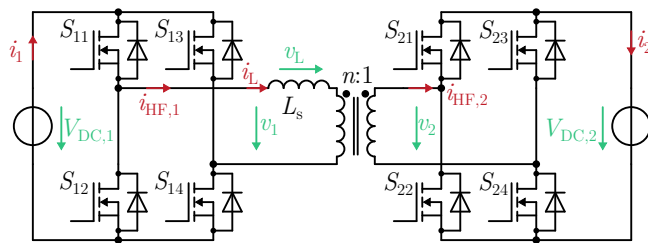


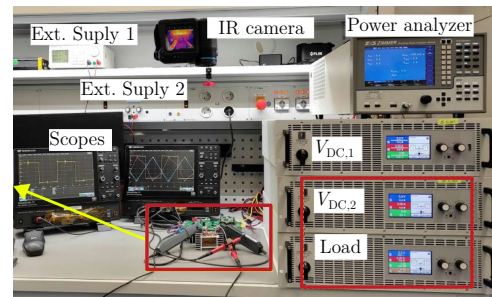
Master Thesis:

Development of a High-Efficiency Small-Volume Dual-Active Bridge Converter

The goal of this master's thesis is to design a dual-active-bridge (DAB) converter with the smallest possible volume and low losses, using state-of-the-art practical design processes. The major challenge here is to map the multidimensional design space onto a performance space defined by the two target parameters—volume and losses—in order to subsequently develop the final design. The calculated results will be verified experimentally in a hardware setup.



(a) DAB converter.



(b) DAB converter lab measurement setup.

Figure 1: Lab measurement setup to measure the DAB converter's efficiency.

Tasks

- Independent, research-based work in accordance with a self-developed schedule
- Literature review on current, practical design processes for a DAB converter
- Calculation and design of the converter
- Creation of a schematic diagram and layout
- Measurement-based validation of the previously calculated

Your Benefits

- Going through a complete development process in power electronics
- Hands-on experience gained through setting up hardware and conducting measurements

Contact

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