

A) Chapter 10 Text book:

Problems: 9, 10, 13, 15, 31, 33

B) A plane wave of frequency 1 MHz and power 20 k Watts is incident on seawater ($\sigma = 4S/m, \epsilon_r = 81$). Determine the following:

- (i) Loss tangent
- (ii) Skin depth δ
- (iii) Wavelength
- (iv) Phase velocity
- (v) Power at depth of 10 meters

What frequency range can be used for undersea communication between two submarines that are 80 meters apart?