Abstracts

Analysis and design of feedforward power amplifier

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A linear power amplifier is particularly emphasized on the system using a linear modulation scheme, because intermodulation distortion which causes adjacent channel interference and co-channel interference is mostly generated in a nonlinear power amplifier. In this paper, parameters of a linearization loop, such as an amplitude imbalance, a phase imbalance and a delay mismatch, are fully analyzed to get a specific cancellation performance and linearization bandwidth. Experimental results are presented for Korea PCS frequency band. The center frequency of the feedforward amplifier is 1.855 GHz with 30 MHz bandwidth. The cancellation performance of the first linearization loop is more than 40 dB and intermodulation cancellation performance of feedforward amplifier is more than 35 dB.

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