Reflection and Transmission of Electromagnetic Waves in Inhomogeneous Dielectric Filled Rectangular Waveguide (Correspondence)

The wave equation for the TE mode propagation in the rectangular waveguide containing longitudinally inhomogeneous dielectric is discussed. Using the technique of separation of variables, it is shown that the general waveguide solution for the transverse variables (x, y) still holds true. An approximate method is used to solve the z-variable ordinary differential equation. The relation of the Wronskian determinant of the solution and the accnracy of the solutions is discussed. Transmission and reflection of the electromagnetic wave by the inhomogeneous dielectric in the waveguide is formulated.

❑ Return to main document.