



Filter Wizard

Filter Wizard Design

Created on 05/30/2025



Filter Wizard Design Report

Filter Requirements for Band-Pass, 6th order Butterworth

Specifications: Optimize: Specific Parts; +Vs: 5; -Vs: -5

Gain: 0 dB

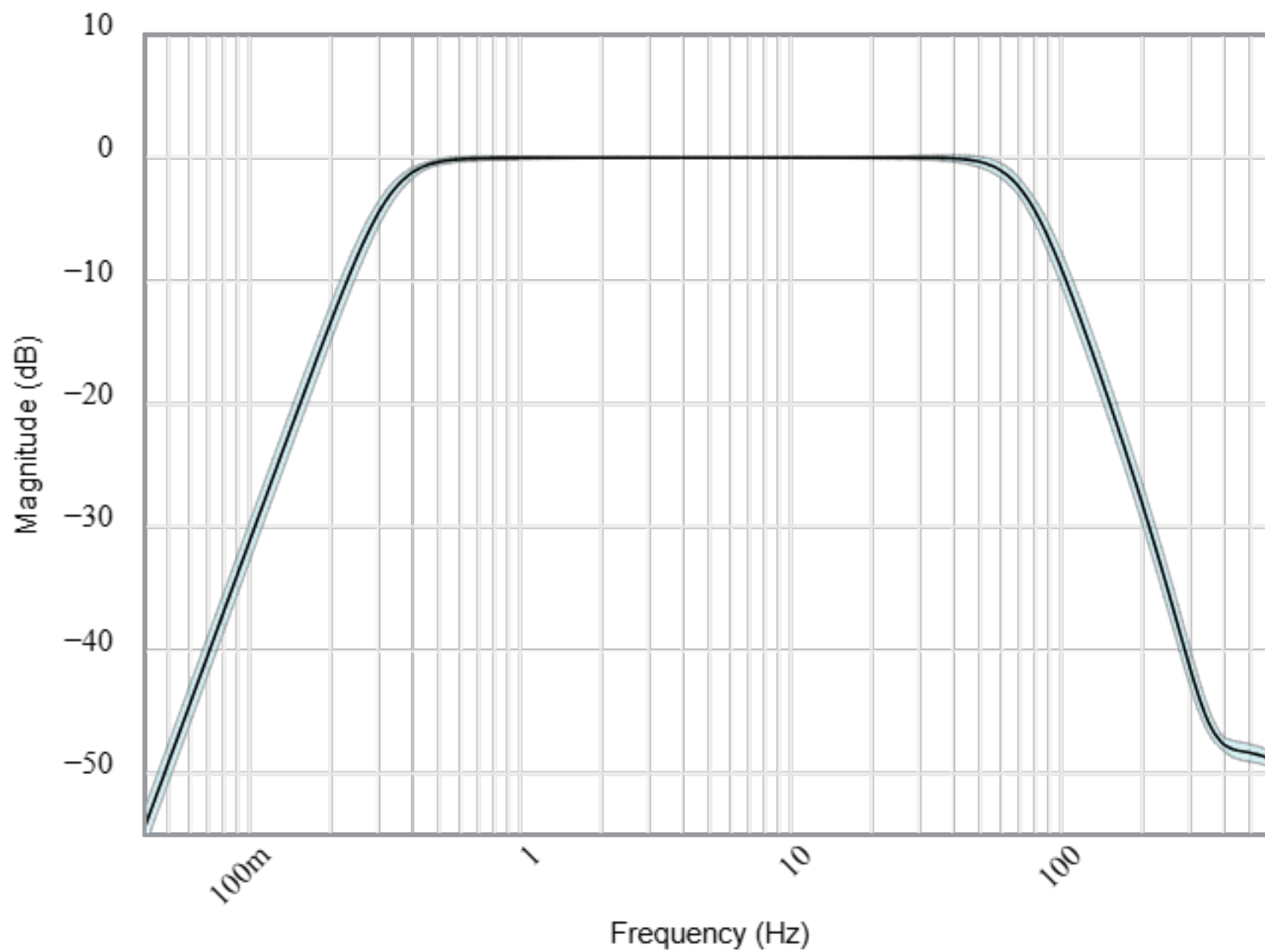
