Abstracts

Accuracy estimation of mixed-mode scattering parameter measurements

D.E. Bockelman, W.R. Eisenstadt and R. Stengel. "Accuracy estimation of mixed-mode scattering parameter measurements." 1999 Transactions on Microwave Theory and Techniques 47.1 (Jan. 1999 [T-MTT]): 102-105.

The pure-mode vector network analyzer (PMVNA) provides direct measurement of differential circuits. Residual error models are derived for the PMVNA and a traditional four-port vector network analyzer (FPVNA). The residual error models are used to calculate the maximum and root-mean-square uncertainties in measurements of mixed-mode scattering parameters of a typical differential amplifier. The uncertainties produced by the PMVNA are compared to the transformed mixed-mode S-parameters of the FPVNA. The PMVNA is shown to have lower uncertainty when measuring differential devices.

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