Abstracts

Microstrip Open-End Discontinuity on a Nonreciprocal Ferrite Substrate (1994 Vol. II [MWSYM])

H.-Y. Yang. "Microstrip Open-End Discontinuity on a Nonreciprocal Ferrite Substrate (1994 Vol. II [MWSYM])." 1994 MTT-S International Microwave Symposium Digest 94.2 (1994 Vol. II [MWSYM]): 599-602.

A full-wave analysis of the microstrip open-end discontinuity on a nonreciprocal ferrite substrate is presented. In the analysis, the direction of the bias field is either transverse, longitudinal, or normal to the microstrip open-end. The moment method is employed to find the current distribution over a semi-infinite microstrip line. The possible asymmetry of the longitudinal current due to non-reciprocity is considered. The length extension due to the fringing field at the open-end is found through a non-reciprocal transmission line analysis. The effects of the direction and the strength of the bias field are investigated. It is found that the direction of the bias, not its strength, has significant effect on the open-end discontinuity. This work should find applications in the design of ferrimagnetic microwave integrated circuits.

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