

RADIO ENGINEERING I
HOME ASSIGNMENT 2/2025 HW3**Return your answer to Moodle.****Write tag HW3, your name, and student ID on all sheets you are returning.**

Return by 21.11.2025 @20.00

Name _____**Student ID** _____

Q1: Design a single section coupled line coupler with a coupling of 20 dB, a system impedance of 75 Ω , and a center frequency of 10 GHz. If the coupler is to be made in stripline (edge-coupled), with $\epsilon_r = 2.2$ and $b = 0.32$ cm, find the necessary strip widths and separation.

Q2: Design a Wilkinson power divider with a power division ratio of $P_2/P_3 = 2$ and a source impedance of 50 Ω . How to do the matching if all the three ports are connected to the impedance level of 50 Ω .

In your solution, please show all the necessary calculation steps.