

## **An improvement method for reducing power amplifiers memory effects based on complex gain predistortion**

### **ABSTRACT**

Efficient RF power amplifiers used in third generation systems require linearization in order to reduce adjacent channel inter-modulation distortion, without sacrificing efficiency. Digital baseband predistortion is a highly cost-effective way to linearize power amplifiers (PAs), but most existing architectures assume that the PA has a memoryless nonlinearity. For wider bandwidth applications such as wideband code-division multiple access (WCDMA) or wideband orthogonal frequency-division multiplexing (W-OFDM), PA memory effects can no longer be ignored. In this paper we proposed a technique for adaptation of digital predistorter that considers memory effects in power amplifiers.

**Keyword:** ACPR; CDMA; Digital predistortion; Memory effect; Power amplifier