Abstracts

The Definition and Computation of Modal Characteristic Impedance in Quasi-TEM Coupled Transmission Lines

G.G. Gentili and M. Salazar-Palma. "The Definition and Computation of Modal Characteristic Impedance in Quasi-TEM Coupled Transmission Lines." 1995 Transactions on Microwave Theory and Techniques 43.2 (Feb. 1995 [T-MTT]): 338-343.

The quasi-TEM analysis of systems of lossless coupled transmission lines in an inhomogeneous medium is reviewed. Starting from the generalized telegrapher's equations, the characteristic impedance of the normal modes is defined and computed according to the three usual definitions for the single-line case: power-current, power-voltage and voltage-current. Unlike the quasi-TEM single-line case, it is shown that the three definitions lead in general to different modal characteristic impedance values. Theoretical results are then confirmed by some numerical examples on two and three coupled-lines systems.

❑ Return to main document.