Passband: -0.1dB at 40Hz

Stopband: -35dB at 300Hz

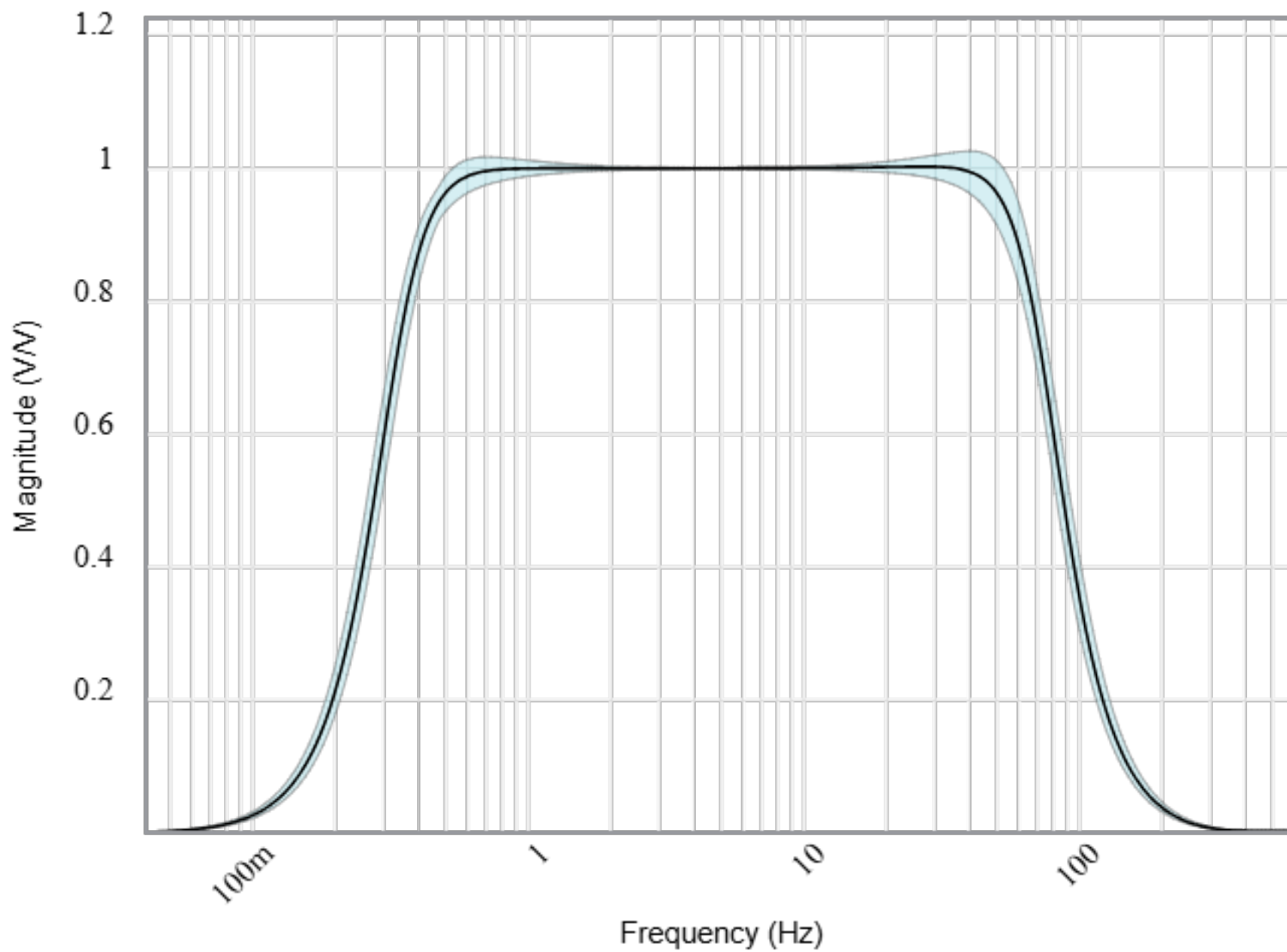
Component Tolerances: Capacitor = 5%; Resistor = 1%; Inductor = 5%; Op Amp GBW = 20%

BOM: refer to BOM.csv file

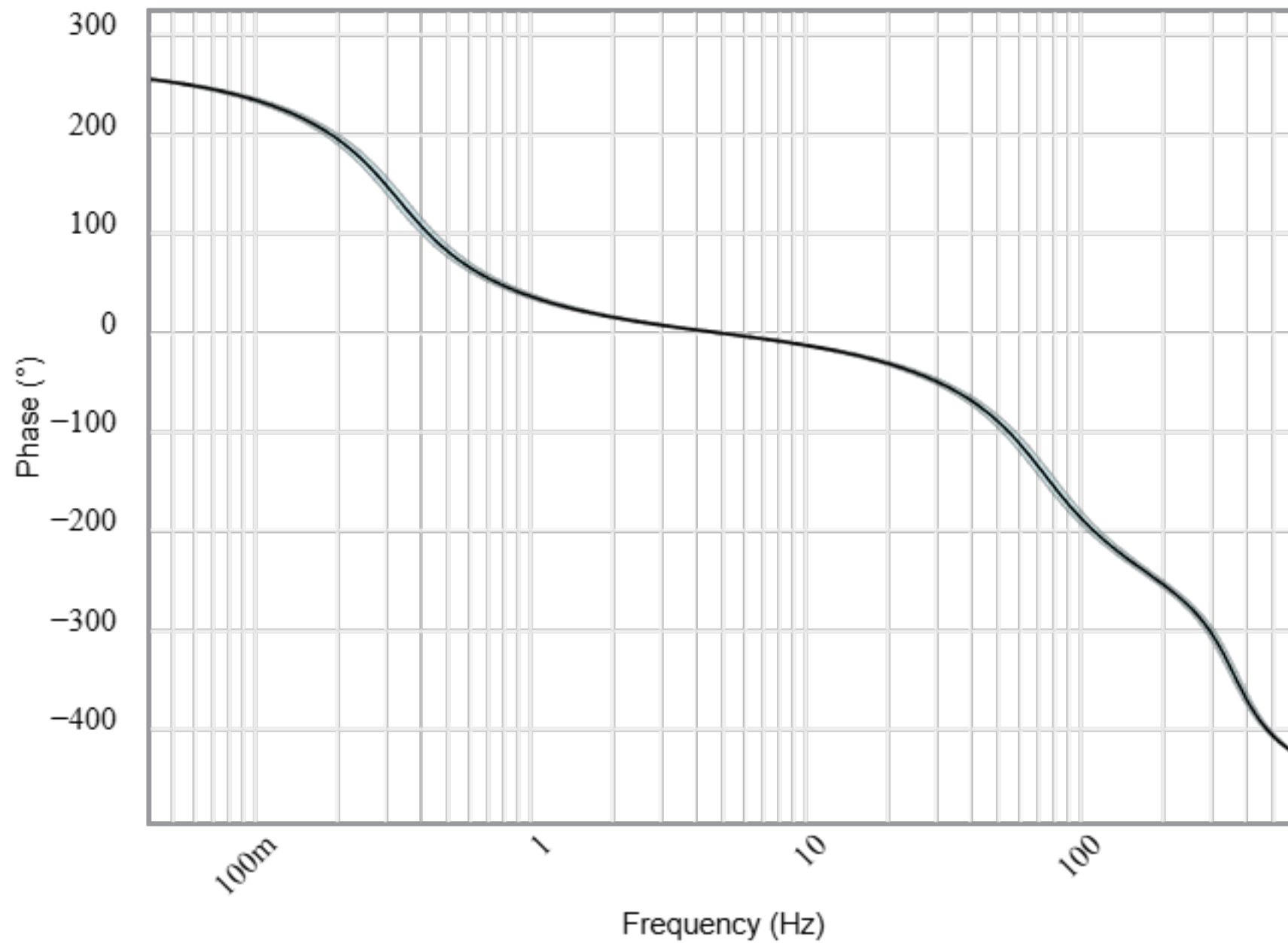
Magnitude(dB)



