Abstracts

Yield Optimization of Nonlinear Circuits with Statistically Characterized Devices

A comprehensive treatment of yield optimization of nonlinear microwave circuits with statistically characterized devices is proposed. We fully exploit advanced techniques of one-sided $l/sub\ 1/$ circuit centering with gradient approximations, and efficient harmonic balance simulation with exact Jacobians. Multidimensional statistical distributions of the intrinsic and parasitic parameters of FETs are fully handled. Yield is driven from 25% to 61% for a frequency doubler design having 34 statistically toleranced parameters. Yield of a small-signal amplifier is increased from 36% to 68%.

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