Abstracts

TEM Impedance and Cross Coupling for Small Circular Center Conductors in a Double Ridged Waveguide

J.E. Storer and T.W. Thompson. "TEM Impedance and Cross Coupling for Small Circular Center Conductors in a Double Ridged Waveguide." 1961 Transactions on Microwave Theory and Techniques 9.2 (Mar. 1961 [T-MTT]): 116-123.

The even and odd mode TEM impedances and crosscoupling coefficient were found for two small circular center conductors in a double ridge waveguide structure. Expressions were found by the use of a variational approximation for the case where the centers of the circular conductors lie on the horizontal center line of the guide; the conductors were placed symmetrically about the vertical plane of symmetry of the guide, and the conductors were placed a reasonable distance from the guide and from the region between the ridges. Results calculated from these expressions agree reasonably well with experimental data. The experimental and theoretical results tend to indicate that proper placement of the two conductors in a double ridge guide could be used as a method of transmitting three different messages inside a single closed waveguide.

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