

# Electromagnetic Wave Analysis of Wave and Shielded Stripline

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## Abstract

Electromagnetic wave analysis of waveguide has been done in this paper with the help of Finite Element Method (FEM) based COMSOL Multiphysics. The design is further extended by placing conductor on a dielectric slab included in the waveguide to form a shielded microstrip transmission line. The simulated models are analyzed to determine the wave propagation characteristics. The validation is done by evaluating the critical frequency, propagation constant and transversal field distribution of modes at given phase constant  $\beta$  and angular frequency  $\omega$ .