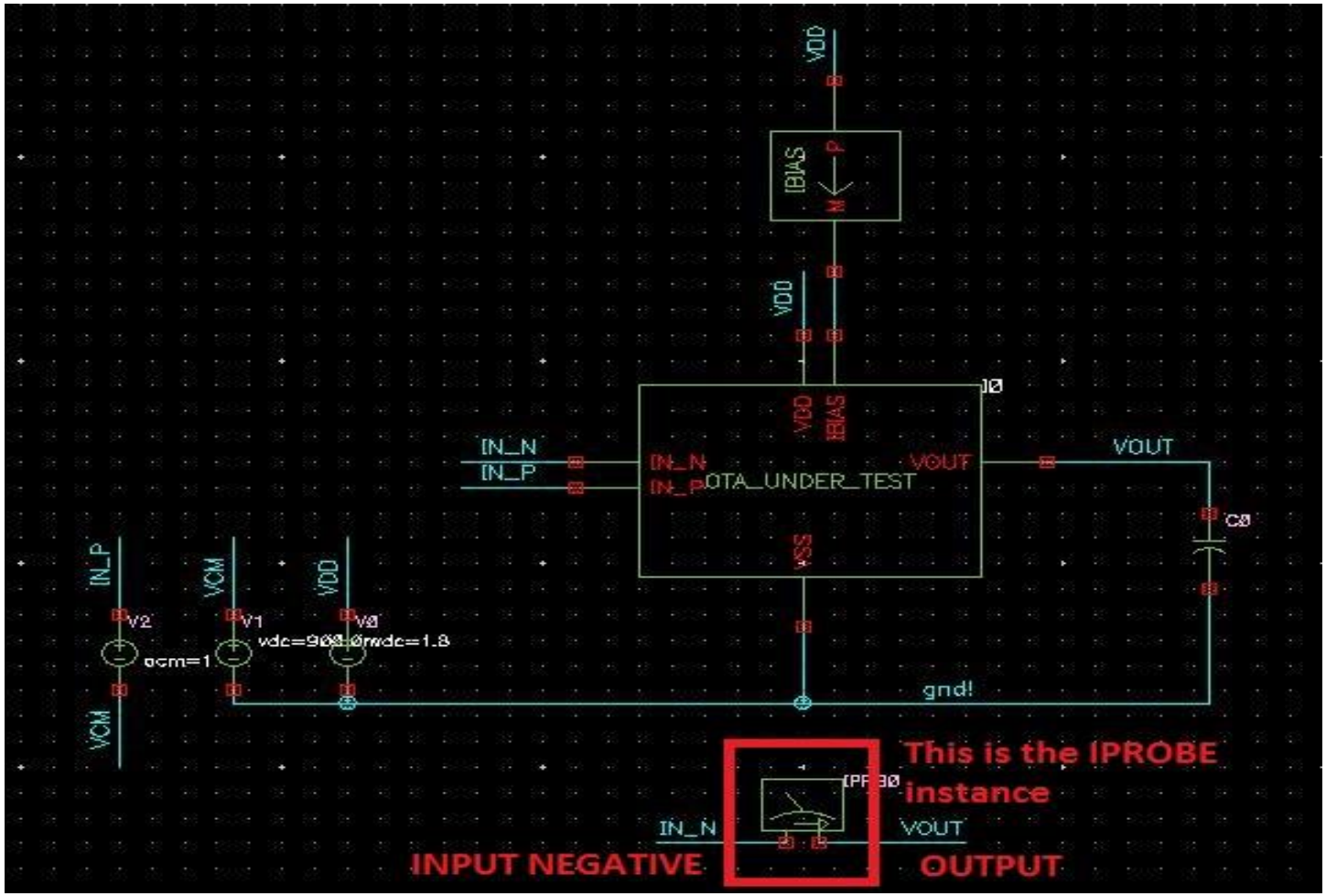
EE618
CMOS ANALOG IC DESIGN

STB Analysis In cadence Spectre

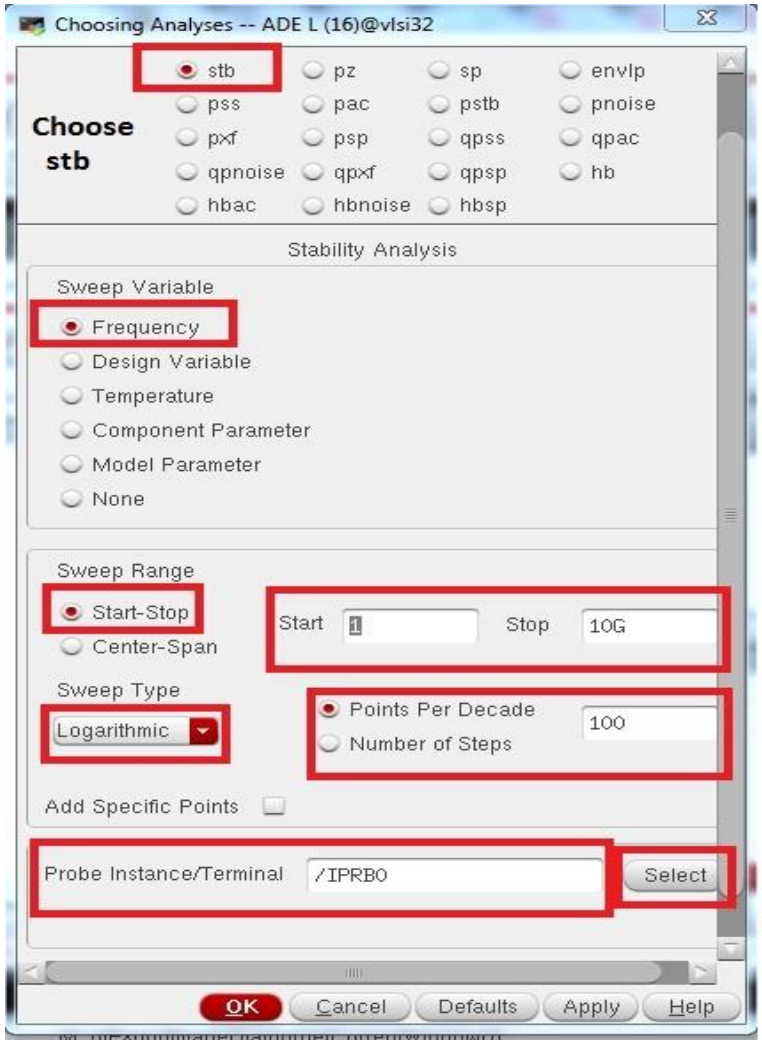
Set up the circuit

- Add “IPROBE” instance from “analogLib” library.
- IPROBE acts as “short” for dc and “open” for ac.
- This is useful in finding the LoopGain.
- Adding IPROBE breaks the feedback for ac but maintains dc operating point.
- Connect IPROBE between output node and the negative input of OTA. (fig in next slide)

