Abstracts

Rigorous Mode Matching Analysis of Mitered E-Plane Bends in Rectangular Waveguide

F. Alessandri, M. Mongiardo and R. Sorrentino. "Rigorous Mode Matching Analysis of Mitered E-Plane Bends in Rectangular Waveguide." 1994 Microwave and Guided Wave Letters 4.12 (Dec. 1994 [MGWL]): 408-410.

A rigorous full-wave analysis of 90° E-plane mitered bends is obtained in a simple and accurate way by using the segmentation technique. The bend is divided into various regions of rectangular and triangular shapes, characterized by the generalised admittance matrix representation. The method is used to investigate the properties of 90° E-plane bends in rectangular waveguide. It is shown that it is possible to design the mitering so as to locate the matching frequency as desired within the operational frequency band. Design charts are given providing the optimal mitering as well as the relative bandwidth of the reflection coefficient.

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