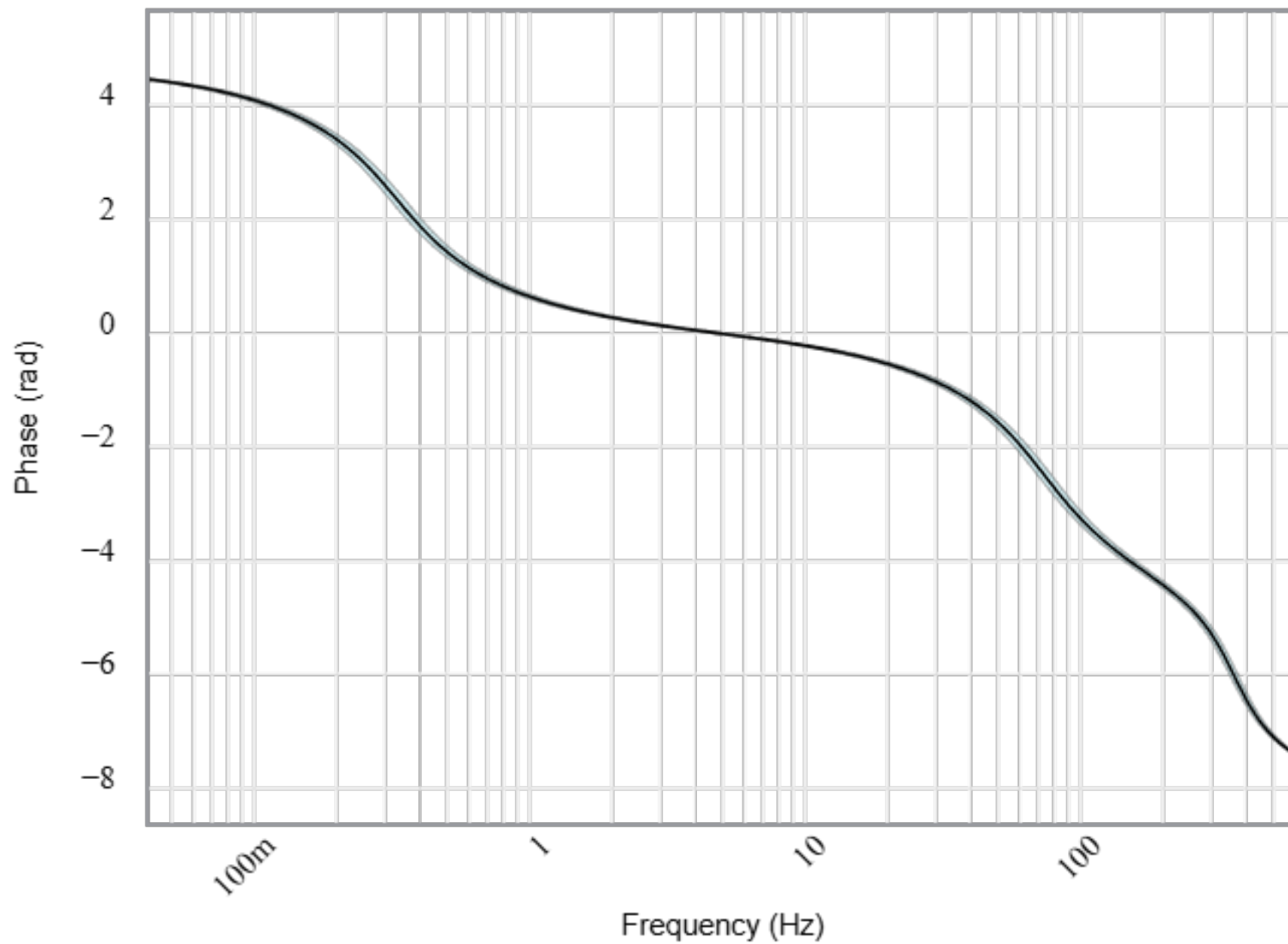
Magnitude(Volts per Volt)



