Abstracts

Revisiting characteristic impedance and its definition of microstrip line with a self-calibrated 3-D MoM scheme (Comments and Authors' Reply)

J.C. Rautio, Lei Zhu and Ke Wu. "Revisiting characteristic impedance and its definition of microstrip line with a self-calibrated 3-D MoM scheme (Comments and Authors' Reply)." 1999 Transactions on Microwave Theory and Techniques 47.1 (Jan. 1999 [T-MTT]): 115-119.

The original paper (see IEEE Microwave Guided Wave Lett., vol. 4, no. 2, p. 87-9, 1998) proposed a means of determining the TEM equivalent Z/sub 0/, which is similar to the technique described by this author. While this author assumes the port discontinuity to be a single shunt capacitance, the port discontinuity assumed by Zhu and Wu is more general. Their key figure is repeated. The transmission line under consideration has a width of 0.635 mm, with a substrate 0.635 mm thick with a relative dielectric constant of 9.7. Zero thickness and zero loss are assumed. Although incidental to this letter, it is interesting to note that Zhu and Wu show the same nonmonotonic dispersion in Z/sub 0/. The authors of the original paper suggest that the 2% difference is due to error in Rautio's analysis. In order to check this hypothesis, an error analysis must be performed. The purpose of this paper is to communicate the results of just such an error analysis for Rautio's analysis. The original authors give their reply.

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