

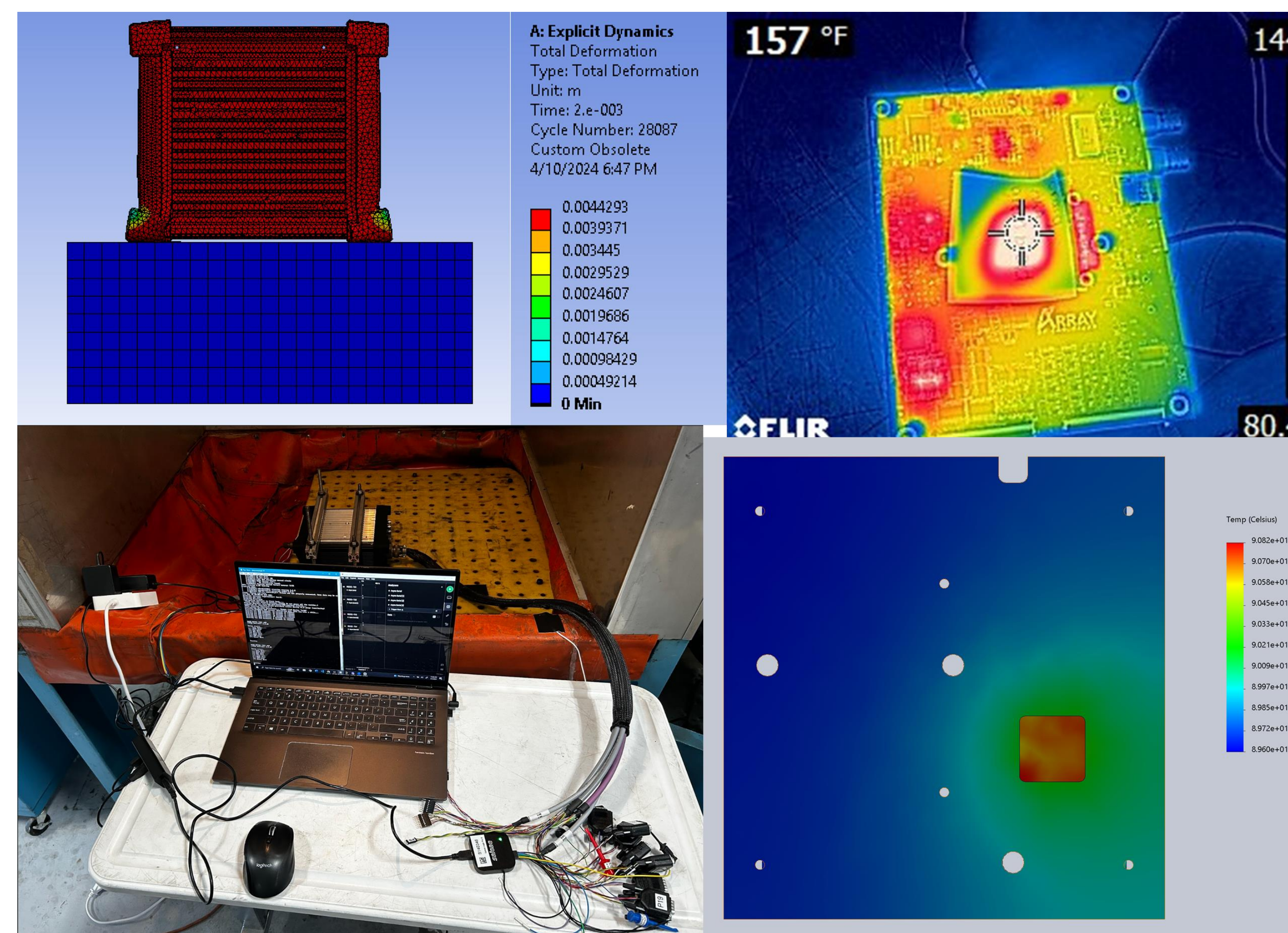
## Executive Summary

The purpose of this project was to investigate, debug, and develop a comprehensive test plan for the electronic hardware and firmware of the ATC Lite. This included completing a discovery phase, presenting proposed tests and testing methods, assessing and debugging the hardware for functionality, evaluating firmware, and developing remaining features while integrating hardware and software. Additionally, the project aimed to evaluate thermal, shock, and vibration limits through mechanical engineering assessment.



