

Abstracts

Two-tone IMD asymmetry in microwave power amplifiers

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This paper presents the first study of the relation between the IMD asymmetries, often observed in almost all power amplifiers subject to a two-tone test, and the nonlinear characteristics of their active devices. First, the reasons for the different amplitudes of the two adjacent tones are investigated using a general circuit with frequency dependent embedding impedances, and resistive and reactive nonlinearities. Those theoretical conclusions are then extrapolated for real circuits, and validated by comparing results obtained from nonlinear simulation to laboratory measurements of a microwave power amplifier.

[Return to main document.](#)