VLSI Summer School Project Documentation 2025

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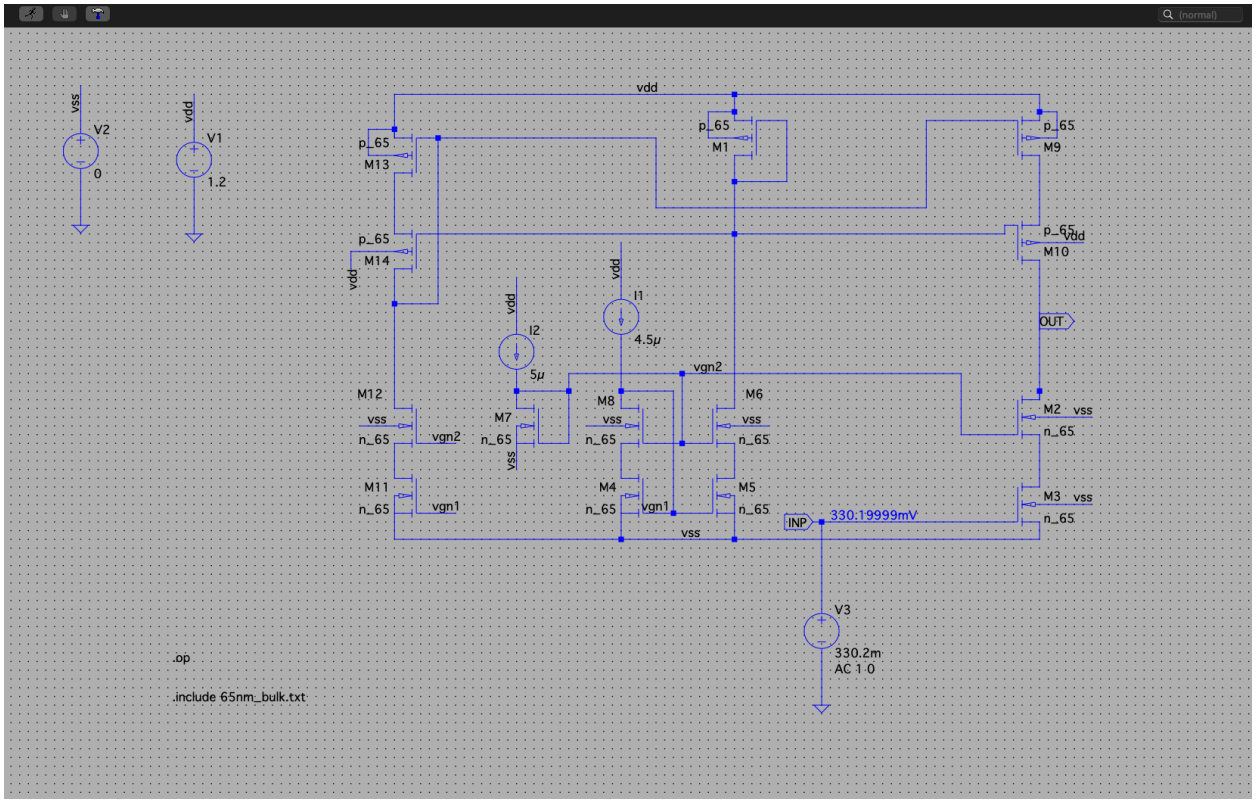
Assignment 3: Single-ended OTA

- ## Circuit Diagram:



