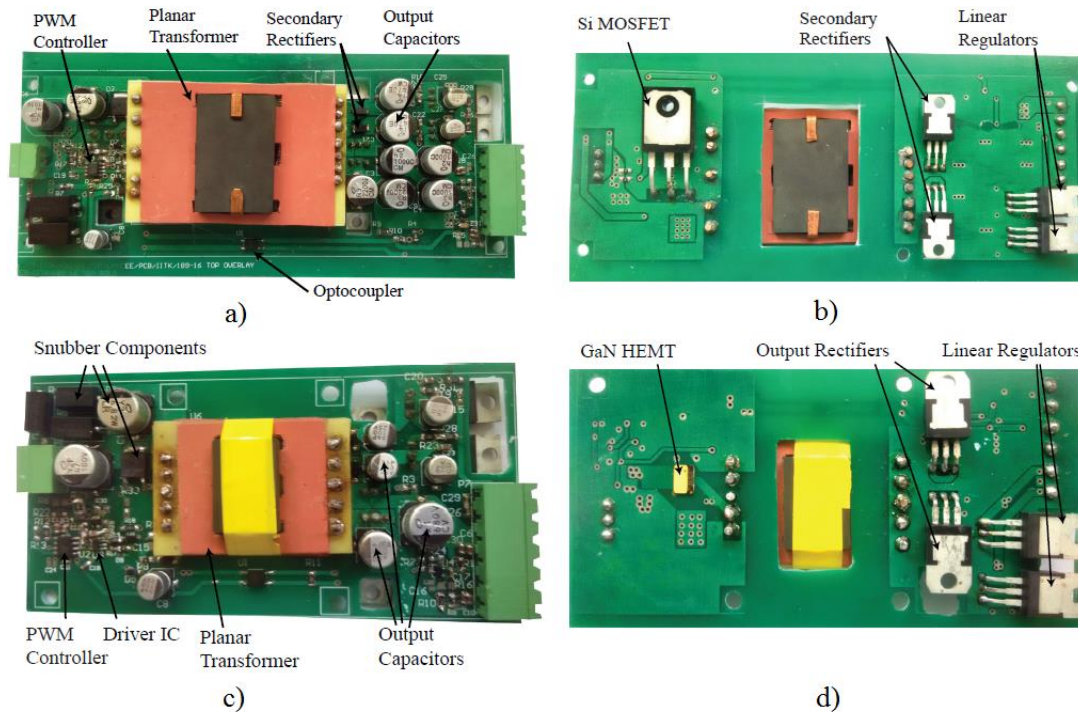


“Design and Development of GaN based Compact DC-DC Converter”

(Space Technology Cell, Indian Space Research Organization (ISRO) and IIT-Kanpur)



Aim of this project is to determine the viability of GaN HEMT for dc-dc converter applications for space, military and aircraft applications. There is a need to generate multiple low voltages for different electronics. This project intends to utilize GaN HEMT for this application. The project involves study, design, simulation and prototype development of dc-dc converter.

Different activities are involved in this project which require knowledge of dc-dc converter design, simulation, device modeling, characterization and prototype development. To achieve these objectives, a diverse group of researchers having expertise in both power electronics and microelectronics will be involved in this project. This team would have cumulative in-depth knowledge of various related topics.

Objectives:

- Analyze the benefits of GaN based devices for dc-dc converter
- Simulation studies to evaluate the performance and viability of these devices for dc-dc converter
- Design and Development of laboratory prototype of GaN based dc-dc converter