Abstracts

Efficient baseband/RF feedforward linearizer through a mirror power amplifier using software-defined radio and quadrature digital up-conversion

E.G. Jeckeln, F.M. Ghannouchi, M. Sawan and F. Beauregard. "Efficient baseband/RF feedforward linearizer through a mirror power amplifier using software-defined radio and quadrature digital up-conversion." 2001 MTT-S International Microwave Symposium Digest 01.2 (2001 Vol. II [MWSYM]): 789-792 vol.2.

This paper describes an efficient feedforward linearizer suitable for base station 3G power amplifiers based on and using both software-defined radio and quadrature digital up-conversion technologies. The linearizer accomplishes the extraction of the PA complex nonlinear behavior in real time and performs a numerical quasi-perfect carrier's cancellation that allows the reduction of the power rating of the error amplifier (EA) and eliminates the requirement for any output delay line. This enhances the overall power efficiency of the feedforward amplifier. The entire system is validated using DSP/RF co-simulation for the LDMOS model of a typical 44 dBm class AB power amplifier (PA/sub AB/) as the main amplifier.

❑ Return to main document.