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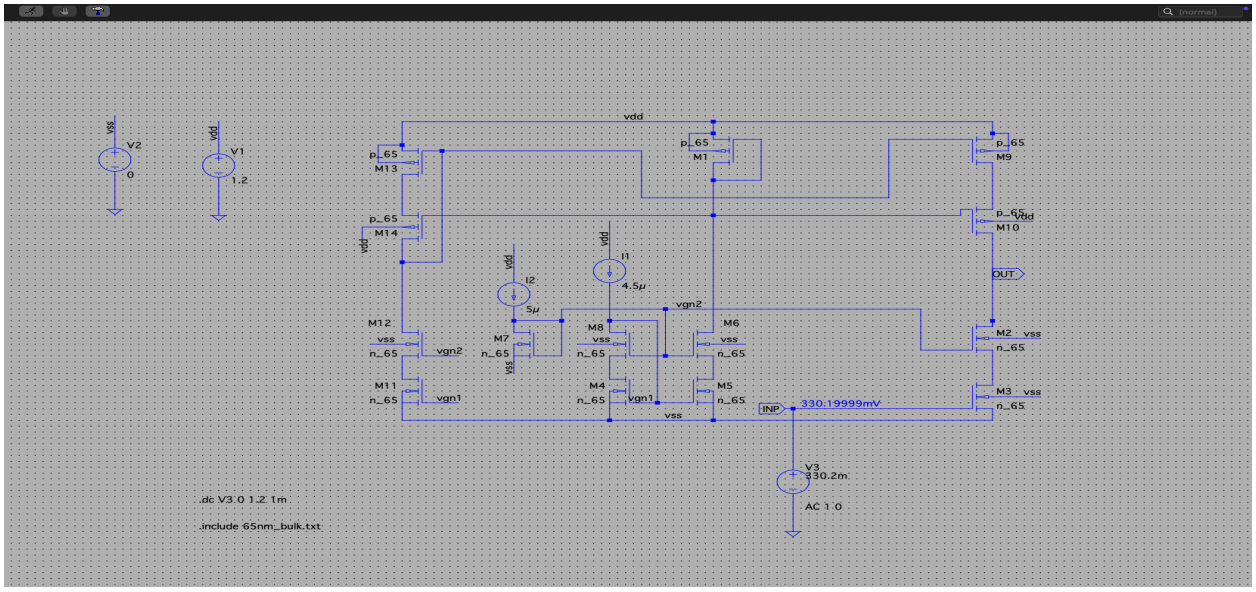
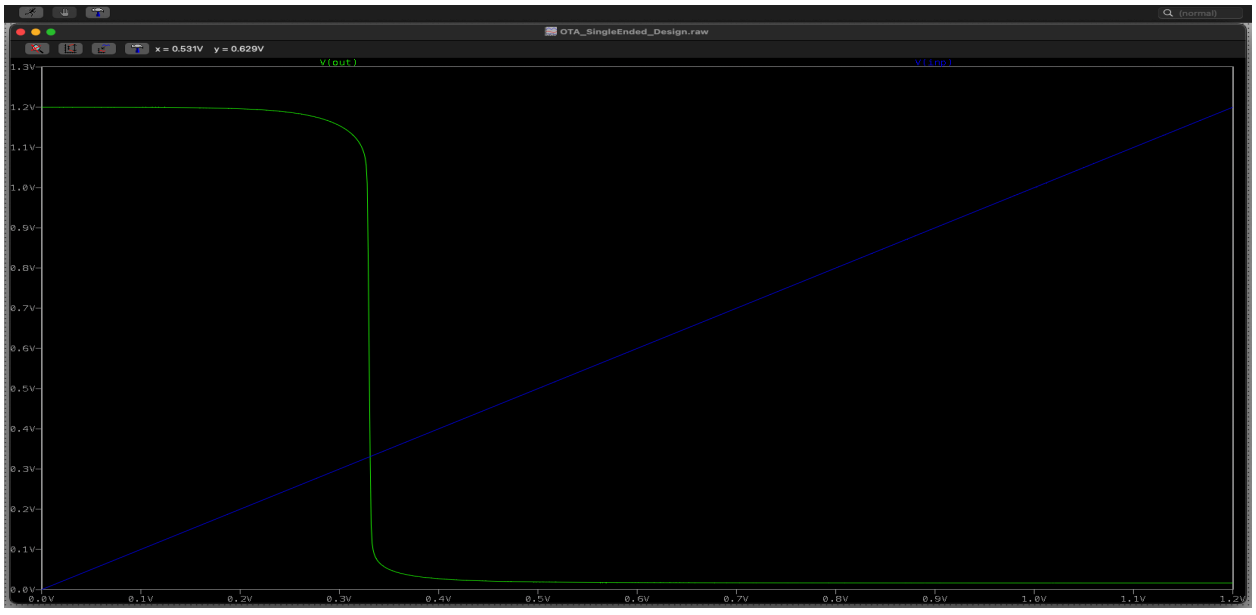
i)DC analysis:





