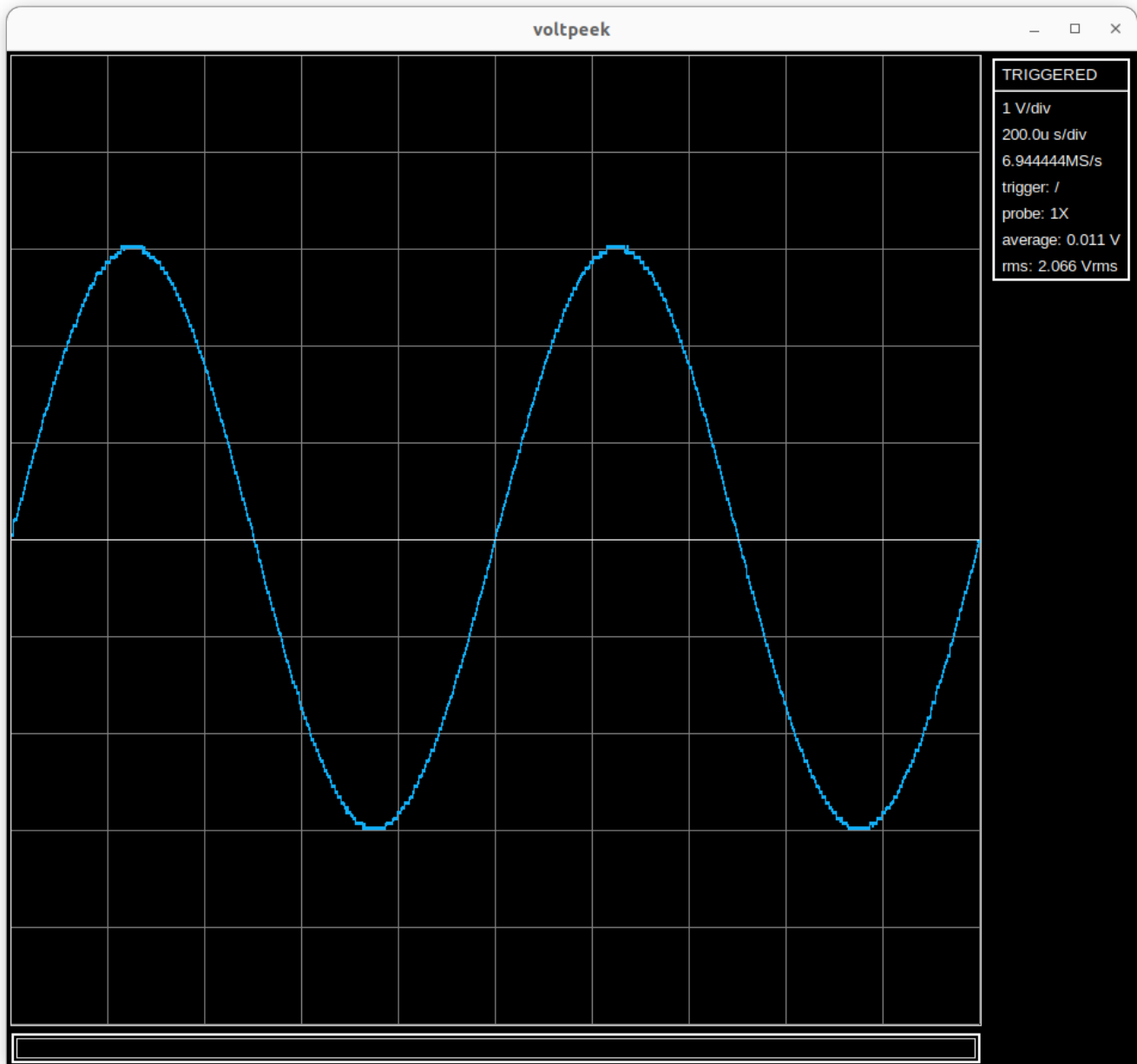
A probe and USB cable are not included with the NS1. Most micro USB cables will work. If a probe is used with a 10X division, make sure that the probe compensation capacitance goes high enough to compensate to the scope input capacitance. For proper compensation, the time constant from the probe resistance and capacitance must equal the time constant from the scope input resistance and capacitance.

