Abstracts

Asymmetric Coupled Transmission Lines in an Inhomogeneous Medium

Terminal characteristic parameters for a uniform coupled-line four-port for the general case of an asymmetric, inhomogeneous system are derived in this paper. The parameters (impedance, admittance, etc.) are derived in terms of two independent modes that propagate in two uniformly coupled propagating systems. The four-port parameters derived are of the same form as those obtained for the symmetric case resulting in similar port equivalent circuits for various circuit configurations considered by Zysman and Johnson. The results obtained should be quite useful in designing asymmetric coupled-line circuits in an inhomogeneous medium for various known applications.

❑ Return to main document.