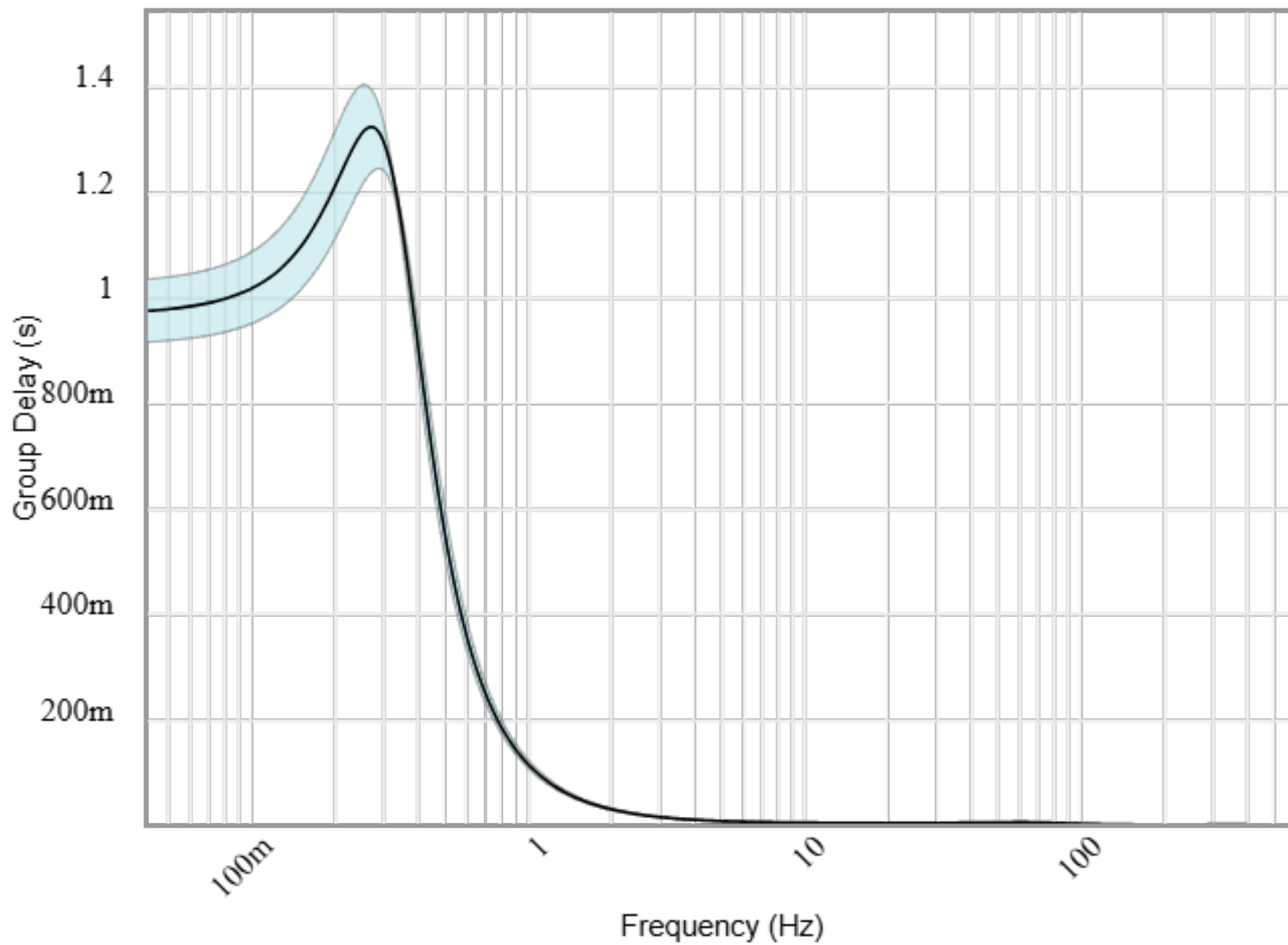
Phase(degrees)



