

HW #4

1. Problem 2.47 in 7/E and 6/E, i.e. 2.35 in 5/E and Answer Sheet

2. Problem 2.49 in 7/E and 6/E, i.e. 2.36 in 5/E and Answer Sheet

3. Problem 2.52 in 7/E and 6/E, i.e. 2.37 in 5/E and Answer Sheet

2.37* On a lossless transmission line terminated in a load $Z_L = 100 \Omega$, the standing-wave ratio was measured to be 2.5. Use the Smith chart to find the two possible values of Z_0 .

4. Problem 2.55 in 7/E and 6/E, i.e. 2.39 in 5/E and Answer Sheet

2.39* A lossless $50\text{-}\Omega$ transmission line is terminated in a short circuit. Use the Smith chart to find the following:

(a) The input impedance at a distance 2.3λ from the load.

(b) The distance from the load at which the input admittance is $Y_{in} = -j0.04 \text{ S}$.

5. Problem 2.58(a) in 7/E and 6/E, i.e. 2.41(a) in 5/E and Answer Sheet

2.41* A lossless $100\text{-}\Omega$ transmission line $3\lambda/8$ in length is terminated in an unknown impedance. If the input impedance is $Z_{in} = -j2.5 \Omega$,

(a) Use the Smith chart to find Z_L .