

EE 481/581 Microwave Engineering (Fall 2025)

Homework 8

☞ Friday, October 31, 2025 ☞

- 1) 7.6 Change to $40\ \Omega$ impedances. Also, draw labeled sketch of design. **EE 481:** Design only. **EE 581:** Design and $[S]$ -parameter magnitudes.
- 2) 7.7 Do π resistive attenuator only.
- 3) 7.8 Change to $75\ \Omega$ system impedance. Also, draw labeled sketch of design.
[Hint: Express change in power as ratio $P_{3,\text{mis}}/P_{3,\text{mat}}$ (unitless & dB).]
- 4) 7.10 Change to $75\ \Omega$ source impedance. Also, draw labeled sketch of design.
- 5) Using the $[S]$ -matrix, show that the equal split 2-way Wilkinson power divider is lossless.
- 6) Design and sketch (e.g., Figure 7.14) a 3-way equal-split Wilkinson power divider for a $75\ \Omega$ system.

Due Wednesday, November 5, 2025.