Vin :330.2mV for high gain circuit behaviour

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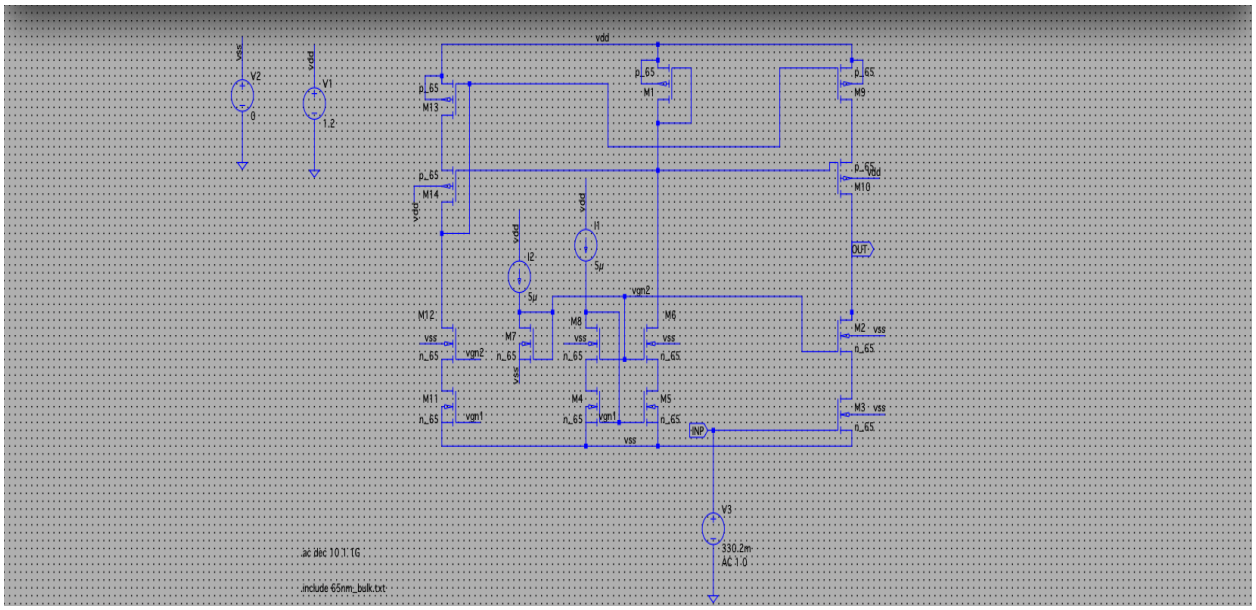
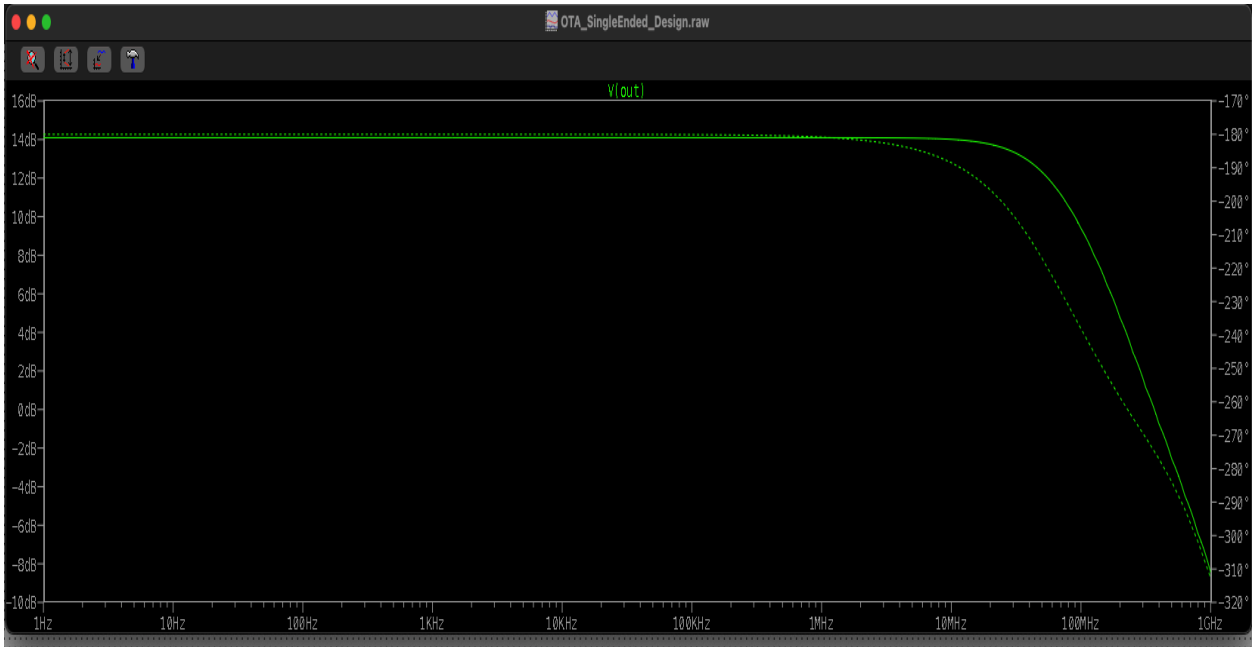
ii)AC analysis:

