Microwaves

Series 3

Problem 1

A lossless transmission line is terminated with a 100 Ω load. If the SWR of the line is 1.5, find the two possible values for the characteristic impedance of the line

Problem 2

A radio transmitter is connected to an antenna having an impedance 80+j40 Ω. with a 50 Ω coaxial cable. If the transmitter can deliver 30W to a 50 Ω load, how much power is delivered to the antenna ?

Problem 3

Use the Smith chart to fond the following quantities for the transmission line circuit bellow :

a) the SWR of the line
b) the reflection coefficient at the load
c) the load admittance
d) the input impedance of the line