

Abstracts

The estimation of Volterra transfer functions with applications to RF power amplifier behavior evaluation for CDMA digital communication

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This work describes the estimation of Volterra transfer functions up to fifth-order using passband CDMA excitation. We also present an analysis of the nonlinear performance of a power amplifier and its output power spectrum when excited by a CDMA signal, based on the Volterra descriptions. Finally, the method is validated by comparison between measured results and the predicted nonlinear transfer characteristics of an RF power amplifier. The techniques described are believed to be useful for component and system engineers designing power components while taking into consideration aspects such as adjacent channel interference.

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