- At I1 = 5uA:





- Gain(dB) = 14dB

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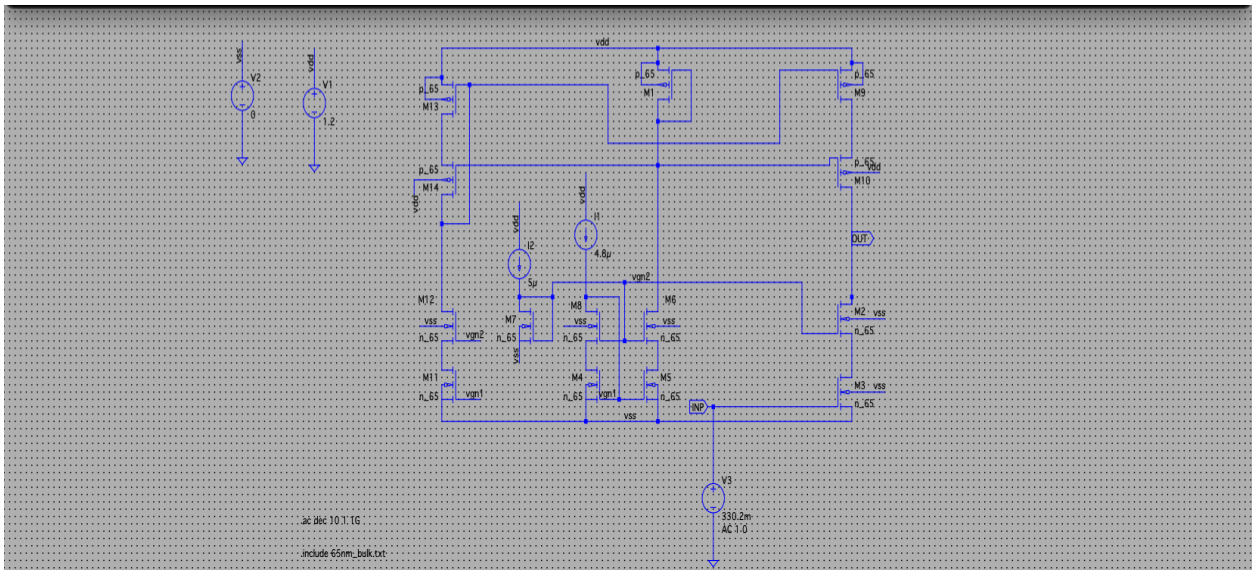
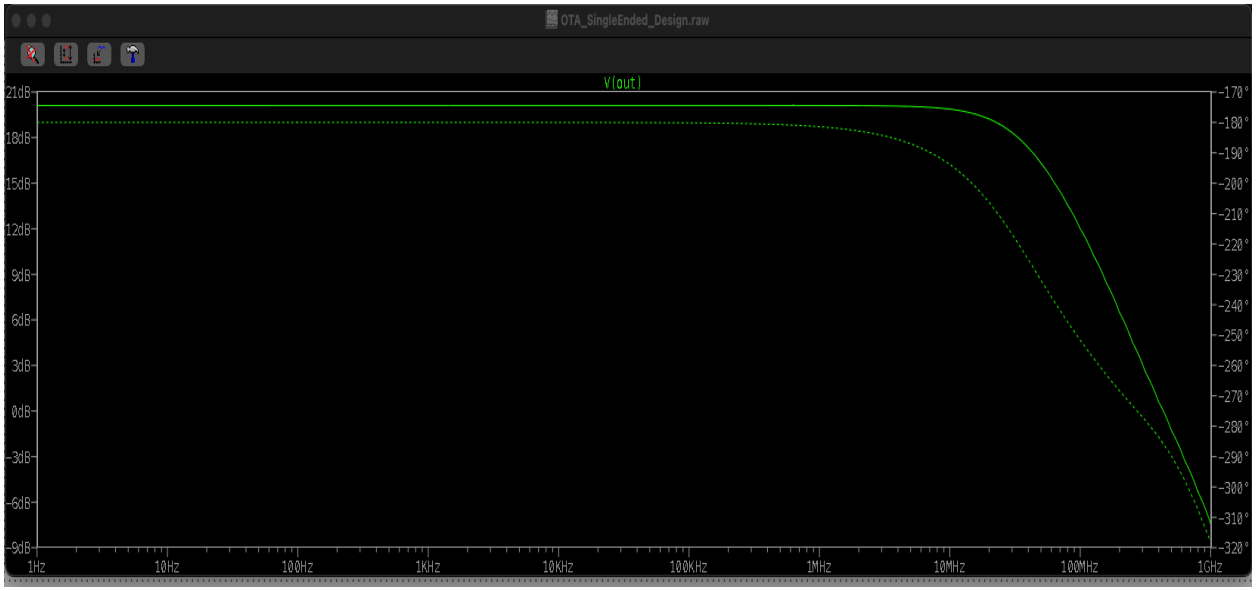
ii)AC analysis:

- At I1 = 4.8uA

FOR GAIN(2x)





