ECE 447 - Active Microwave Circuit Design

Design of an 800 MHz Amplifier - Introduction, Schematic, and Results

The following is a brief introduction of the performance of an 800 MHz amplifier built as part of a multi-week design project for ECE 447 - Active Microwave and Circuit Design. The project guided us through the design of the microwave bias network, the transistor bias network, and the matching network, as well as the stability analysis of the final amplifier. Finally, we revisited topics such as two-tone intermodulation, gain compression, and noise figure, which were all introduced in the previous/prerequisite course: ECE 453 - Wireless Communication Systems.

The ADS schematic is seen below. The S-parameter measurements and simulations are plotted on the next page.

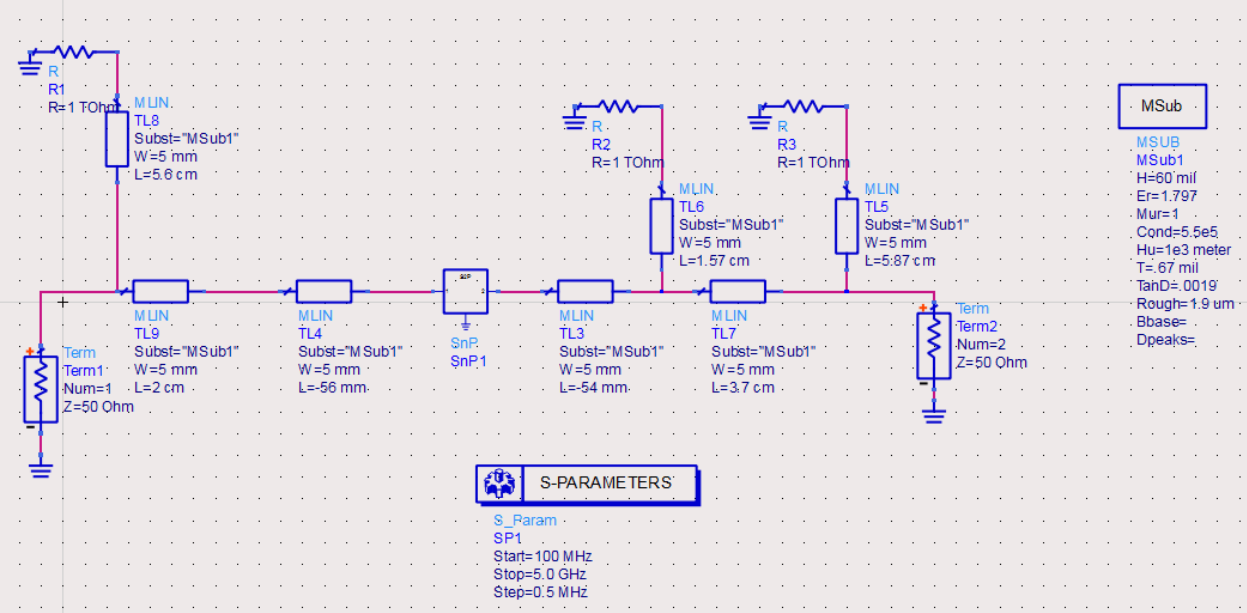

Figure 1: ADS Schematic

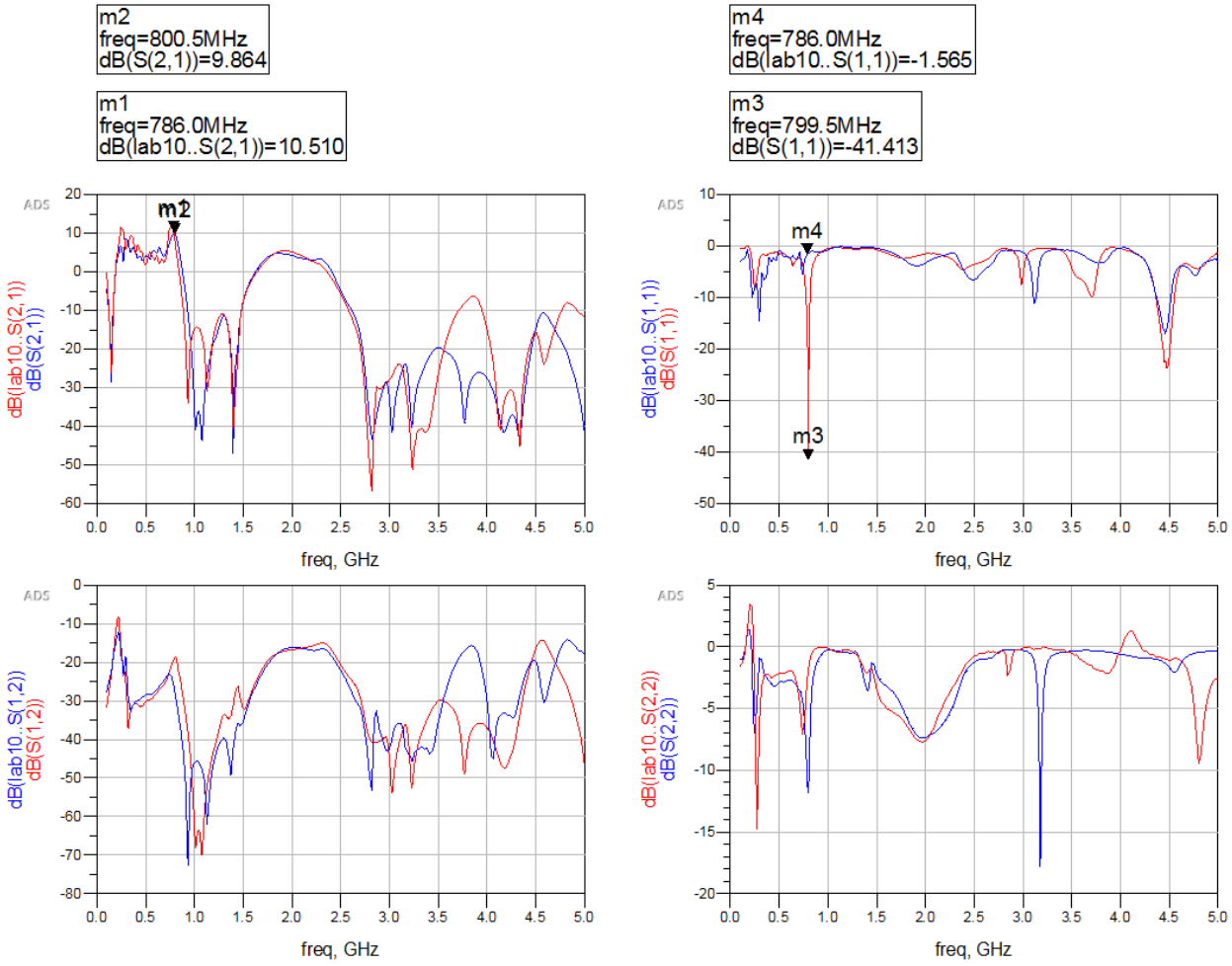

Figure 2: ADS Simulations (blue) and Final S-Parameter Measurements (red)