

Design an active bandpass filter with the following properties: center (characteristic) frequency at 1 kHz, upper corner frequency at 1.2 kHz, and lower corner at 800 Hz. The gain at the center frequency should be of 34 dB.

Hint: Start by calculating the required Q_P — the value will determine much about how the circuit must be designed.

Confirm your design by using SPICE to generate magnitude and phase frequency response plots. Indicate on the plots the key features that show that the circuit meets the design requirements.

(Note: An RLC circuit followed by a non-inverting amp meets the “active filter” requirement.)