- Gain(dB)= 20dB

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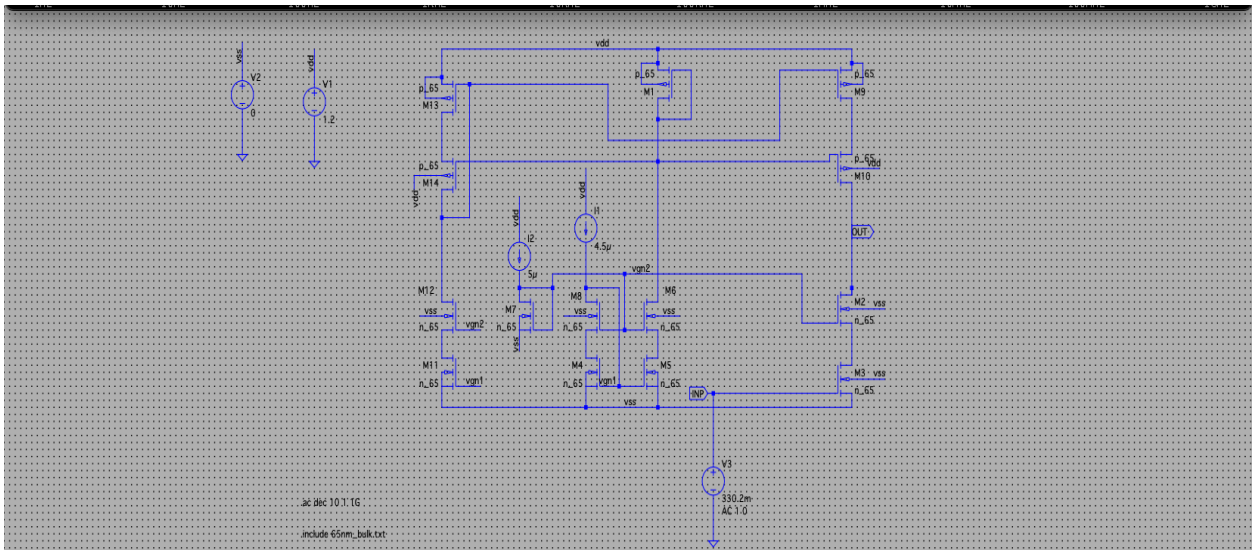
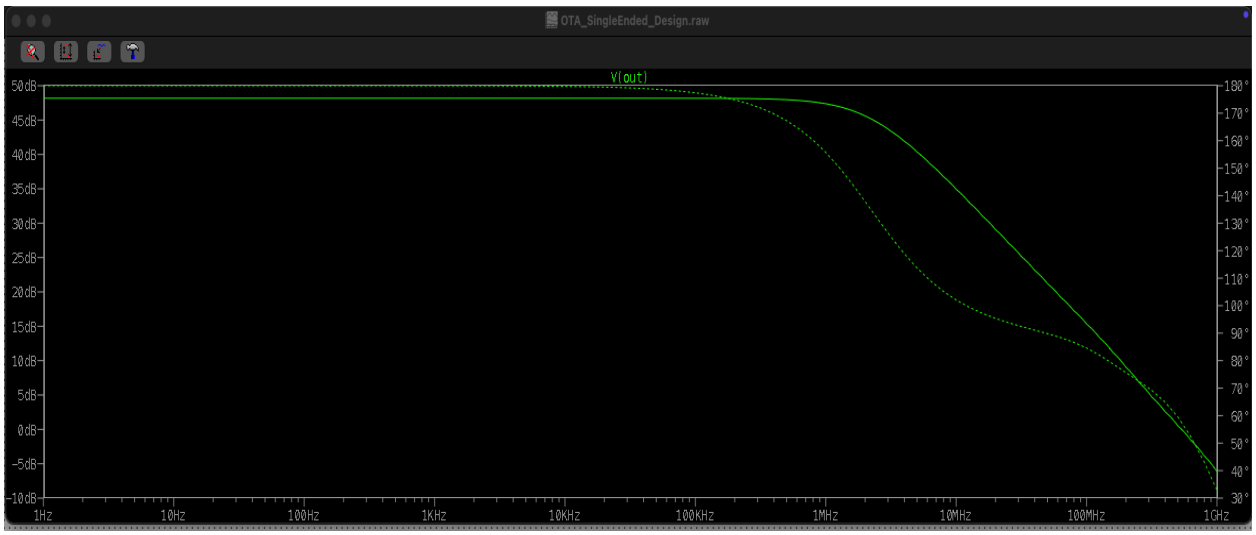
ii)AC analysis:

- At I1 = 4.5uA

FOR GAIN(50x)





