

Abstracts

A Comparative Statistical Study of Some Proposed Six-Port Junction Designs

M. Berman, P.I. Somlo and M.J. Buckley. "A Comparative Statistical Study of Some Proposed Six-Port Junction Designs." 1987 Transactions on Microwave Theory and Techniques 35.11 (Nov. 1987 [T-MTT]): 971-977.

Reflection coefficient measurements obtained from six-port reflectometers are analyzed from a statistical and geometrical point of view. The analysis concentrates on the effect of using noisy power meters, and a simply computed, geometrically interpretable estimator of the reflection coefficient possessing certain optimality properties is derived. A suitable performance measure for this estimator is calculated for a number of different six-port designs as the true reflection coefficient ranges over the area of the Smith chart. For each design, a contour map of the measure allows for easy comparison of the designs in different regions of the Smith chart.

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