

# Abstracts

## Fast, Accurate and Simple Approximate Analytic Formulas for Calculating the Parameters of Supported Coplanar Waveguides for (M)MIC's

---

*S.S. Bedair and I. Wolff. "Fast, Accurate and Simple Approximate Analytic Formulas for Calculating the Parameters of Supported Coplanar Waveguides for (M)MIC's." 1992 Transactions on Microwave Theory and Techniques 40.1 (Jan. 1992 [T-MTT]): 41-48.*

Fast, accurate, and simple approximate analytic formulas are presented for calculating the quasi-static-TEM parameters of supported coplanar waveguide structures (SCPW's). These include, the open, covered as well as dielectric overplayed SCPW's. These formulas have been designed for use in (M)MIC's-CAD programs and are only valid when ever the supporting material is of lower permittivity. Comprehensive comparisons have been made by using a rigorous spectral domain hybrid mode analysis. Accuracy is found to be better than 1 percent for most of the operating range of physical dimensions and available dielectric materials ( $\epsilon_{\text{sub r}} = 1$  to 20). Numerical results are also presented in order to investigate the properties of different SCPW structures.

[Return to main document.](#)