

# **DOPEs (DIAGNOSTICS OF POWER ELECTRONIC SYSTEMS) PROJECT**

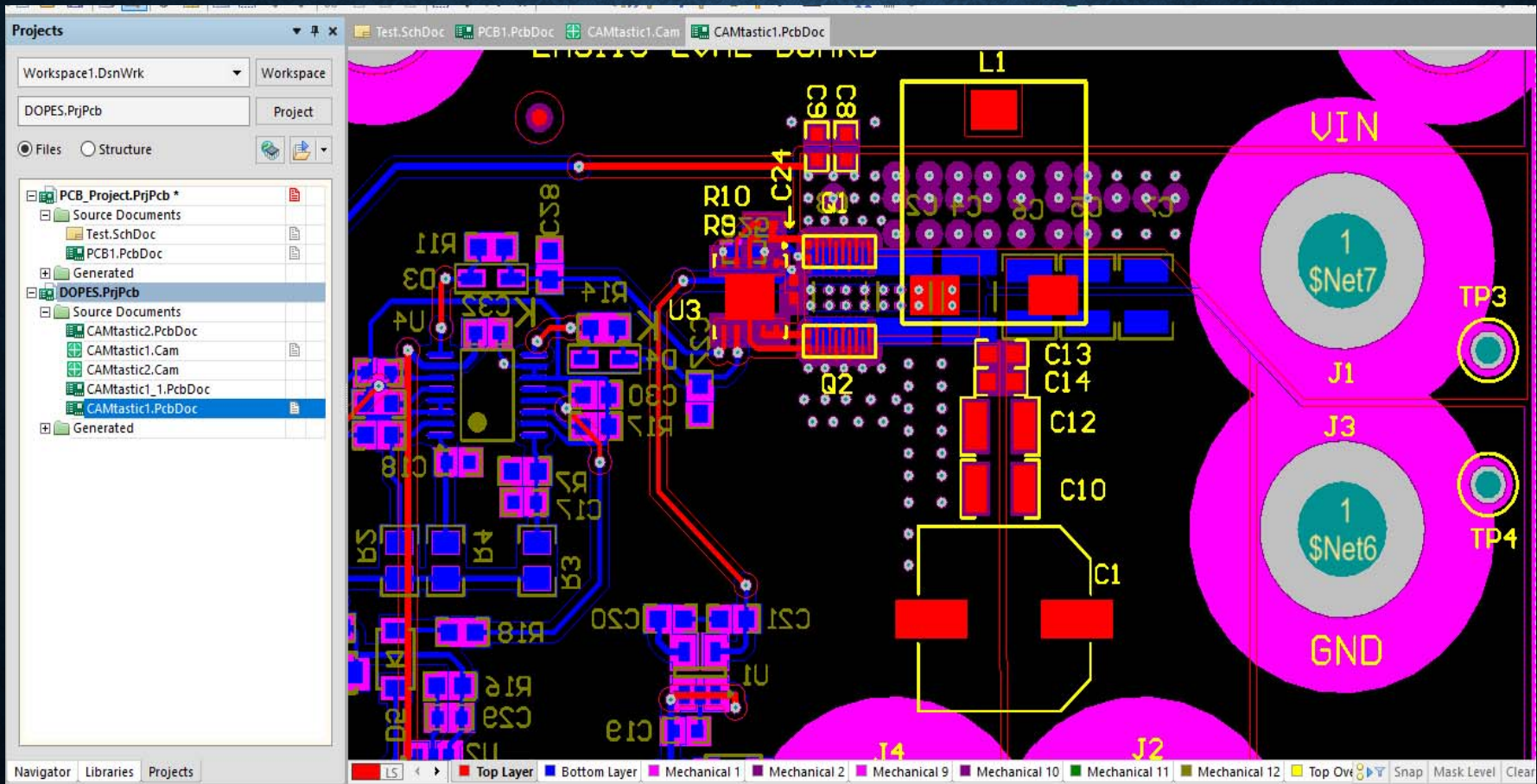
Progress Report 4

Shamar Christian

# MILESTONE SUMMARY

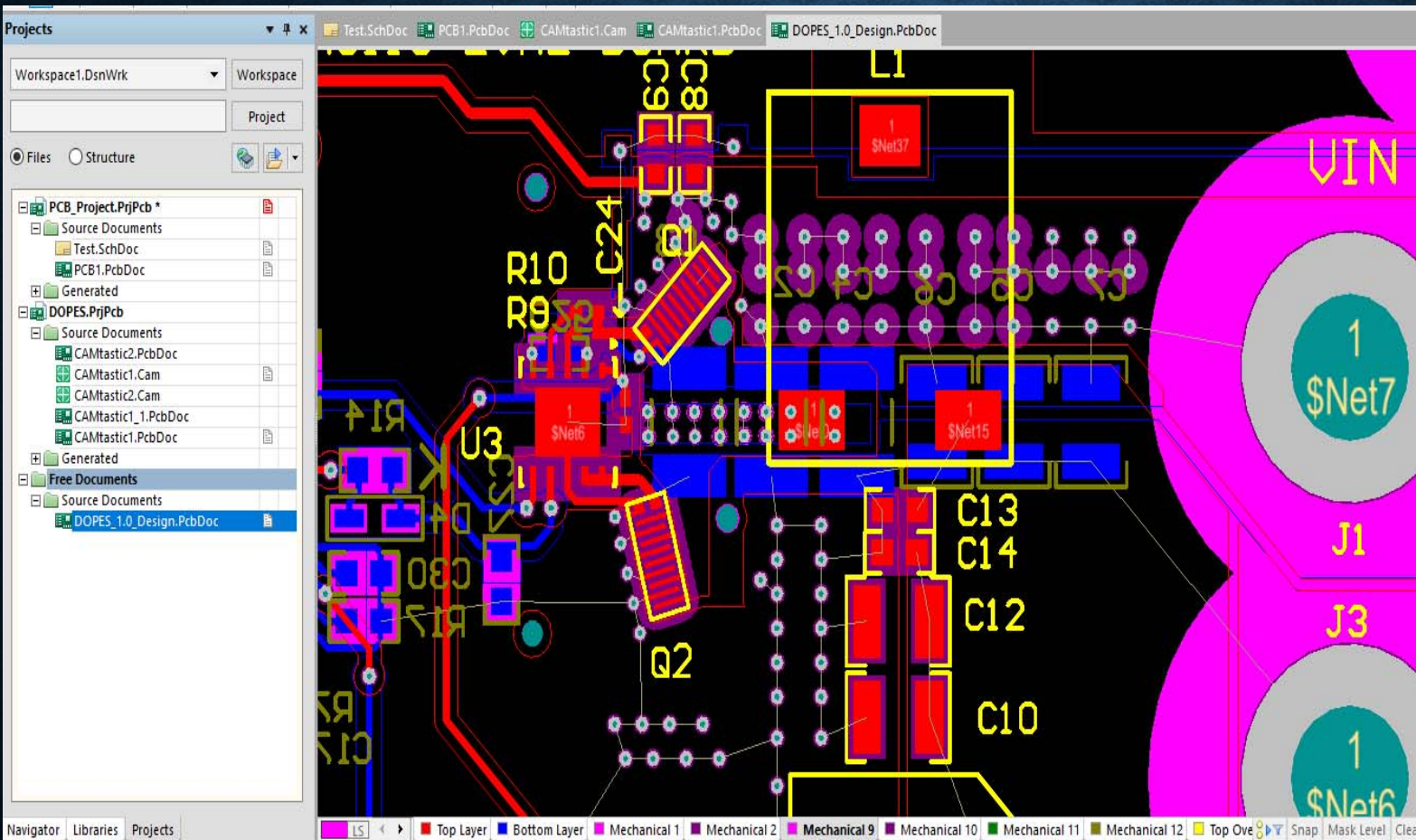
Month	Deliverable	Responsibility	Update
March	Version 3 of PCB (Physical)	Shamar Christian	Awaiting delivery of PCB's
April	Voltage Regulator	Shamar Christian	Design complete, simulation to be verified and implemented

