



Microstrip C1:

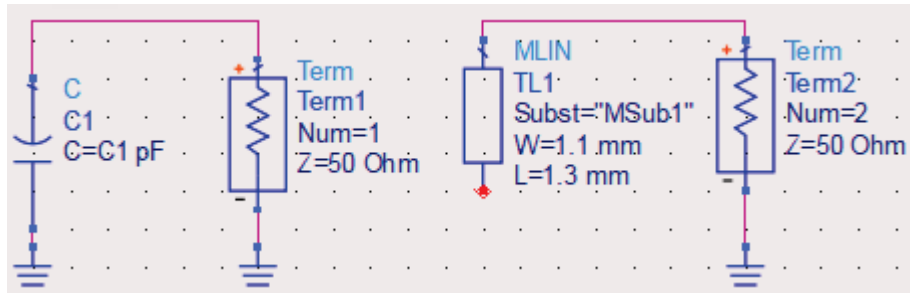


Figure 10: Microstrip C1 (Right hand side) and its equivalent Lumped Capacitor(Left hand side)

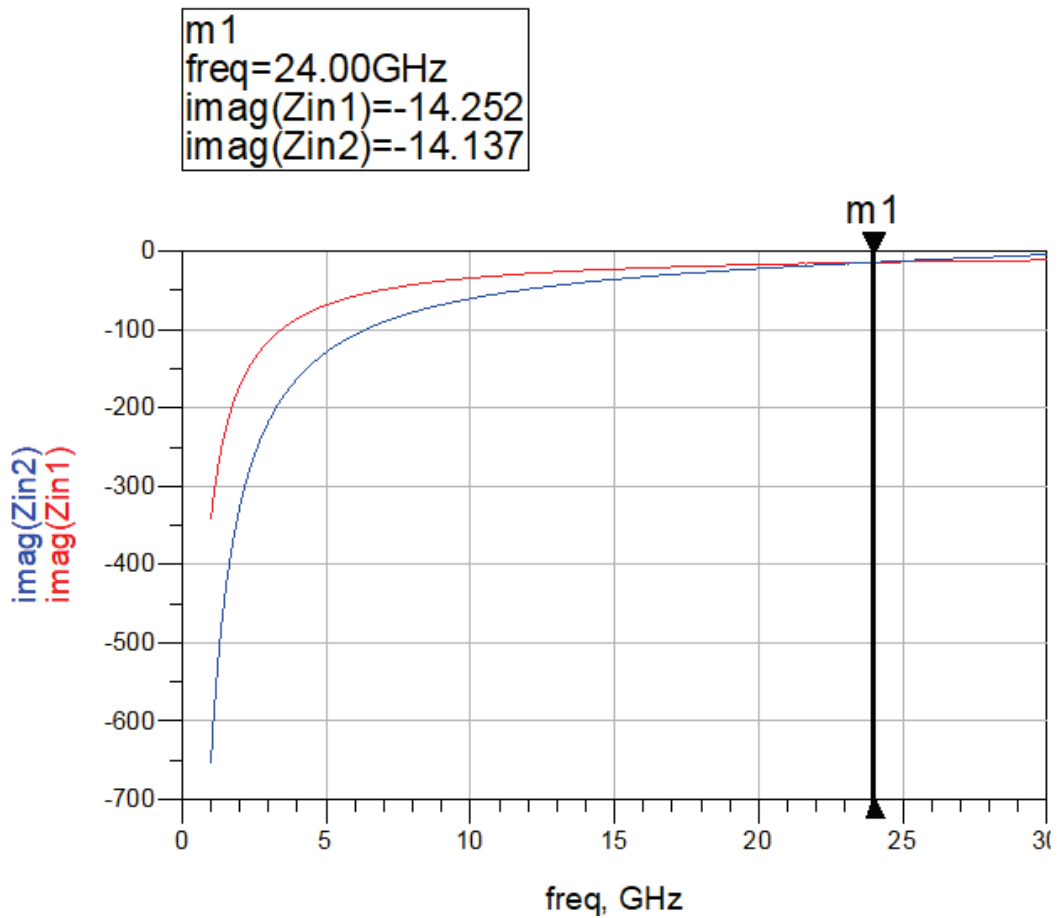


Figure 11: Reactance of Microstrip C1 (Zin2) and its equivalent Lumped Capacitor (Zin1)

The equivalent Lumped Capacitor (Zin1) could be calculated by:

$$C1 = \frac{1}{\omega X_C} = \frac{1}{2\pi f X_C} = \frac{1}{2 * \pi * (24 * 10^9) * Zin2} = 4.690850929 * 10^{-13} F \approx 0.469 pF$$

Output Impedance of the Stepped Impedance Filter=Zin4+Zin5+Zin2=
 (54.18-49.294j) + (63.098j) + (-14.252j) = 54.18-0.715j