Abstracts

Conformal mapping of the field and charge distributions in multilayered substrate CPWs

E. Carlsson and S. Gevorgian. "Conformal mapping of the field and charge distributions in multilayered substrate CPWs." 1999 Transactions on Microwave Theory and Techniques 47.8 (Aug. 1999 [T-MTT] (Mini-Special Issue on Low-Power/Low-Noise Technologies for Mobile Wireless Communications)): 1544-1552.

Conformal mapping (CM) and partial capacitance techniques are used for analytical evaluation of charge/current and electric- and magnetic-field distributions in a multilayered substrate coplanar waveguide (CPW) in the quasi-TEM approximation. The results, compared with finite-element method simulations, show that the magnetic wall assumed at the dielectric-dielectric interfaces in CM is a good approximation for many practical cases. The method is applied to a CPW with a thin ferroelectric film used in tunable microwave devices.

❑ Return to main document.