Abstracts

Accuracy evaluation of on-wafer load-pull measurements

A. Ferrero, V. Teppati and A. Carullo. "Accuracy evaluation of on-wafer load-pull measurements." 2001 Transactions on Microwave Theory and Techniques 49.1 (Jan. 2001 [T-MTT] (Mini-Special Issue on 2000 Radio-Frequency Integrated Circuits (RFIC) Conference and Automatic Radio Frequency Techniques Group (ARFTG) Meeting)): 39-43.

This paper investigates the residual calibration uncertainty effects in on-wafer load-pull measurements. After the systematic error correction (based on a traditional error-box model) has been applied, the residual uncertainty on absolute-power-level measurements can dramatically affect the accuracy of typical nonlinear parameters such as gain and power-added efficiency under different load conditions. The main residual uncertainty contributions are highlighted both by a theoretical analysis and experiments. Finally, one of the possible causes for intermodulation-distortion measurement errors is shown.

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