Abstracts

High-Yield Narrow-Band Matching Structures

D.H. Monteith and J.E. Purviance. "High-Yield Narrow-Band Matching Structures." 1988 Transactions on Microwave Theory and Techniques 36.12 (Dec. 1988 [T-MTT] (1988 Symposium Issue)): 1621-1628.

Circuit yield is evaluated for commonly used narrow-band (bandwidth less than 5 percent) lumped and distributed parameter matching structures. It is found that yield is a function not only of the matching structure but also of the load impedance. The lumped structure yields are analytically determined using an elliptic approximation technique which gives a closed-form solution to the high-yield structure choice problem. Sensitivity issues are discussed. A simple design chart is developed which helps the designer choose a high-yield matching structure for a given load impedance. Two examples illustrate its use. Structure choice in one example changes the yield from 61 percent to 84 percent.

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