Abstracts

Symmetrical Combiner Analysis Using S-Parameters

A general theory is developed to predict the potential efficiency (eta) and input impedance (Z_{ic}) of symmetrical N-way combining networks in terms of scattering parameters. A simplified version of the theory, assuming perfect symmetry, is then implemented on a semiautomatic network analyzer (SANA) which is used to characterize 2-way and 16-way TM_{010} combining networks. These simplified theoretical assumptions have also been used to predict the degradation effects of power combiners when one or more sources fail. Results indicate that there is room for improvement if proper design techniques are applied.

❑ Return to main document.