Maximum Voltage

Make sure $\pm 10\text{V}$ is not exceeded across input BNC connector. Probe division can be used to measure signals that exceed $\pm 10\text{V}$. It is the user's responsibility to make sure they are doing this correctly.

The NS1 is not isolated. That is, it shares a ground with whatever computer it is plugged into.

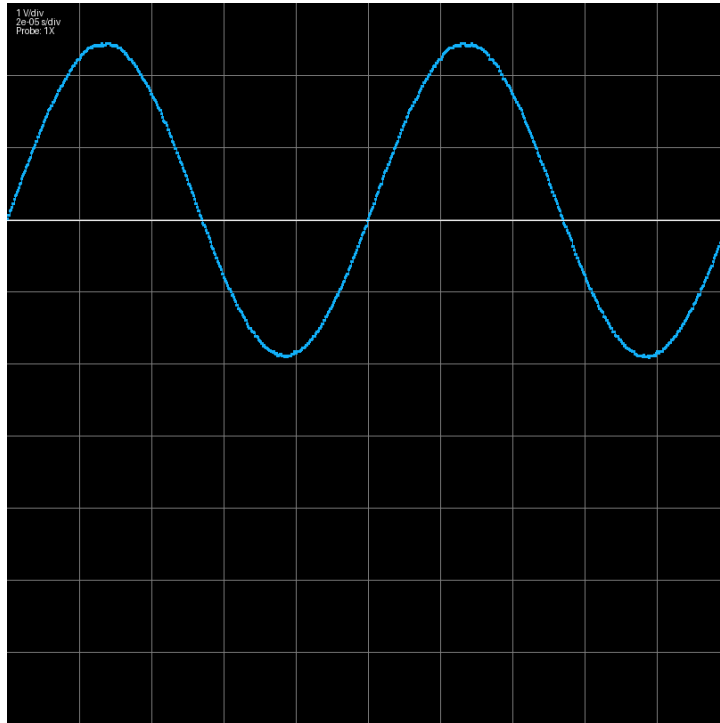
Voltpeek Software



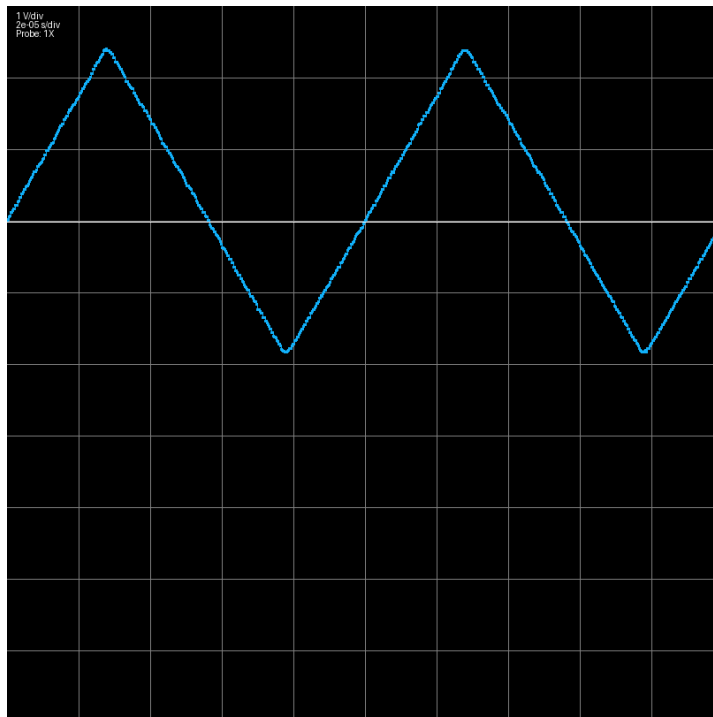
NS1 uses Voltpeek Software for waveform display and control. Voltpeek is fully command based. That is, the oscilloscope is controlled via commands and key input. Voltpeek is written in Python and is open source. Voltpeek can also be imported as a Python module to control the NS1 via scripting. See our getting started documentation for more information on using voltpeek. This can be found at: <https://www.voltpeeklabs.io/>

