Abstracts

Calibration procedures with series impedances and unknown lines simplify on-wafer measurements

H. Heuermann. "Calibration procedures with series impedances and unknown lines simplify on-wafer measurements." 1999 Transactions on Microwave Theory and Techniques 47.1 (Jan. 1999 [T-MTT]): 1-5.

Procedures to calibrate network analyzers using unknown calibration lines and series impedances are presented. These LZY and LZN self-calibration procedures are specifically suited for measurements on planar and integrated circuits. By means of the self-calibration algorithm, the propagation constant of the line standards and the quantities of the reflection standards Y and N are determined. The LZN procedure requires three two-port standards, whereas the LZY procedure deals with two standards only. The fact that it is neither necessary nor advisable to know all standards completely allows the realization of the planar calibration standards in an easy way. Both self-calibration procedures according to the seven-term model are based on closed mathematical solutions so that the accuracies are good, as demonstrated by measurement results.

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