Abstracts

Simultaneous AM-AM/AM-PM Distortion Measurements of Microwave Transistors Using Active Load-Pull and Six-Port Techniques

F.M. Ghannouchi, G. Zhao and F. Beauregard. "Simultaneous AM-AM/AM-PM Distortion Measurements of Microwave Transistors Using Active Load-Pull and Six-Port Techniques." 1995 Transactions on Microwave Theory and Techniques 43.7 (Jul. 1995, Part I [T-MTT]): 1584-1588.

A programmable active load-pull measurement system using two six-port reflectometers and three passive two-port standards has been developed to obtain load-pull contours of the transistor's input-output phase shift variations over a wide dynamic range of the input power. The output power, gain, power-added efficiency, and phase shift are measured simultaneously at the transistor's input and output reference planes. The phase distortion versus input power, Phi ~ P/sub in/, and the AM-PM conversion coefficient at various power levels, k ~ P/sub in/, are obtained for different load impedances by post-measurement calculations. A NE8001 MESFET is tested at f = 1.7 GHz for the class A operation. The experimental results are also given.

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