Example Waveforms Captured with NS1

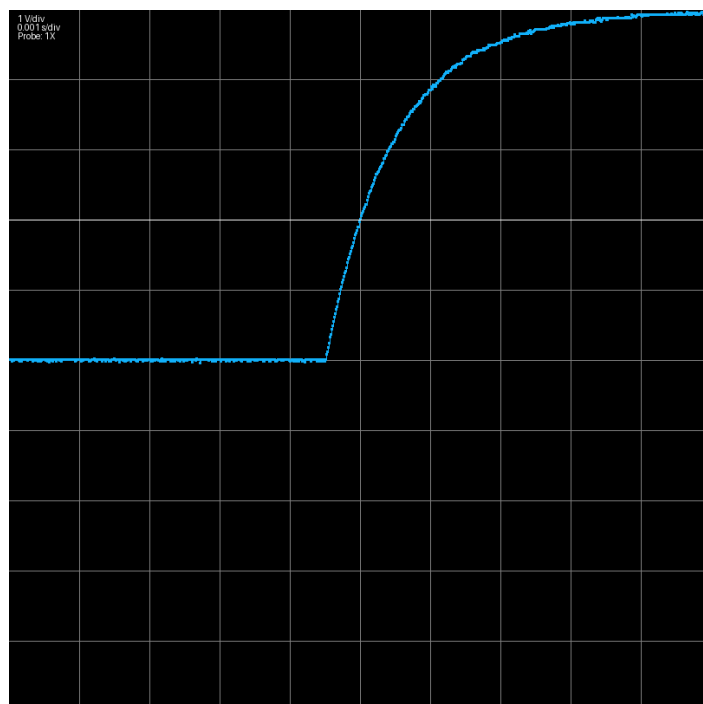
10kHz sine wave with DC bias:



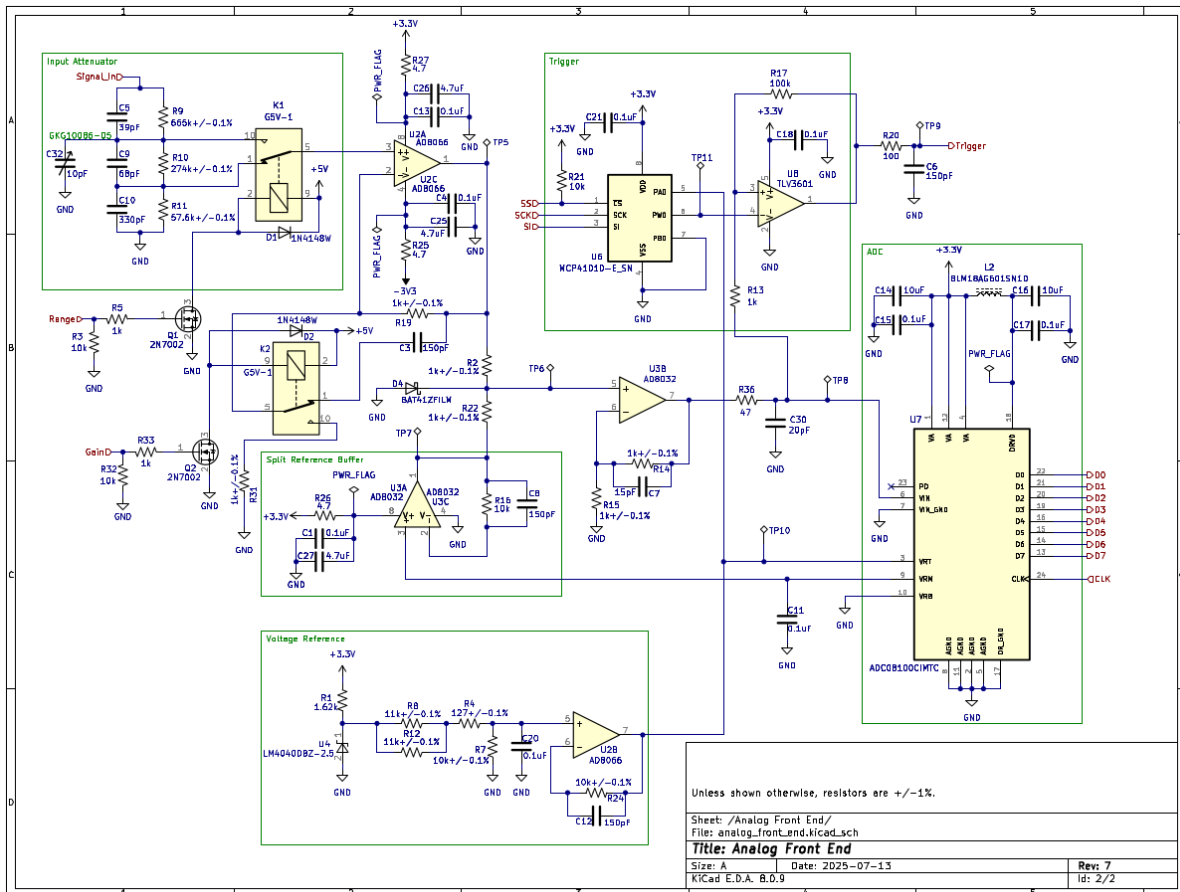
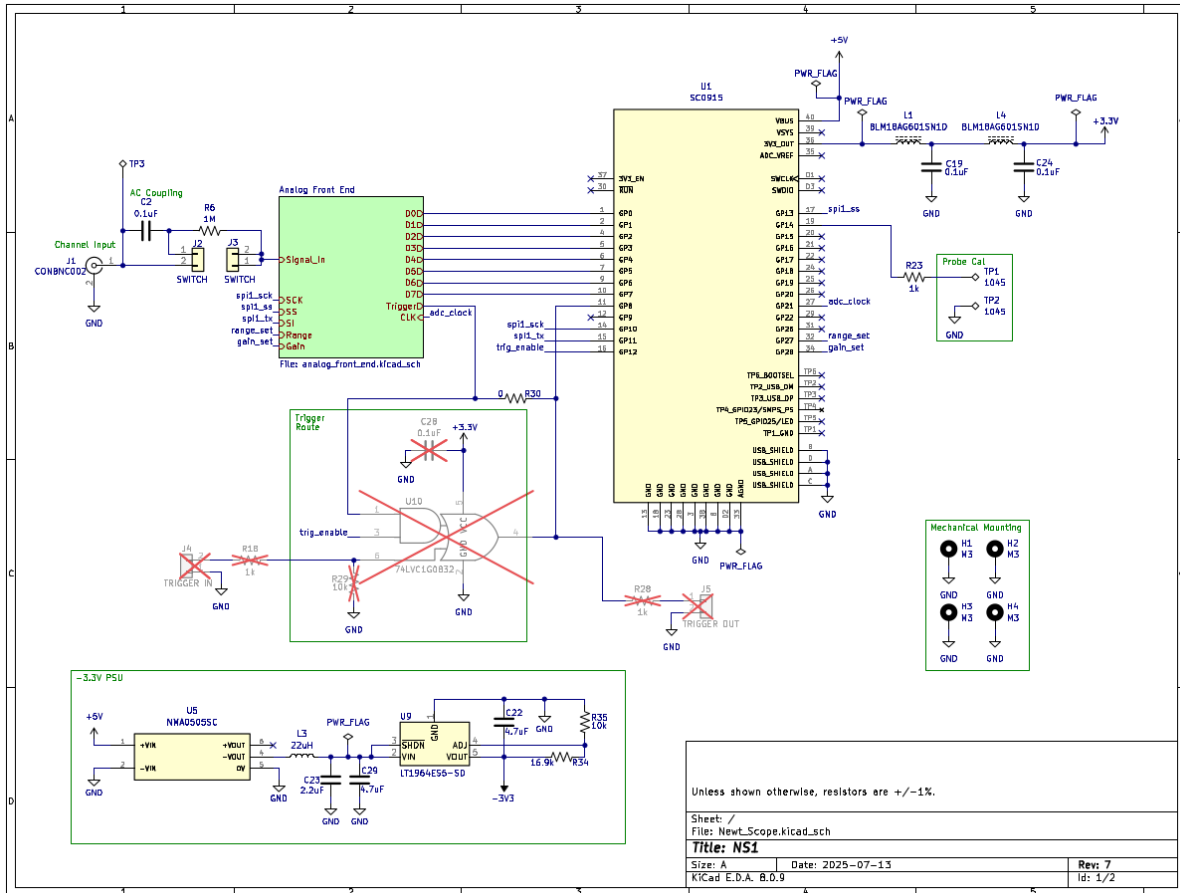
10kHz triangle wave with DC bias:



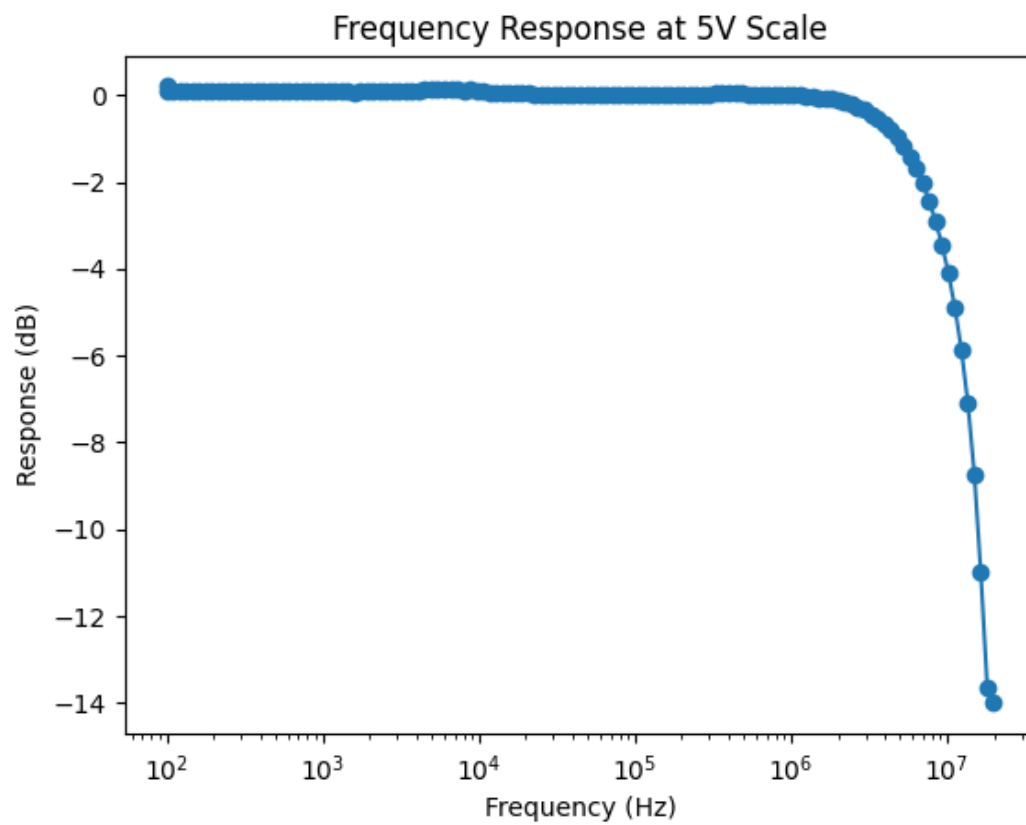
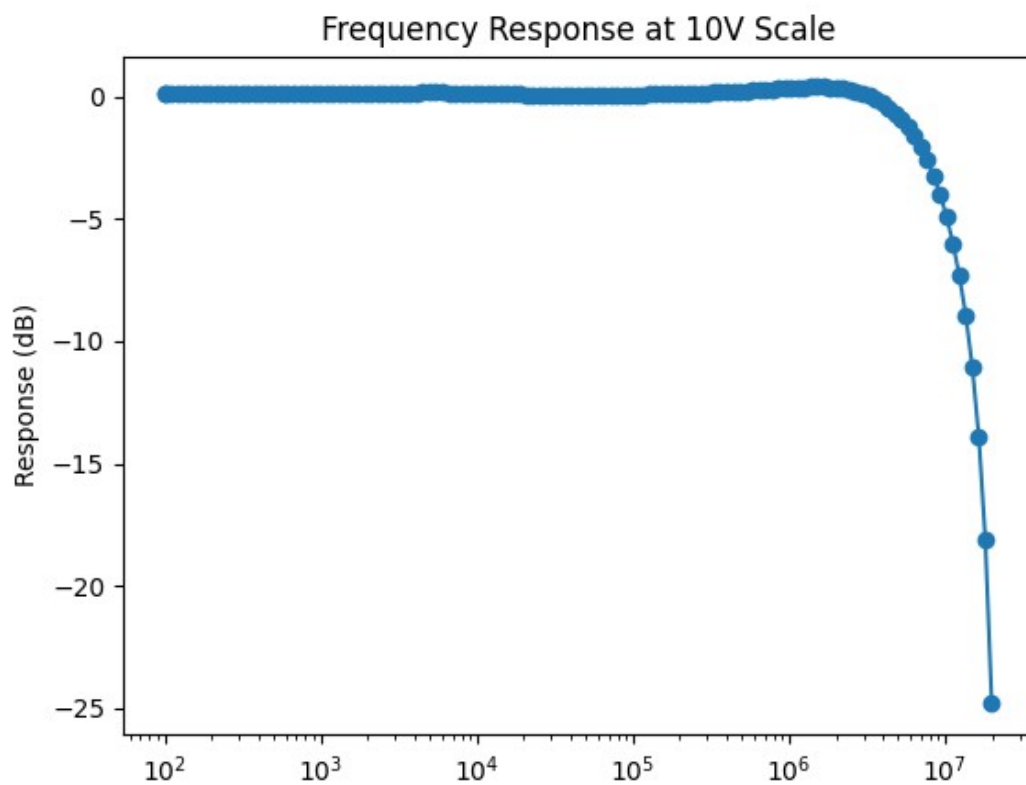
$\tau=1\text{ms}$ RC step response:



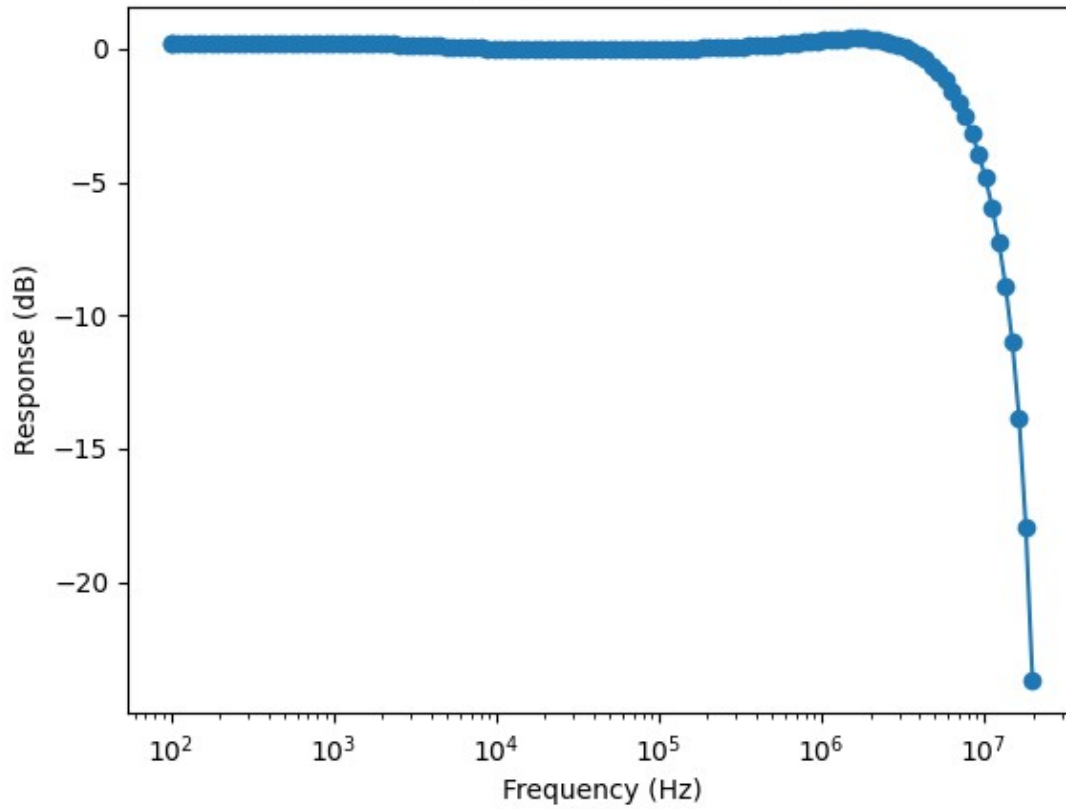
Schematic



Example Frequency Response



Frequency Response at 2V Scale



Frequency Response at 1V Scale