Set up the circuit



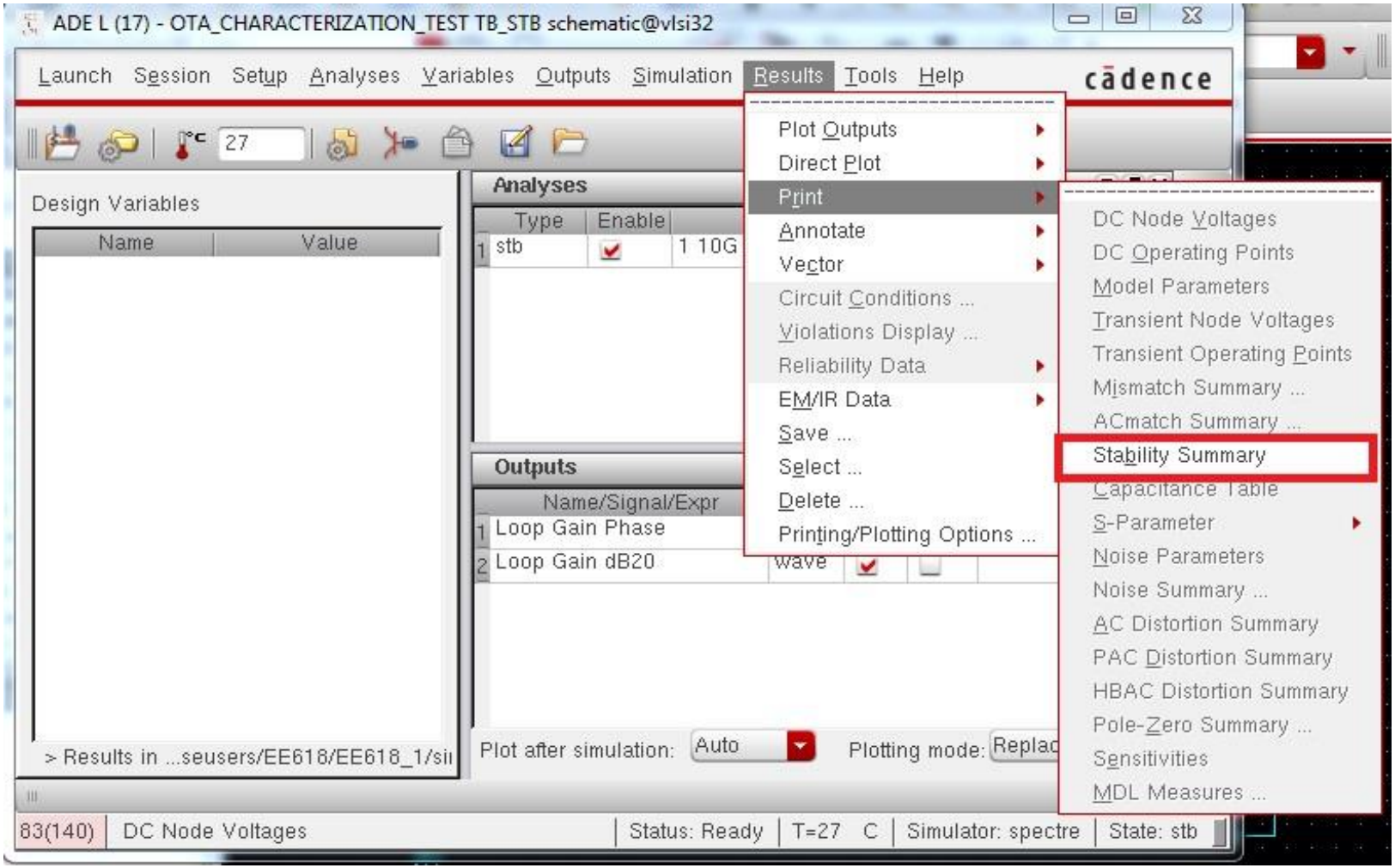
STB Analysis Window



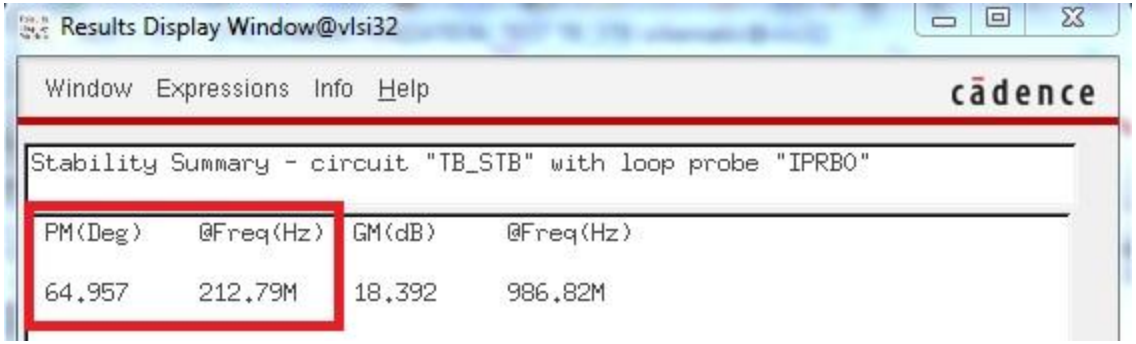
Options same as AC analysis

Click select -> goto schematic -> click on the iprobe instance.

