

Homework 3

Low Noise Amplifier

- Schematic for the LNA is uploaded on the course website.

1 Low Noise Amplifier

- For the given LNA, design an input matching network such that the S11 is less than -15dB at 2.4GHz. Bondwire inductance of 2nH and bondpad capacitance of 300fF must be taken into account.
- Draw the circuit diagram and report the values of components used.
- Plot the S11 curve from 2GHz to 3GHz.
- Simulate the Noise Figure and plot it for the frequency band of 2GHz to 3GHz.
- Report the IIP3 and 1-dB compression point of the LNA.