Abstracts

Nonlinear effects of power amplification on multicarrier spread spectrum systems

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We present a study of the distortion caused by power amplifiers driven by multicarrier spread-spectrum (MCSS) signals. The details of a time-domain technique for nonlinear amplifier characterization are presented as an alternative to the conventional, network analyzer methods. The bandpass nonlinear model and the associated AM-AM and AM-PM transfer characteristics are employed in order to predict the spectral regrowth as a function of the spreading gain. The predictions differ by approximately 2 dB from the measured results.

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