Abstracts

Adaptive baseband/RF predistorter for power amplifiers through instantaneous AM-AM and AM-PM characterization using digital receivers

E.G. Jeckeln, F. Beauregard, M.A. Sawan and F.M. Ghannouchi. "Adaptive baseband/RF predistorter for power amplifiers through instantaneous AM-AM and AM-PM characterization using digital receivers." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 489-492.

This paper presents a powerful adaptive based band/RF predistorter, which uses advantageously the concept of digital receiver technology into power amplifier (PA) linearization area. The linearizer performs an instantaneous characterization of the PA using two digital receivers to supply its AM-AM and AM-PM transfer functions. W-CDMA signals applying different stress levels on PA are used to evaluate the performance of the predistorter. The entire system is validated using DSP/RF co-simulation for a typical class AB power amplifier. Results from different cases of standards signals reveal a significant reduction in effective output power back off (OBO).

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