STABILITY Summary report

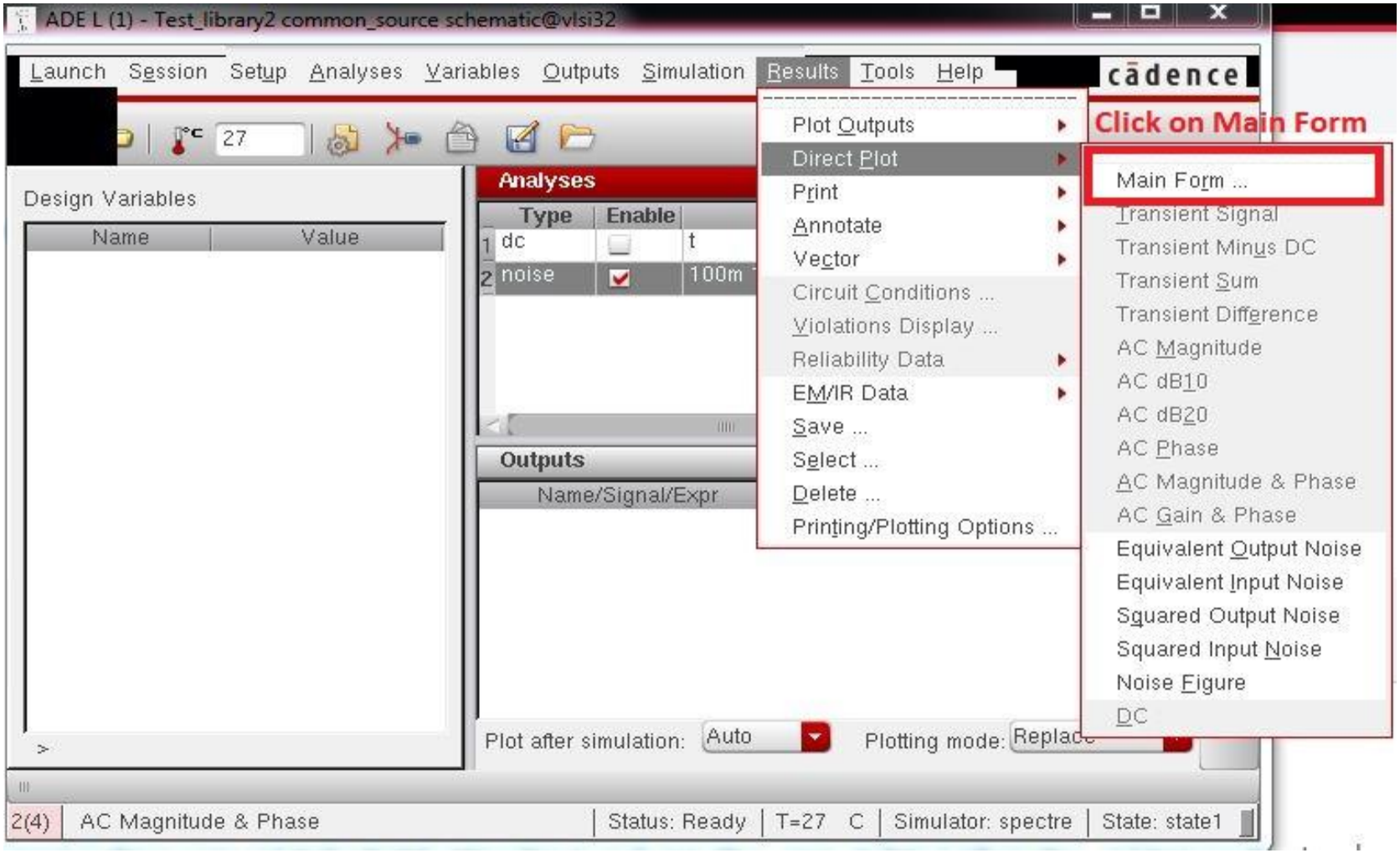


Example Stability Report

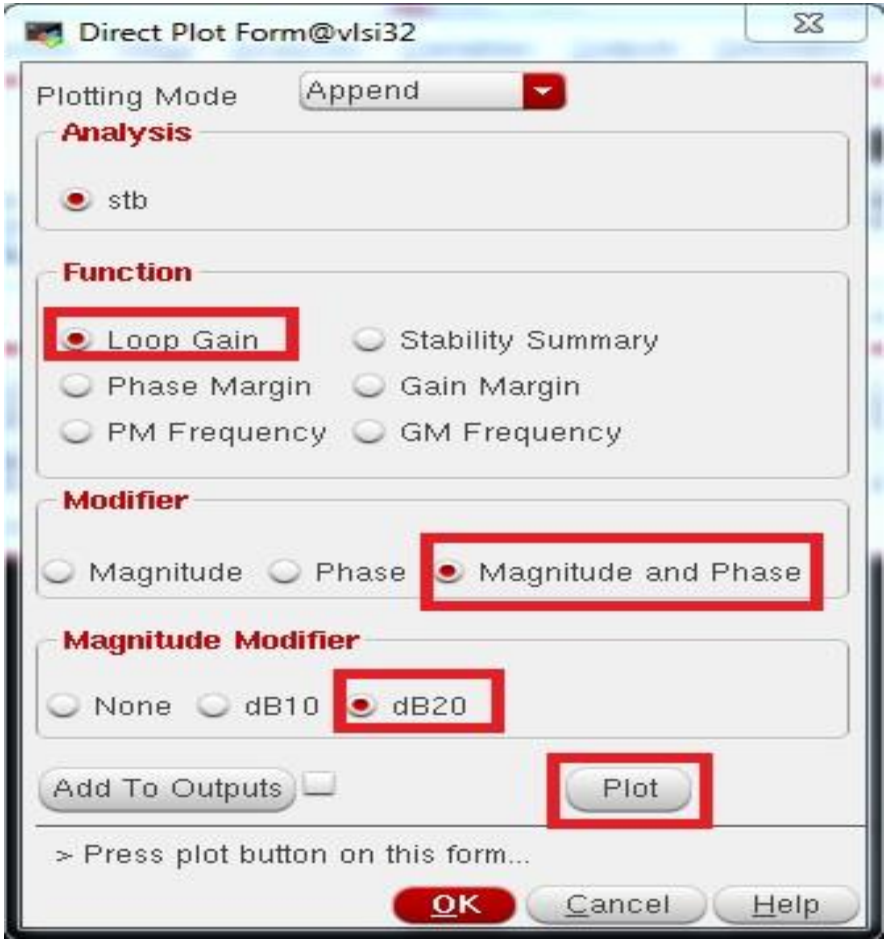


- Gives Phase Margin, Gain crossover frequency (Unity gain frequency)
