AC Sweep simulation

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Lab content

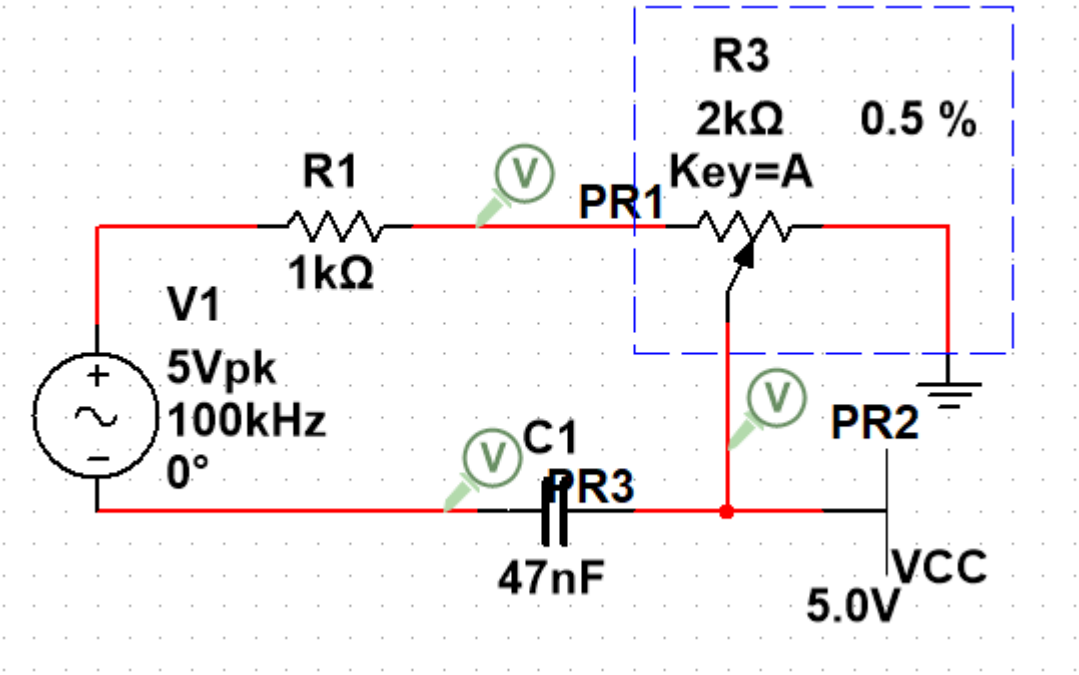
With the potentiometer set to 0.5%, run an AC Sweep simulation produce a graph of the circuit's response and determine the cut-off frequency Repeat the AC Sweep with the potentiometer set to 100% and determine the cut-off frequency, and hence the full adjustable frequency range of the circuit.

Theory

the cut-off frequency fc is defined the point at which the output voltage is equal to -3 dB (or 70%) of the input voltage, where:

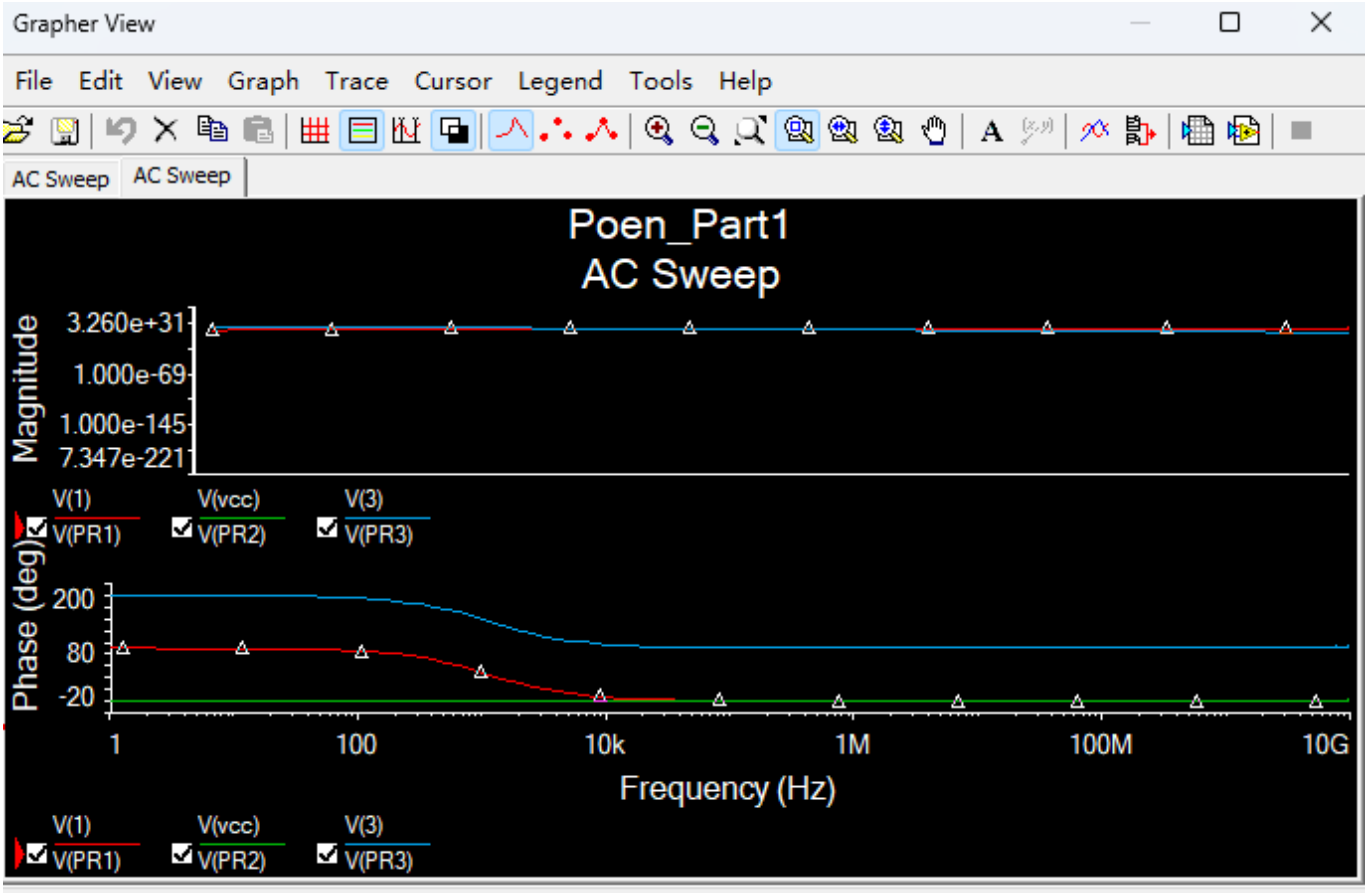
$$f_c = \frac{1}{2\pi RC}$$

Circiut Diagram



The output of the AC sweep simulation

This diagram show the the circuit's response and determine the cut-off frequency with the potentometer of 0.5%.



This diagram show the the circuit's response and determine the cut-off frequency with the potentometer of 100%.