3EJ4 Lab5

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*Part1:*

Text

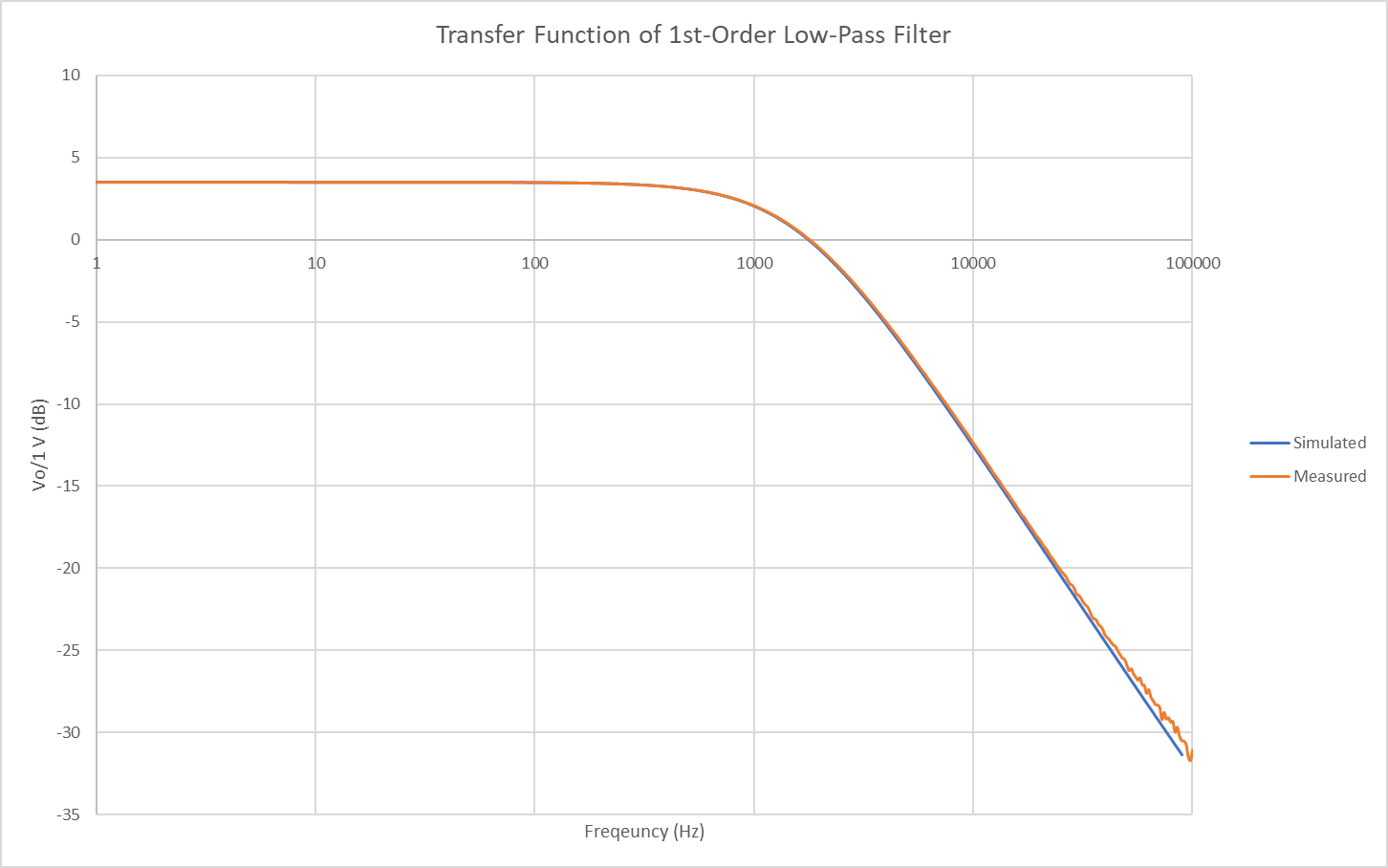
Description automatically generated with medium confidence

(1):

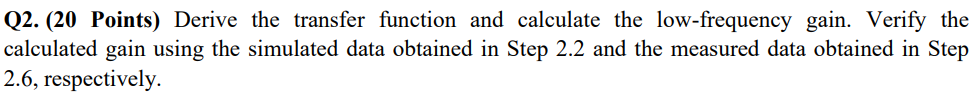
Diagram, schematic

Description automatically generated

(2):



Both the simulated and the experimental transfer function graphs are very close to each other though they have different Vin input ac signal amplitudes, the simulation one has 1V and the experimental one has 100mV. The input ratio is 10:1 which is exactly the same ratio of the output Vout amplitude. Though the input value will change the output values, but based on the graph and the formula derived from (1), the gain of the active low pass filter will always be Vout/Vin which in this case, stays constant if there no components being switched.



Diagram, schematic

Description automatically generated

The calculated gain matches the simulated gain Text

Description automatically generated which is 6.02dB as shown and very close to the measured gain Graphical user interface

Description automatically generated with low confidence.

Text

Description automatically generated

(1)

