# Abstracts

## Broad-Band Coupling to High-Q Resonant Loads (Jul. 1972 [T-MTT])

*T.M. Reeder and W.R. Sperry. "Broad-Band Coupling to High-Q Resonant Loads (Jul. 1972 [T-MTT])." 1972 Transactions on Microwave Theory and Techniques 20.7 (Jul. 1972 [T-MTT]): 453-458.*

Broad-band coupling between a resistive source and a resonant load is considered for coupling networks consisting of a uniform transmission line of impedance Z/sub I/ and length equal to a quarter wavelength at the load resonant frequency. An approximate analysis is used to show that either maximally flat or ripple insertion loss frequency response can be obtained by proper choice of Z/sub I/, and the 3-dB bandwidth obtained in either case is always greater than 1/Q. Depending on the ratio of load and source resistances, the bandwidth may be greater than 1 octave. Network design curves for maximally flat operation with a variety of load parameters are computed without approximation. The design of lumped element approximations for the transmission line network is also described.

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