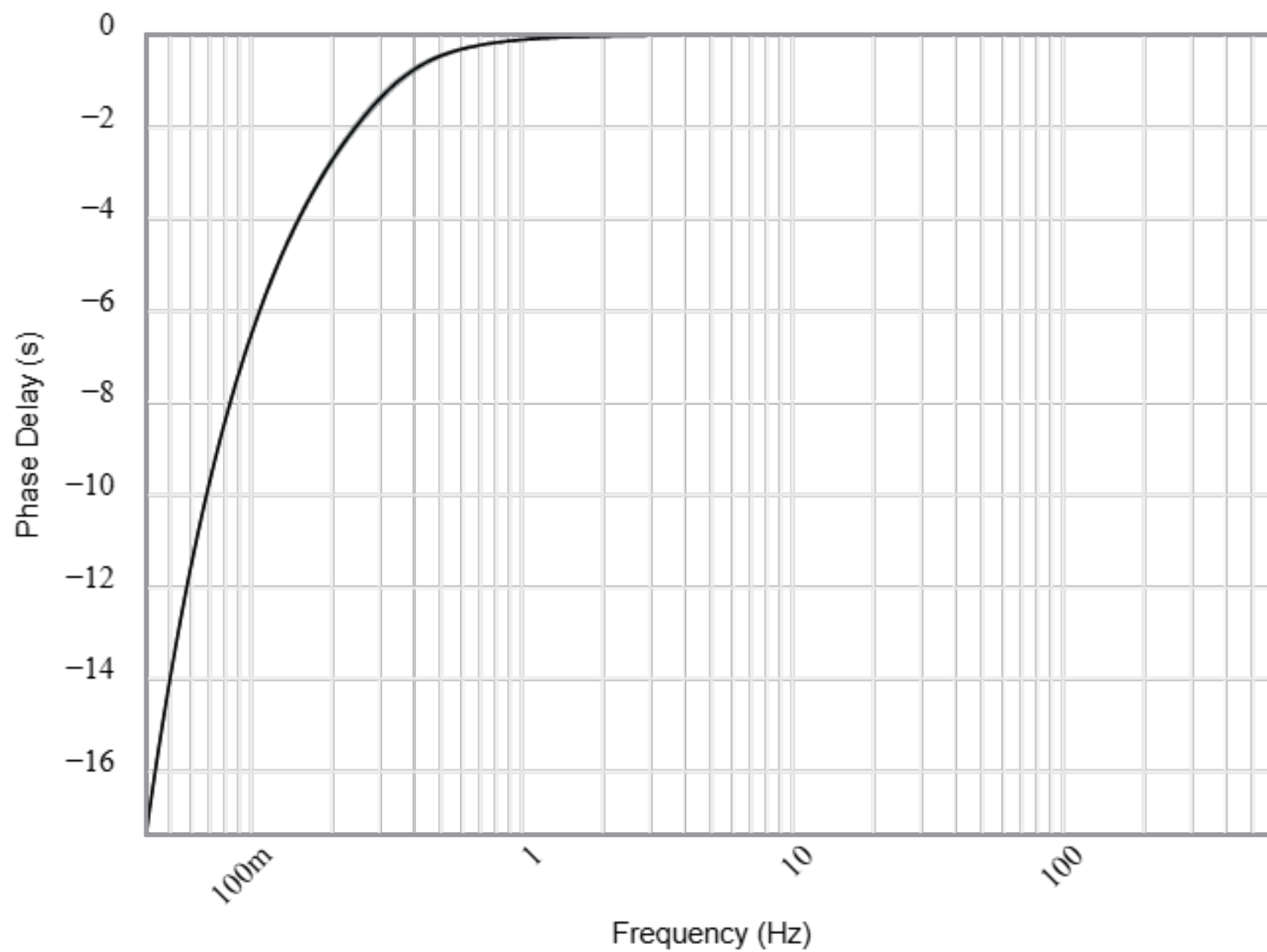
Phase(radians)



