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#### Project documentation

Electronics design and built Master of Science (Eng.)

handed in by

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#### Statutory declaration

I herewith formally declare that I have written the submitted dissertation independently. I did not use any outside support except for the quoted literature and other sources mentioned in the paper. I clearly marked and separately listed all of the literature and all of the other sources which I employed when producing this academic work, either literally or in content. I am aware that the violation of this regulation will lead to failure of the thesis.

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#### Note of thanks

We would like to thank our supervisors for the contribution and paitence, to teach us the skilles we will show in this document.

## Summary / Abstract

Abstract

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#### 1 Introduction

#### 1.1 Project Background



Abbildung 1.1: Star Wars Logo

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This is a reference to the Picture 1.1 above.

In this part the project all given circumstances are explained. As well, the project budget, a time plan and the risk management is provided. At last the Specifications of the product are discribed and the accept test specifications are defined.

- 1.2 Project formulation
- 1.3 Time managemnet
- 1.4 Risk management
- 1.5 Budget Calculation
- 1.6 Product specifications

#### 1.7 Test setup

Short descriptions of how the tests should look like. For more details look into the test chapter.

## 2 Basic theory

This chapter needs to be filled with all necessacy theory, which is needed to understand the calculations and the design.

- 2.1 Buck converter
- 2.2 Boost converter
- 2.3 Buck/Boost converter

## 3 Desgin layout

- 3.1 Block design layout
- 3.2 Safty management
- 3.3 Risk analysis

### 4 Calculations

- 4.1 Design calculations
- 4.2 Circuit calculations
- 4.3 Thermal calculations

## 5 Test

- 5.1 Components tests
- 5.2 Circuit tests
- 5.3 Case tests

## 6 Discussion

- 6.1 Overcurrent
- **6.2** Overtemperature
- 6.3 Efficency

### Literaturverzeichnis