

ECEN 452 Lab 7 – Wilkinson Power Divider/Delay Line Phase Shifter

Apply the report template to discuss the design, implementation, results, and sources of error for the Wilkinson Power Divider and the phase shifter. In the results/discussion section, include the following plots:

Wilkinson Power Divider:

Measured and Simulated S11, S21, S22, S31, S32, S33 – Identify which traces show port matching, power splitting, and Isolation. Comment on the differences between simulated and measured results.

Phase Shifter:

Your group's Thru, Thru2, 90deg, and 180deg measurements – Comment on the phase difference between the Thru2 and the 90deg/180deg measurements. Compare this phase difference to the target value.

Questions to consider for the report:

Why do we need the resistor in the power divider design?

What modifications did you have to make to the T-line widths/lengths to improve your simulated results?

How did the presence of the additional microstrip lines affect the Thru measurement (difference between Thru and Thru2)?

How could you improve the performance of your phase shifter if you had time to make a new one?