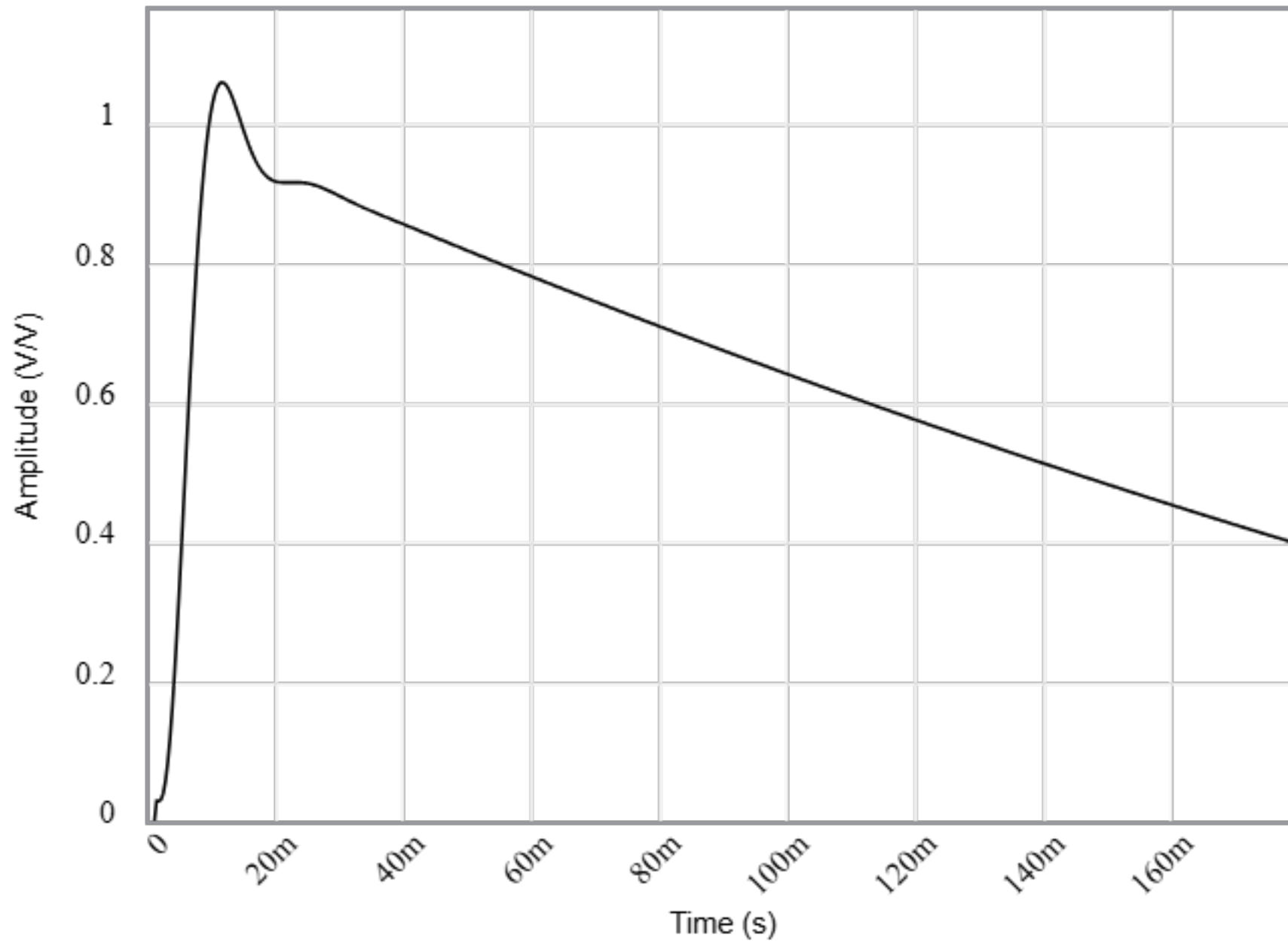
Group Delay



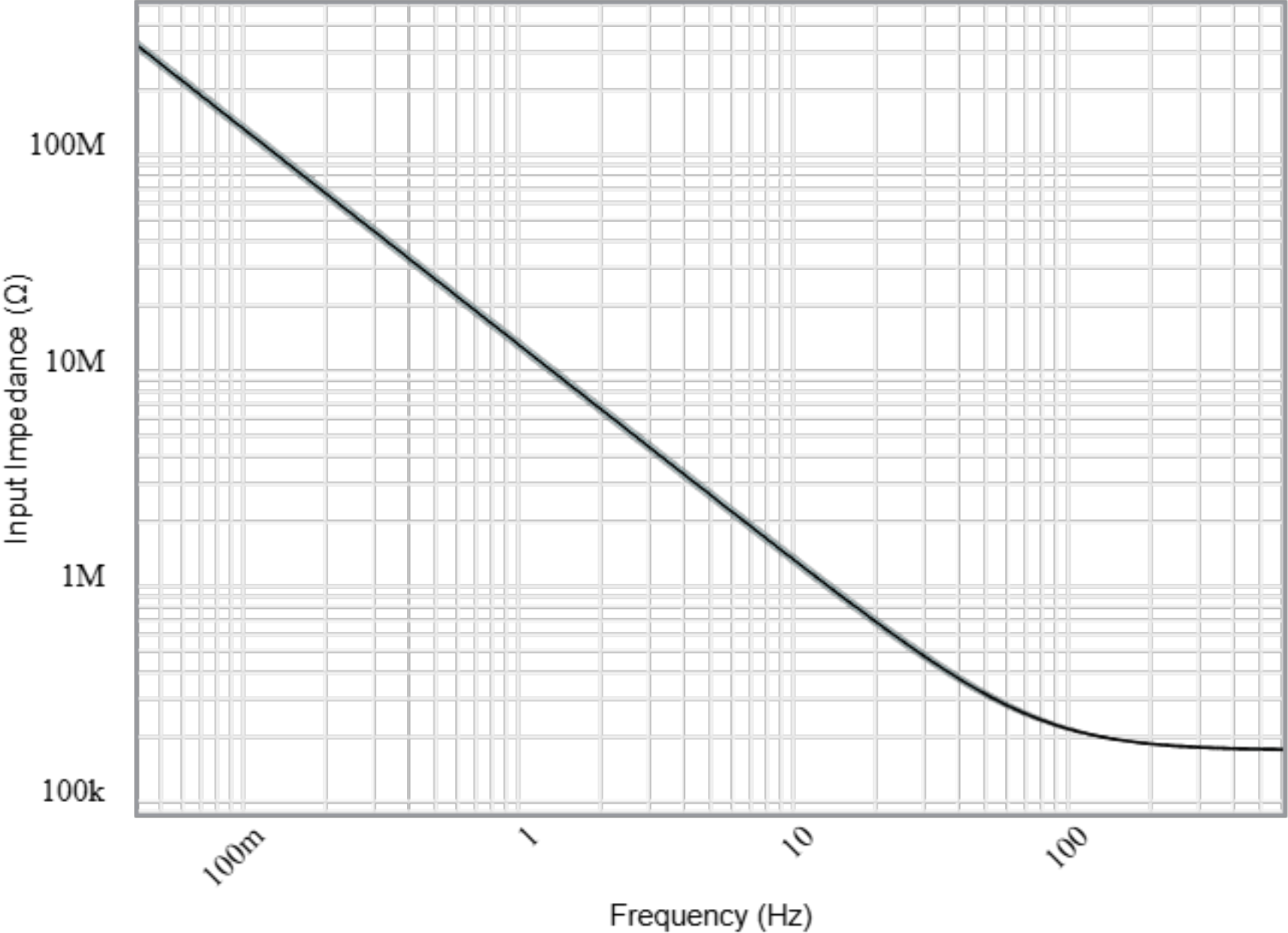
Phase Delay



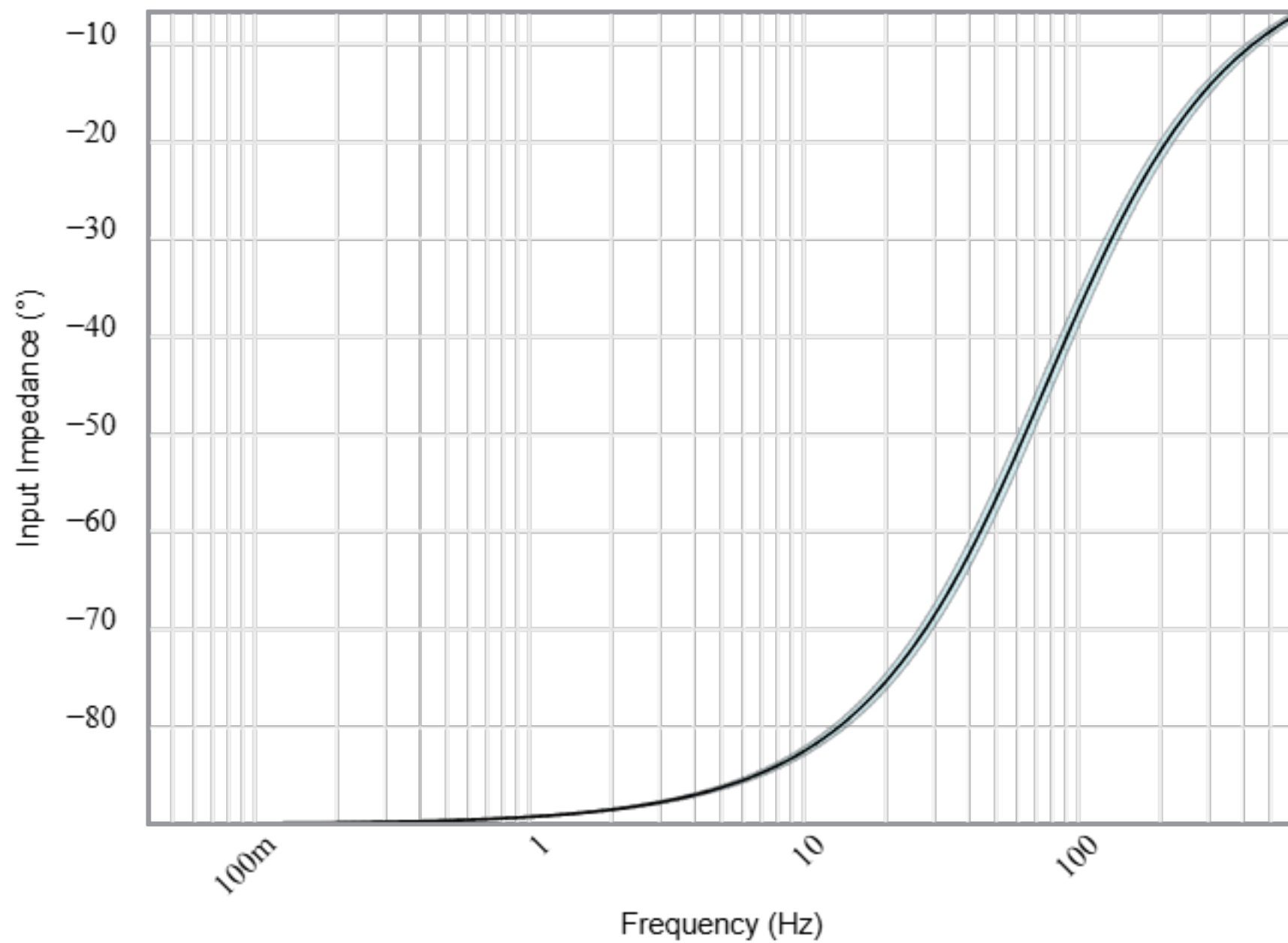
Step Response



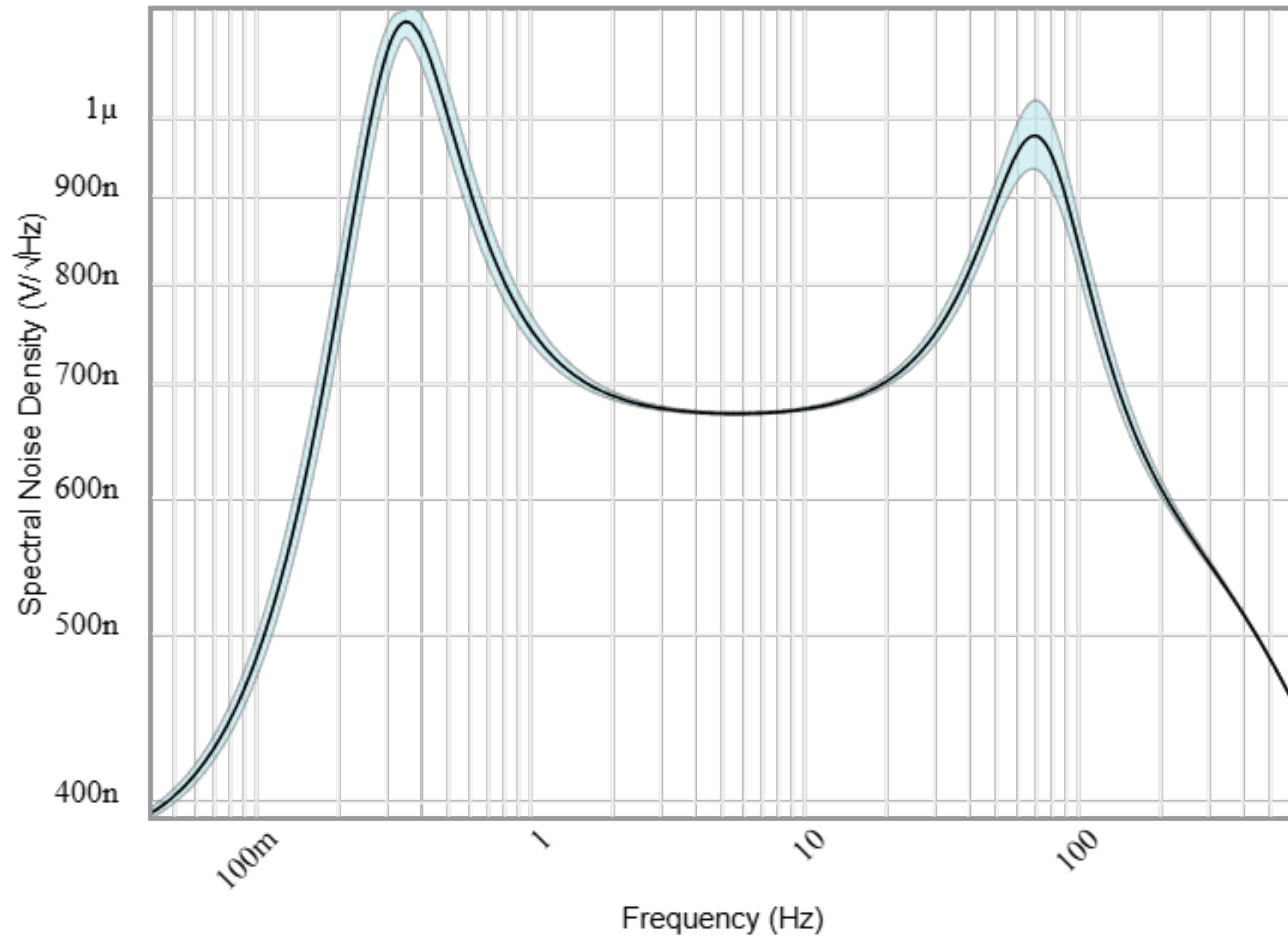
Input Impedance Magnitude



Input Impedance Phase




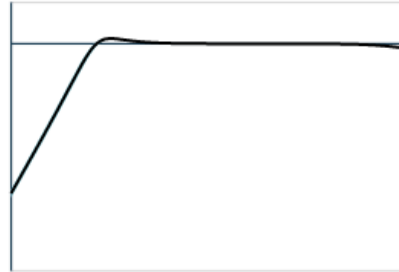


Noise

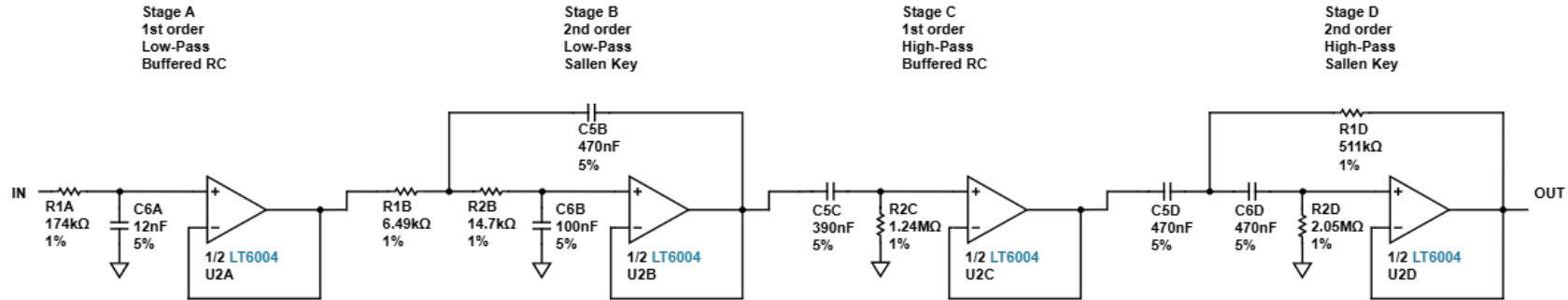


Stages

