Abstracts

A Novel, Accurate Load-Pull Setup Allowing the Characterization of Highly Mismatched Power Transistors

P. Bouysse, J.-M. Nebus, J.-M. Coupat and J.-P. Villotte. "A Novel, Accurate Load-Pull Setup Allowing the Characterization of Highly Mismatched Power Transistors." 1994 Transactions on Microwave Theory and Techniques 42.2 (Feb. 1994 [T-MTT]): 327-332.

The measurement of highly mismatched power transistors has always been a difficult problem. A novel, active load-pull technique providing an attractive solution is proposed in this paper. It consists of using suitable mismatched sources to drive the device under test. By using the proposed measurement setup, an electronic simulation of highly reflective loads very close to the edge of the Smith chart can be achieved (reflection coefficients larger than 0.9). Furthermore, the magnitude and phase of the reflected power waves at the output of the transistor under test are accurately controlled so as not to damage the component. Some examples of load contour mappings are given. They demonstrate the promising capabilities offered by this improved large signal measurement tool.

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