Abstracts

High Frequency Conductor and Dielectric Losses in Shielded Microstrip

An integral equation method is developed to calculate the dispersion of non-perfectly conducting microstrip lines. Both dielectric losses in the substrate and conductor losses in the strips and ground plane are considered. Multiple conductors on several layers can be studied using an impedance boundary formulation for the derivation of the Green's function. The microstrip losses are evaluated by using a frequency-dependent surface impedance which is derived by solving the fields in the conductors. This surface impedance replaces the conducting strip and takes into account the thickness and skin effect of the strip at high frequencies. Good agreement with available literature data is shown.

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