

Abstracts

An Analysis of a Waveguide T Junction with an Inductive Post (Short Papers)

J. Hirokawa, K. Sakurai, M. Ando and N. Goto. "An Analysis of a Waveguide T Junction with an Inductive Post (Short Papers)." 1991 Transactions on Microwave Theory and Techniques 39.3 (Mar. 1991 [T-MTT]): 563-566.

The authors analyze the T junction with an inductive post taking its diameter into account for the case where the current distribution is assumed on the surface of the post. A single cylindrical post placed in a T junction improves the impedance matching and compensates the junction discontinuity in a wide frequency band. The analysis clarifies the effects of the design parameters such as the diameter of the post and its location. It accurately predicts the measured return loss. On the basis of this analysis, an effective design procedure of the T junction is proposed and the reflection below -30 dB is realized over 4% bandwidth.

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