Abstracts

Effect of bias scheme on intermodulation distortion and its use for the design of PCS Tx driver

Jin-Su Ko, Hyun-Seok Kim, Beom-Kyu Ko, Bonkee Kim and Byeong-Ha Park. "Effect of bias scheme on intermodulation distortion and its use for the design of PCS Tx driver." 2000 Radio Frequency Integrated Circuits (RFIC) Symposium 00. (2000 [RFIC]): 105-108.

Several kinds of biasing circuits for high linearity driver are analyzed and compared using Volterra series analysis. Theoretical analysis and nonlinear simulation of a one-stage RFIC amplifier indicate about 10 dB dependence of the IP3 parameter on the biasing scheme being used. Based upon the analysis, transistor current source with inductor is used for biasing circuit for PCS Tx driver amplifier requiring both higher IP3 and lower power consumption. The design has a power gain of 0/spl sim/25.5 dB, output IP3 of 22 dBm, and current consumption of 24 mA.

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