- Also Gain Margin and Phase crossover frequency

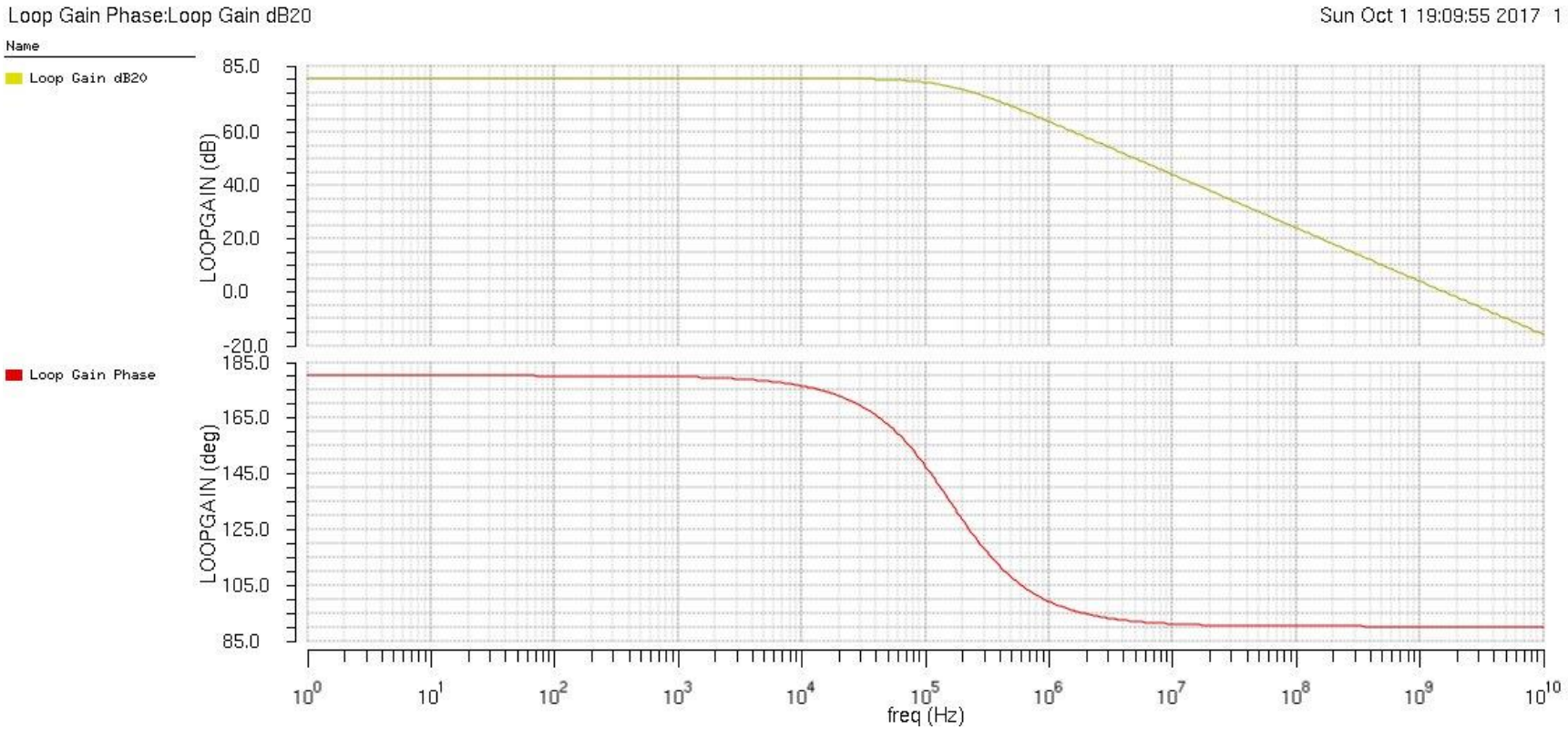
To Plot Loop gain



To Plot Loop gain



Example Loop gain Plots



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