Abstracts

CAD Models for Suspended and Inverted Microstrip

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The accuracies of CAD models for suspended and inverted microstrip are examined, and new models are proposed. The models are compared over the range of 0.1 <= w/h <= 10 and for epsilon /sub r/ values of 3.78 and 12.9. Of the three models examined, the Tomar and Bhartia (T&B) model is shown to be the most accurate. For epsilon/sub r/ = 12.9 (the worst case), the T&B model shows maximum and average errors of 2.94 and 1.28% respectively over its valid range. New CAD models are presented which demonstrate significantly improved accuracy and range of convergence. For suspended and inverted microstrip, the new models demonstrate worst case errors of 0.65 and 1.02%, respectively, and average errors of 0.23 and 0.27%, respectively. Further, the new models are valid for the full 0.1<= w/h <= 10 range, and unlike the other models, converge for the limiting cases of either complete substrate filling or a zero thickness substrate.

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