

$$b) \quad u_p = \frac{c}{\sqrt{1-(\lambda/2a)^2}} = 4.70 \times 10^8 \text{ (m/s)}$$

$$\lambda_g = \frac{\lambda}{\sqrt{1-(\lambda/2a)^2}} = 0.157 \text{ (m)} = 15.7 \text{ (cm)}$$

$$\beta = \frac{2\pi}{\lambda_g} = 40.1 \text{ (rad/m)}$$

$$(Z_{TE})_0 = \frac{\eta_0}{\sqrt{1-(\lambda/2a)^2}} = 590 \text{ } (\Omega).$$

P.10-16 Given: $a = 2.5 \times 10^{-2}$ (m), $b = 1.5 \times 10^{-2}$ (m), $f = 7.5 \times 10^8$ (Hz)

$$a) \quad \lambda = \frac{c}{f} = \frac{3 \times 10^8}{7.5 \times 10^8} = 0.04 \text{ (m)}$$

$$F_1 = \sqrt{1-(\lambda/2a)^2} = 0.60$$

$$\lambda_g = \lambda/F_1 = 0.0667 \text{ (m)} = 6.67 \text{ (cm)}$$

$$\beta = 2\pi/\lambda_g = 94.2 \text{ (rad/m)}$$

$$u_p = c/F_1 = 5 \times 10^8 \text{ (m/s)}$$

$$u_g = c \cdot F_1 = 1.8 \times 10^8 \text{ (m/s)}$$

$$(Z_{TE})_0 = \eta_0/F_1 = 200\pi = 628 \text{ } (\Omega).$$

$$b) \quad \lambda' = \frac{\lambda}{\sqrt{2}} = \frac{0.04}{\sqrt{2}} = 0.0283 \text{ (m)}$$

$$F_2 = \sqrt{1-(\lambda'/2a)^2} = 0.925$$

$$\lambda'_g = \lambda'/F_2 = 0.0343 \text{ (m)} = 3.43 \text{ (cm)}$$

$$\beta' = 2\pi/\lambda'_g = 183.2 \text{ (rad/m)}$$

$$u_p' = u/F_2 = 2.57 \times 10^8 \text{ (m/s)}$$

$$u_g' = u \cdot F_2 = 1.75 \times 10^8 \text{ (m/s)}$$

$$(Z_{TE})_0 = \frac{\eta_0}{\sqrt{2} F_2} = 323 \text{ } (\Omega).$$

P.10-17 Given: $a = 7.20 \times 10^{-2}$ (m), $b = 3.40 \times 10^{-2}$ (m), $f = 3 \times 10^9$ (Hz)

$$a) \quad \lambda_c = 2a = 14.40 \times 10^{-2} \text{ (m)}$$

$$f_c = \frac{c}{\lambda_c} = 2.08 \times 10^9 \text{ (Hz)}$$

$$b) \quad \lambda = \frac{c}{f} = 0.1 \text{ (m)}, \quad \sqrt{1-(\frac{\lambda}{2a})^2} = 0.720$$

$$\lambda_g = \frac{\lambda}{\sqrt{1-(\frac{\lambda}{2a})^2}} = 0.139 \text{ (m)}$$

$$c) \quad R_p = \sqrt{\frac{2\mu_0}{\epsilon_0}} = 1.429 \times 10^{-2} \text{ } (\Omega) \rightarrow (\alpha_c)_{TE} = \frac{R_p \left[1 + \frac{2b}{a} \left(\frac{f}{f_c} \right)^2 \right]}{\eta_0 b \sqrt{1-(f/f_c)^2}} = 2.26 \times 10^{-3} \text{ (Np/m)}$$

$$d) \quad e^{-\alpha_c z} = \frac{1}{2} \rightarrow z = \frac{1}{\alpha_c} \ln 2 = 307 \text{ (m)}$$



Click here to access this Book :

[FREE DOWNLOAD](#)

Field And Wave Electromagnetics Solutions Chapter 3

[Field And Wave Electromagnetics Solutions](#)

Thank you absolutely a lot to download [Field And Wave Electromagnetics Solutions Chapter 3](#). Maybe you know that people have look many period for their favorite books after this Field And Wave Electromagnetics Solutions Chapter 3, but end happening in harmful downloads.

Rather than enjoying a good PDF similar to a cup of coffee in the afternoon, then again they juggled after a harmful virus inside their computer. **Field And Wave Electromagnetics Solutions Chapter 3** is available in our digital library an online

entry is defined as public therefore you can download it instantly. Our digital library records in combined countries, allowing you get the least amount of latency epoch to download from our books later than this one. Simply put, the Field And Wave Electromagnetics Solutions Chapter 3 is universally compatible once tout appareil à lire.

[Math Common Core Reteaching And Practice Workbook Grade 3 Workbook By Scott Foresman 2012 Paperback](#), [Mechanics Dynamics 3rd Edition Pytel Solutions](#), [Potter And The Prisoner Of Azkaban Book 3](#), [Math Chapter 8 Resource Book Grade 3](#), [Benchmark 3 Answers](#), [Engineering Thermodynamics Binder Ready Version](#), [M300 Lathe](#), [Network Simulation](#), [3715 Daily Geography Practice Grade 6 Answers](#), [Reading](#)

[And Writing Research 4th Edition](#), [98 381 Introduction To Programming Using Python](#), [Academic Skills 1 Reading Writing And Study Skills Teacher Amp](#), [Strategy Peng 3rd Edition](#), [Toolset 32](#), [Clapton Autobiography Author Jul 03 2008 Paperback](#), [Up 3 Workbook](#), [Mechanics Dynamics 13th Edition By R C Hibbeler](#), [32073 Sixth Grade Math Review Answers](#), [Lakes Conflagration Second Congo War 19982003](#), [Case 13 In Healthcare Finance Answers](#), [Probe 1993 97 Service Repair](#), [Cu 352](#), [Horizons Activity Book Teacher%23s Edition](#), [Naa 1953 Golden Jubilee Tractor Shop](#), [Con Placer Sin Ayuda Del Maestro Con 2 Mp3 Cds](#), [Harold Jacobs 3rd Edition Answer Key](#), [File Upper Intermediate 3rd Edition Teachers Book Chomikuj](#), [Davidson Sportster 883 Engine Parts Diagram](#), [Usb Interface Drivers For Windows 10 8 1](#), [Technique Bmw 530d Boite Auto](#), [3rd Edition](#)