

Design and Realization of a Digital Predistorter for a Power Amplifier

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Abstract

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Chapter 1

Introduction

1.1 Why Digital Predistortion?

Power amplifiers are used in almost all wireless communication devices. They amplify the communication signal such that a good signal to noise ratio is obtained. They also are an important power consuming block in a communication chain. A power amplifier is often operated in a nonlinear operation mode to improve its efficiency. This nonlinear behavior should be compensated in a later step to reach the strict telecommunication requirements. A Digital Pre-Distortion (DPD) is a common technique to linearize the input-output behavior of a power amplifier. With DPD the input signal of the amplifier is modified such that the desired (i.e. linear) behavior is obtained.

1.2 Current Techniques of DPD

1.3 Using ILC for DPD

Chapter 2

Compensating with ILC using the BLA

Chapter 3

Estimating the DPD

Chapter 4

Results

Bibliography

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