Abstracts

Discontinuity Capacitance of a Coaxial Line Terminated in a Circular Waveguide: Part II--Lower Bound Solution (Short Papers)

E.W. Risley, Jr.. "Discontinuity Capacitance of a Coaxial Line Terminated in a Circular Waveguide: Part II--Lower Bound Solution (Short Papers)." 1973 Transactions on Microwave Theory and Techniques 21.8 (Aug. 1973 [T-MTT]): 564-566.

This calculation provides a lower bound (complementing the upper bound solution given earlier) to the discontinuity capacitance of a coaxial line terminated in a circular waveguide. A 50-Omega 0.9525-cm (3/4-in) open-circuited coaxial termination with a solid center conductor was fabricated with center- and outer-conductor diameters of 0.82723 ± 0.00005 and 1.90487 ± 0.00005 cm (1 cm=0.393703 in), respectively. The measured value of capacitance of this termination at 1000 Hz was 216.4 ±1.0 fF, as compared with the calculated lower bound of 215.0 fF. (The upper bound for this case was 217.7 fF.)

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