Abstracts

Thru Characteristics of a Coaxial Gap (FDTD Model and Measurements) (Short Papers)

B.G. Colpitts. "Thru Characteristics of a Coaxial Gap (FDTD Model and Measurements) (Short Papers)." 1996 Transactions on Microwave Theory and Techniques 44.1 (Jan. 1996 [T-MTT]): 160-163.

Thru characteristics of a coaxial cable interrupted by a small gap are modeled and measured. Finite-difference time-domain (FDTD) modeling is applied in cylindrical coordinates to semirigid coaxial cable and to the intervening gap material. Both dispersive and nondispersive gap materials are investigated. Gap loss and phase shift are accurately predicted by this two-dimensional model which accounts for TEM and TM modes in the gap and coaxiat apertures. An application of the model is to establish reference data for thin sample permittivity or moisture measurements.

❑ Return to main document.