- Gain(dB) = 48dB

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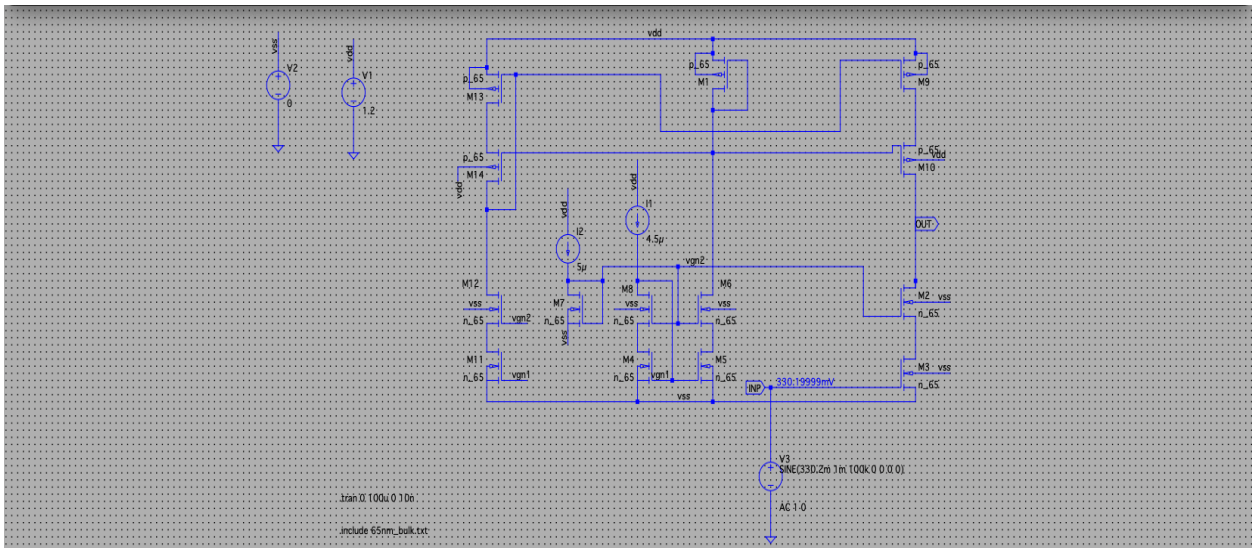
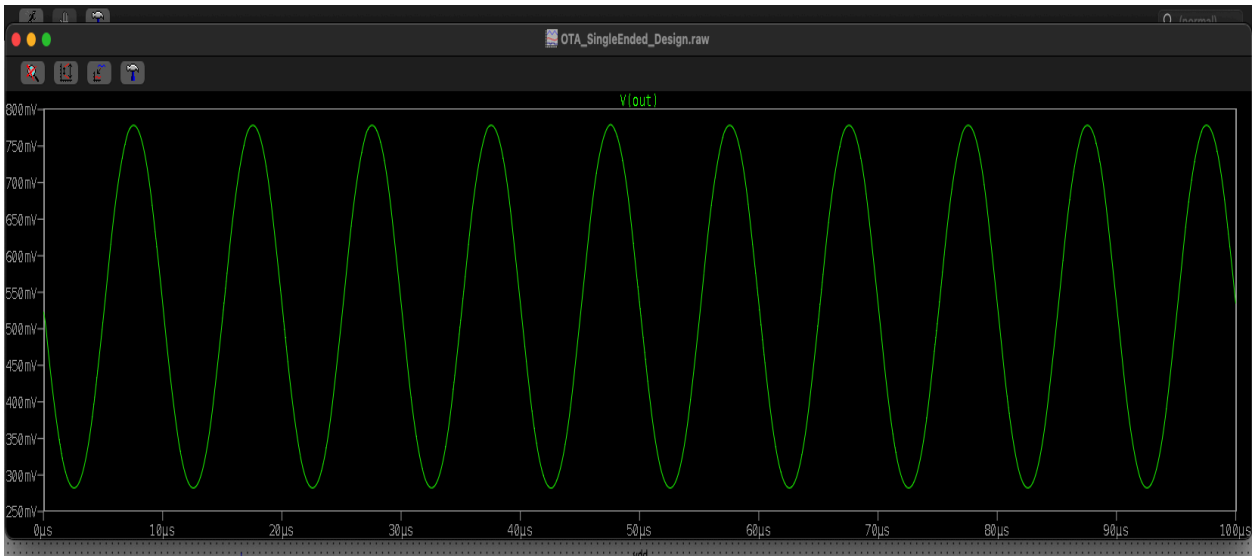
iii)Transient analysis:





Vout(green): pk-pk ~ 500mV