

“A new adaptive baseband digital predistortion technique”, pp.154-159

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Abstract – This paper presents a new method intended to linearize power amplifiers with memory by adaptive baseband predistortion. This method is based on Hammerstein temporal model for the amplifier. Experimental results show that this technique can greatly attenuate intermodulation products and harmonic components due to power amplifier distortions. After 9 predistortion loops, C/13 ratio is improved by 20 dB and C/15 by 10 dB. For a modulated signal, this technique can reduce significantly spectral regrowth. After 5 predistortion loops, ACPR is ameliorated by 10 dB in the adjacent channel and by 8 dB in the alternate one.