Abstracts

Resistive FET mixer conversion loss and IMD optimization by selective drain bias

J.A. Garcia, J.C. Pedro, M.L. de la Fuente, N.B. Carvalho, A. Mediavilla and A. Tazon. "Resistive FET mixer conversion loss and IMD optimization by selective drain bias." 1999 MTT-S International Microwave Symposium Digest 99.2 (1999 Vol. II [MWSYM]): 803-806 vol.2.

This paper describes a dedicated nonlinear MESFET model extraction technique, which was used to accurately characterize the device's channel resistance nonlinearity. Plotting Ids(Vgs,Vds) Taylor series expansion coefficients across V/sub GS/ and V/sub DS/ revealed not only the presence of important minimum conversion loss bias, but also of in-band IMD sweet spots that were then used to optimize a FET resistive mixer performance.

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