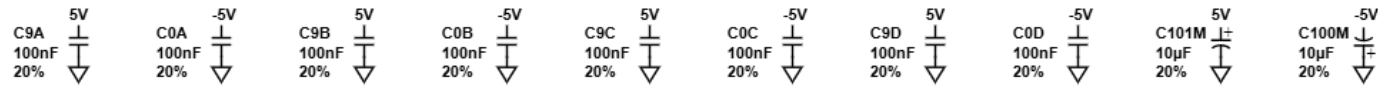
Your filter requires 4 op amp stage(s) with the following characteristics

	<div> <div>A</div> <div>1st order Low-Pass Buffered RC</div> </div>		<div> <div>B</div> <div>2nd order Low-Pass Sallen Key</div> </div>		<div> <div>C</div> <div>1st order High-Pass Buffered RC</div> </div>		<div> <div>D</div> <div>2nd order High-Pass Sallen Key</div> </div>	
Gain (V/V):	Target	Simulated	Target	Simulated	Target	Simulated	Target	Simulated
f_p (Hz):	1	1 to 1	1	0.999 to 0.999	1	0.988 to 0.989	1	0.988 to 0.989
Q:	76	70.7 to 79.5	76	67.5 to 75.6	329m	303m to 342m	329m	313m to 353m
	N/A	N/A to N/A	1	964m to 1.07	N/A	N/A to N/A	1	1 to 1.03
								

Circuit



BYPASS CAPACITORS



SPARES Why The Spares?

