Problem: Need 50nH inductor for 150 MHz
evaluate both oc and sc. solutions

construct from $\boxed{RG\text{-}174,\ v_p = 0.66c,\ Z_0 = 50\Omega}$

$\lambda = \frac{v_p}{f} = \frac{(3\times10^8\ m/s)(.66)}{150\times10^6} = 1.32m$

$X_L = 2\pi FL$

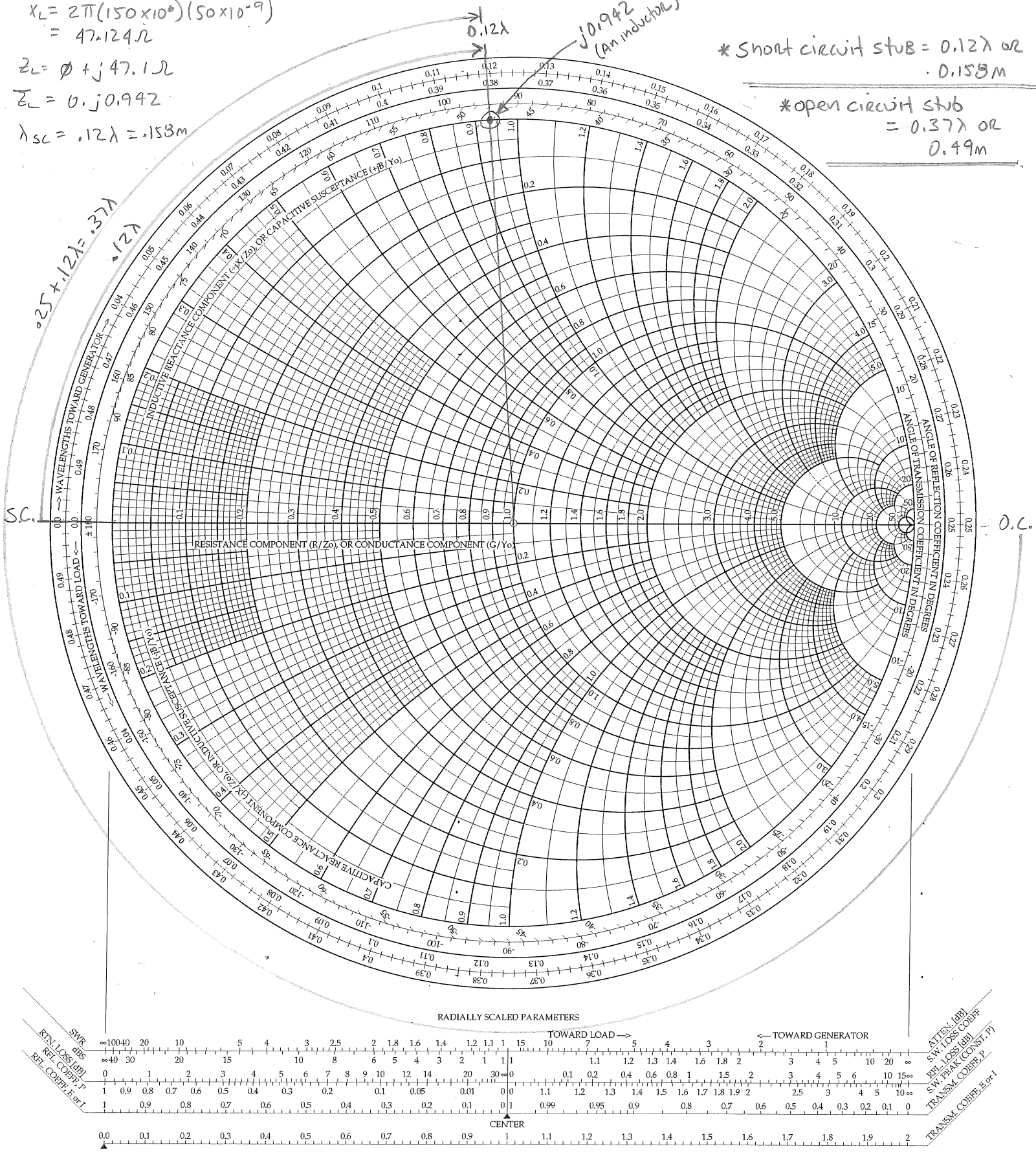
$X_L = 2\pi(150\times10^6)(50\times10^{-9})$
$= 47.124\Omega$

$Z_L = \emptyset + j47.1\Omega$

$\bar{Z}_L = 0 + j0.942$

$\lambda_{SC} = .12\lambda = .158m$

Smith Chart



* Short circuit stub = 0.12λ or 0.158m

* open circuit stub = 0.37λ or 0.49m