

The potential gain of employing receiver side techniques for mitigating the impact of nonlinear power amplifiers is studied and compared to transmitter side techniques. Receiver side techniques are referred to as Digital Post-Distortion (DPoD). A new DPoD iterative detection scheme, referred to as Reconstruction Of Distorted Signals (RODS), is presented. RODS does not attempt to cancel the nonlinear distortion. Rather, it employs the nonlinear components of the received signal to improve detection assuming that the nonlinear model of the power amplifier is known at the receiver. Analytical expressions for the achievable SINR are presented. The advantages of the proposed technique are demonstrated via simulations.