Abstracts

CAD-Oriented Equivalent Circuit Modeling of Step Discontinuities in Rectangular Waveguides

A. Weisshaar, M. Mongiardo and V.K. Tripathi. "CAD-Oriented Equivalent Circuit Modeling of Step Discontinuities in Rectangular Waveguides." 1996 Microwave and Guided Wave Letters 6.4 (Apr. 1996 [MGWL]): 171-173.

A novel equivalent circuit model for step discontinuities in rectangular waveguides is presented. The equivalent circuit model is based on a modal analysis and enables full-wave characterization of the step-discontinuity by circuit analysis on commercial simulators. The equivalent circuit model of the H-plane step has been implemented on Libra to demonstrate its accuracy. Results of the circuit analysis were found to be in virtually perfect agreement with the conventional mode-matching solution based on incident and reflected wave amplitudes.

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