

Laboratory internship

Cooperation with the Augsburg University

For several years now, we have been organising a laboratory internship for students at Augsburg University of Applied Sciences. This is linked to the power electronics lesson with Prof. Reddig. Due to the integration in the curriculum and the word-of-mouth propaganda of previous students who have already completed the lab internship with us, there was great interest in the limited places.



In order to successfully pass the internship, a final presentation in the presence of the professor is required in addition to the documentation of the results. This presentation may last a maximum of 20 minutes and consist of a maximum of five PowerPoint slides. At the end, there will be time for questions and discussions.

The content of the presentation must include the approach, the results, the teamwork and the learnings.

Leisure time fun is also not missed out on during this internship. We always come up with a varied evening programme where we definitely don't go to bed hungry.

Power Modul

This topic was also prepared on the basis of self-study. This was repeated and discussed in the group. In order to bring all participants up to the same level of knowledge, the team first obtained an overview of the basics of a DC/DC converter.

- Buck Converter principal function
- Control loop (Constant On Time/Current Mode)



There are two different topics that students are free to choose in advance for the laboratory internship.

Wireless Power

The first challenge was to get an overview of the existing standards. Which electrical data are necessary for the characterisation of the required passive components. Then the wireless power coils were measured with the help of a network analyser, ammeter and LCR meter.

Set-up and testing activities

- Receiver board (bridge rectifier)
- Figure with receiver circuit and diodes + lightsaber as load
- Transmitter
- Efficiency measurement

Afterwards, the knowledge gained was put into practice. Measurements were taken on the Reference Design Mag1³C Power Supply.

- Different input voltages
- Different output voltages

Like the measurement of the residual ripple

- Influence of the size of the capacity.

