Abstracts

Characterization of the Perturbation Effect of a Probe Head Using the FD-TD Method

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The perturbation effect of a probe head in microwave measurement is investigated by using the FD-TD method. A two-simulation approach with improved accuracy is employed to predict the insertion loss caused by the probe head. Depending on the diameter and reclining angle of the probe head, a maximum insertion loss of up to 0.8 dB has been calculated for an example structure. This work provides a rigorous and quantitative estimation of the probe effect. The analysis results may also serve as a guidance for optimal designing and positioning of probe heads so that a minimum field perturbation during measurement can be expected.

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