Abstracts

Full Wave Analysis of Propagation Characteristics of a through Hole Using the Finite-Difference Time-Domain Method (Dec. 1991 [T-MTT])

S. Maeda, T. Kashiwa and I. Fukai. "Full Wave Analysis of Propagation Characteristics of a through Hole Using the Finite-Difference Time-Domain Method (Dec. 1991 [T-MTT])." 1991 Transactions on Microwave Theory and Techniques 39.12 (Dec. 1991 [T-MTT] (1991 Symposium Issue)): 2154-2159.

A full wave analysis of the propagation characteristics of a through hole (or via hole) was carried out using the finite-difference time-domain (FD-TD) method and resuIts were compared with measurements from a physical model. The effects of rod diameter and microstrip connecting angle were examined. The computed scattering parameters (S-parameters) of a through hole showed excellent agreement with measured results from dc to high frequencies and in the time domain responses. As a result, it was shown that at high frequencies radiation is at a significant level and rod diameter and microstrip connecting angle strongly influence the propagation characteristics of a through hole.

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