Abstracts

A Statistical Load Pull for Mixer Design Using a Commercial Circuit Simulator

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This paper proposes a new approach allowing to simplify the design of mixers. As for power amplifiers, the aim of the developed load pull is to determine once for all the best parameters (loads, bias, LO pump signal...) which make a nonlinear device, used as mixing component, produce low conversion loss (or other fixtures). Knowing these data, mixers can be mainly designed using a linear approach. The method takes into account the loads at the spurious frequencies and leads to mixers which are less sensitive to these usually uncontrolled loads. It also allows to check this sensitivity. The statistical load pull has been successfully applied to the optimization of a quad of cold HEMT.

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