# ORIGINAL DESIGN

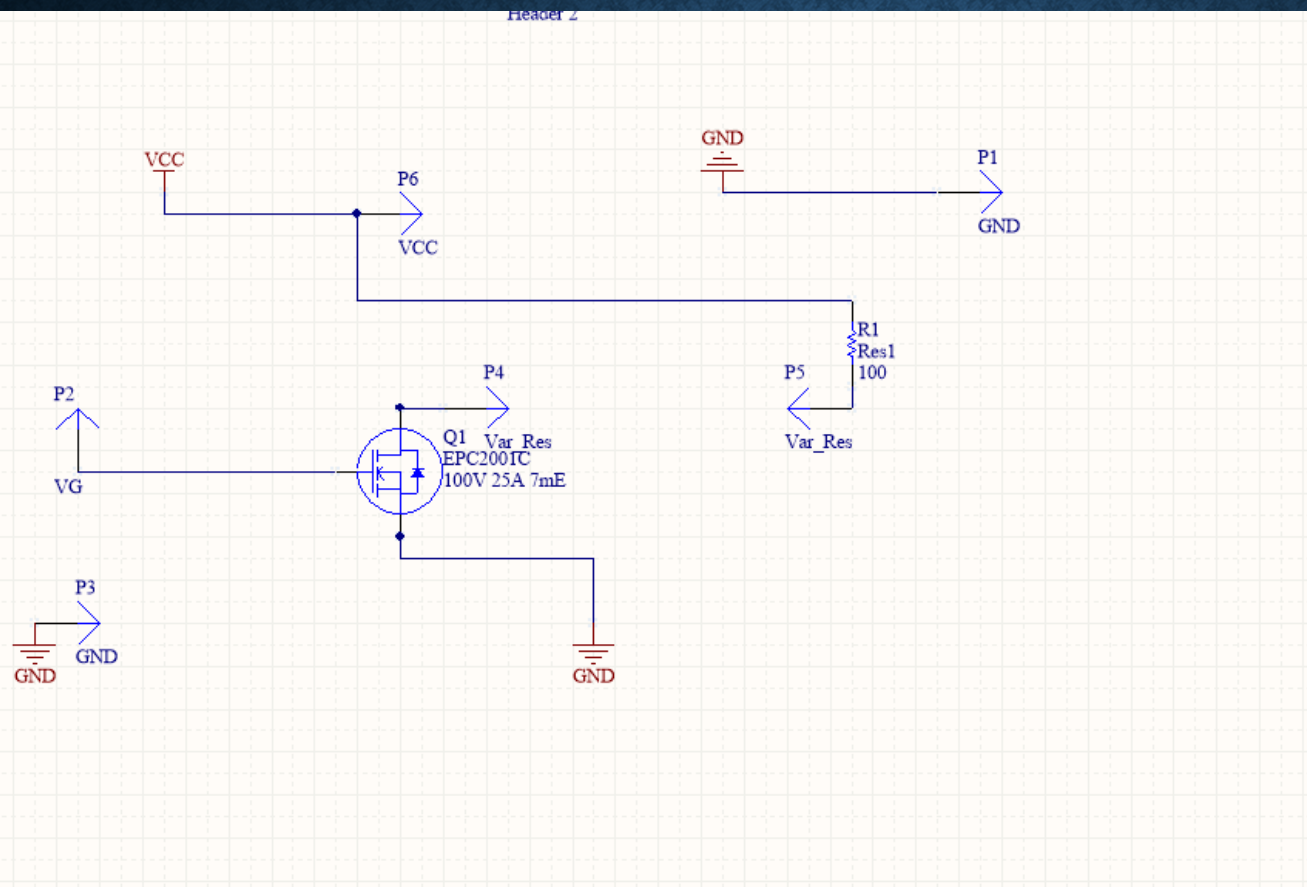


# PREVIOUS DESIGN SOLUTION

- Modified transistor placement
- Capacity for sensor self mount

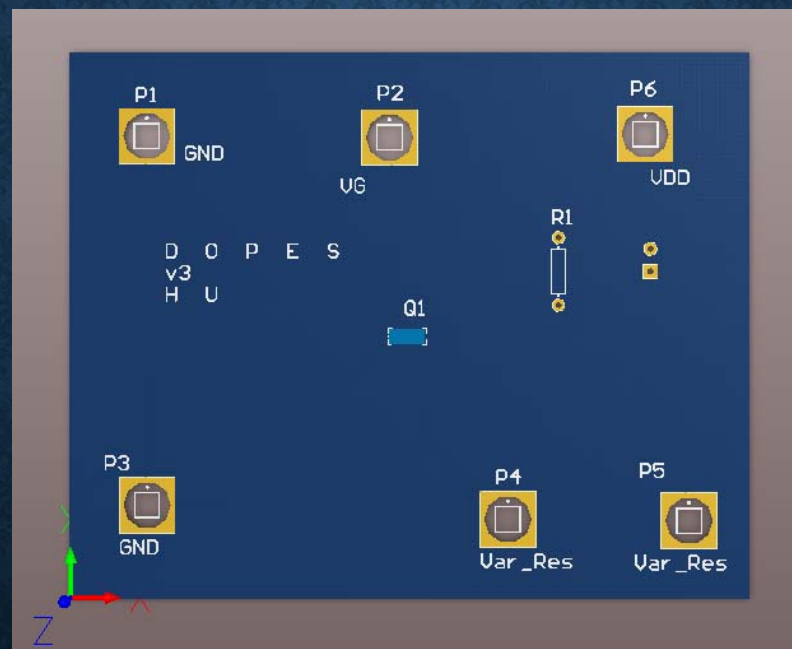


