**Introduction to Analog Design**

CND 101

**Project #3**

Design of active second-order antialiasing filter

By students

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A diagram of a circuit

Description automatically generated



A black and white math symbol

Description automatically generated with medium confidence

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Description automatically generated with medium confidence

Given Specs

* LPF – Sallen-Key topology
* The maximum bandwidth of the input signal is 250 kHz 🡪 Fc = 250kHz
* o/p swing 0V : 3.3V

i/p swing = (o/p swing) / K

K: Filter DC gain

The DC gain (K) will be determined upon the input signal swing

Needed: i/p swing

Assuming 500 mv MAX i/p swing 🡪 K = 6.6

Requirements:

* Fc = 250 KHz, Fs >= 500KHz

A screenshot of a computer

Description automatically generated

A computer screen shot of a computer

Description automatically generated

A graph of a graph

Description automatically generated with medium confidence

A screen shot of a graph

Description automatically generated

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A screen shot of a graph

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A screen shot of a graph

Description automatically generated

Step Response

A screen shot of a computer

Description automatically generated

30MHZ