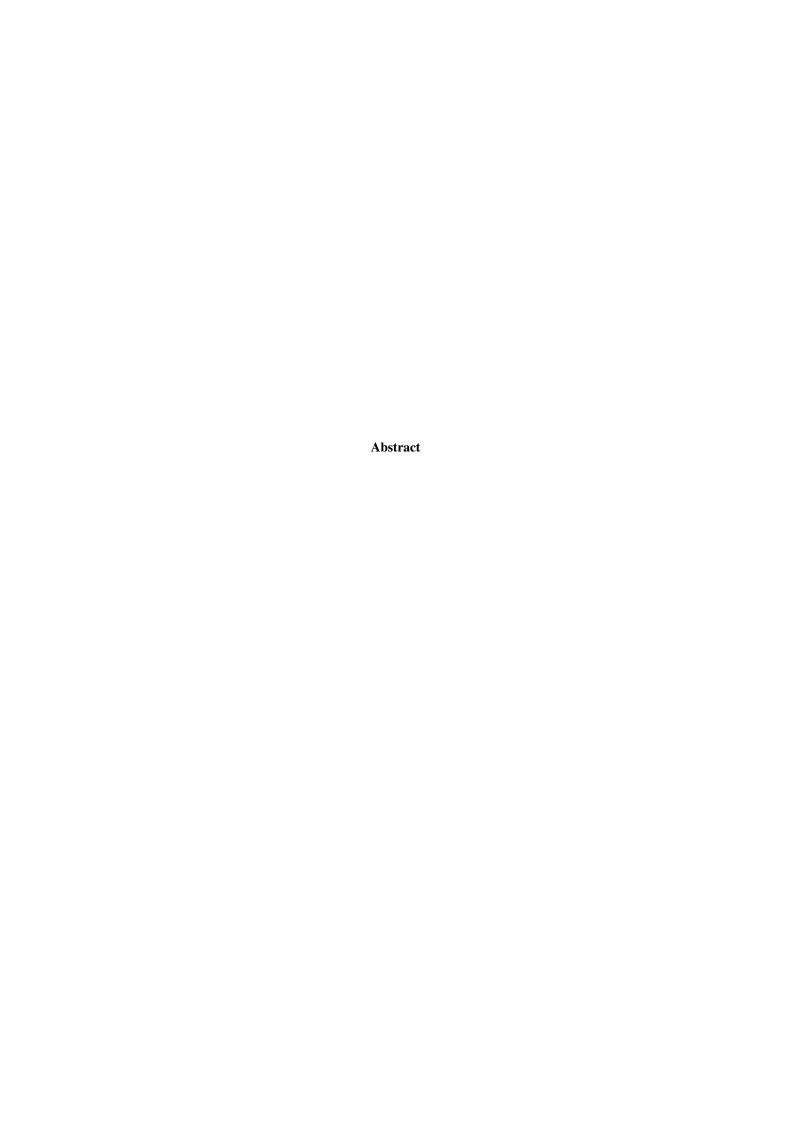
Design and Realization of a Digital Predistorter for a Power Amplifier

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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

Bibliography

[1] J. Schoukens, R. Pintelon, Y. Rolain , *Mastering System Identification in 100 Exercises*. IEEE Press (2012), 183-238.