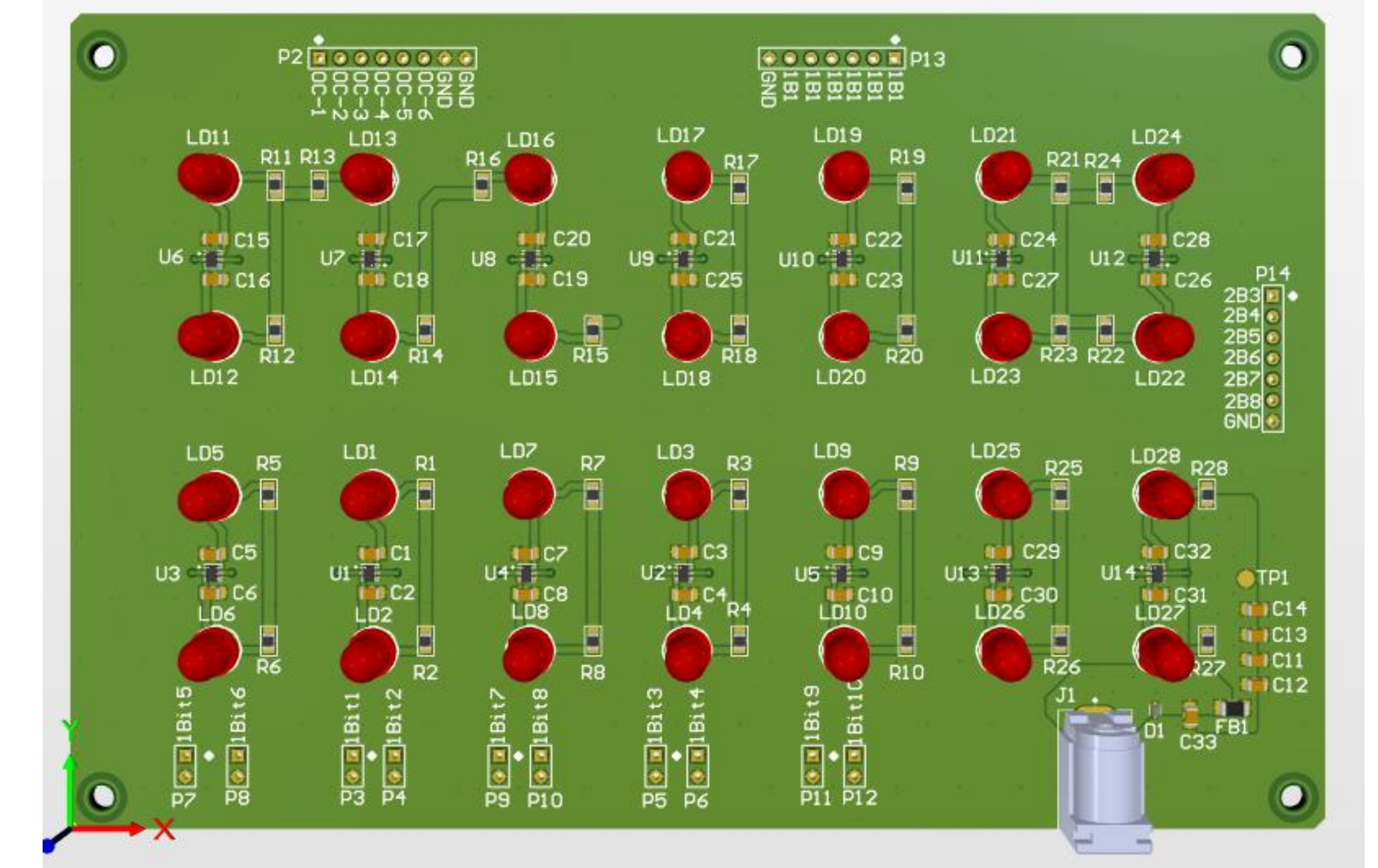
## Mechanical Testing

Simulations were run for thermal testing and shock testing. Vibration, thermal and shock testing were also physically conducted to ISO 16750-3 standard.



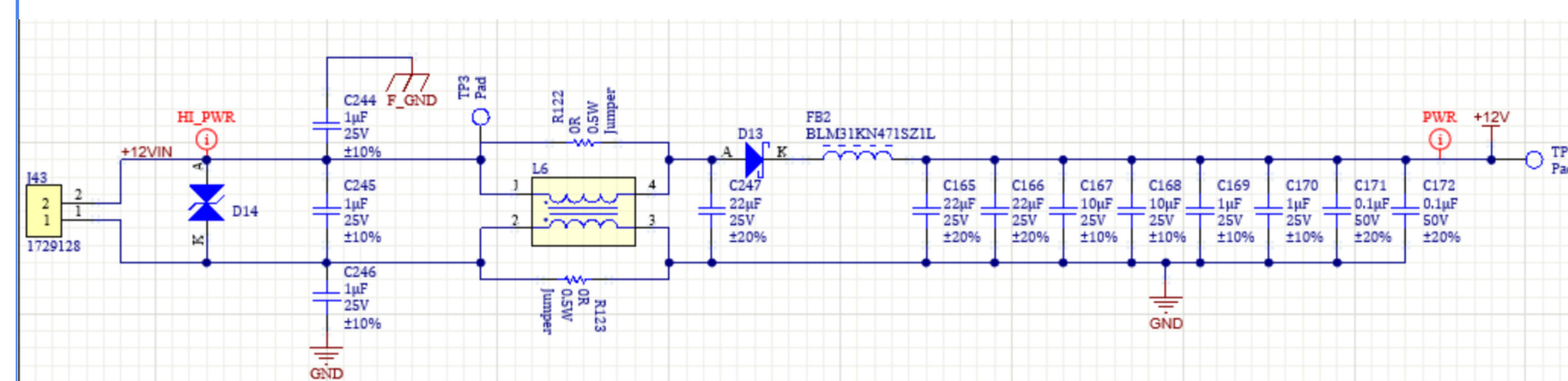
## Electrical and Logical Testing

The focus of this project iteration was to provide all the necessary information and hardware to conduct verification testing of the product. This included the development of a GPIO load box for monitoring the GPIO signals external to the unit itself during EMC/EMI testing. The PCB that was developed as part of this load box is shown below.



## Schematic Changes

A new revision of the PCB was created and adjustments were made to existing circuits to decrease noise and decrease the product's susceptibility to electromagnetic emissions.



Additionally, the DAC circuit that was incorrect in revision 1 was updated and verified.