# SCHEMATIC FOR DESIGN

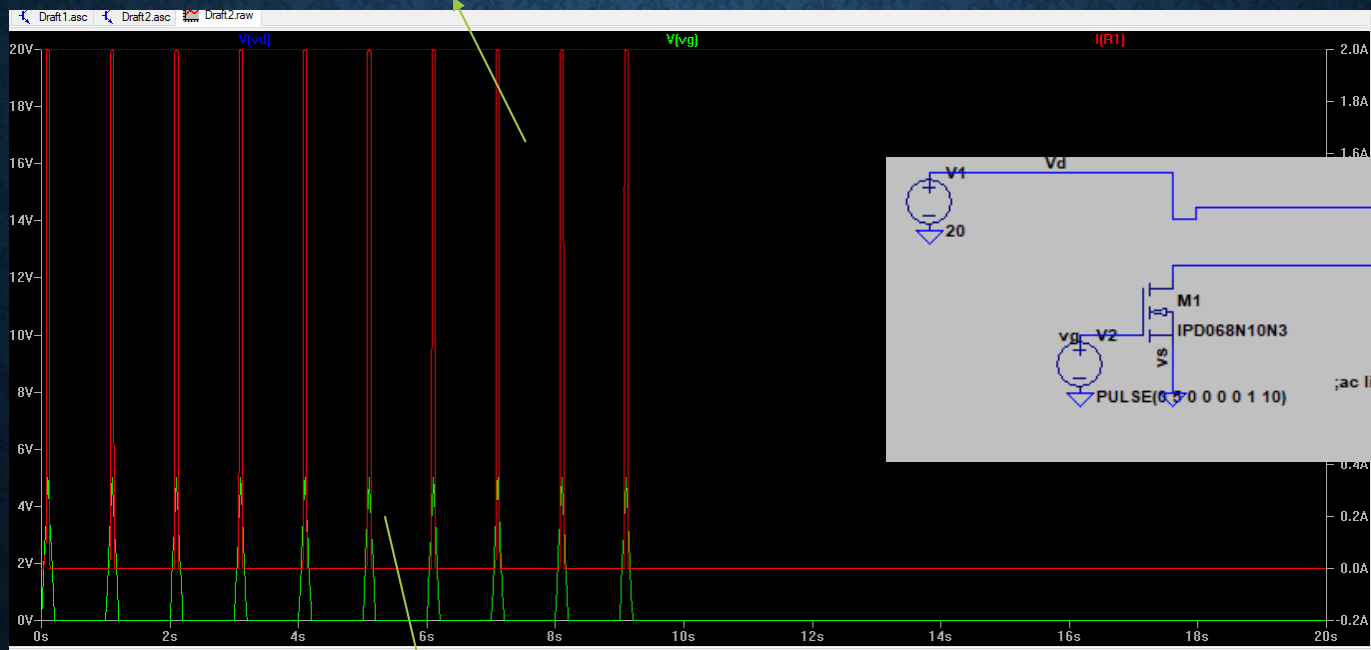


- Acquisition of EPC2001 model
- Free form layout for customization

# ACTUAL IMPLEMENTATION (REAL WORLD VIEW)

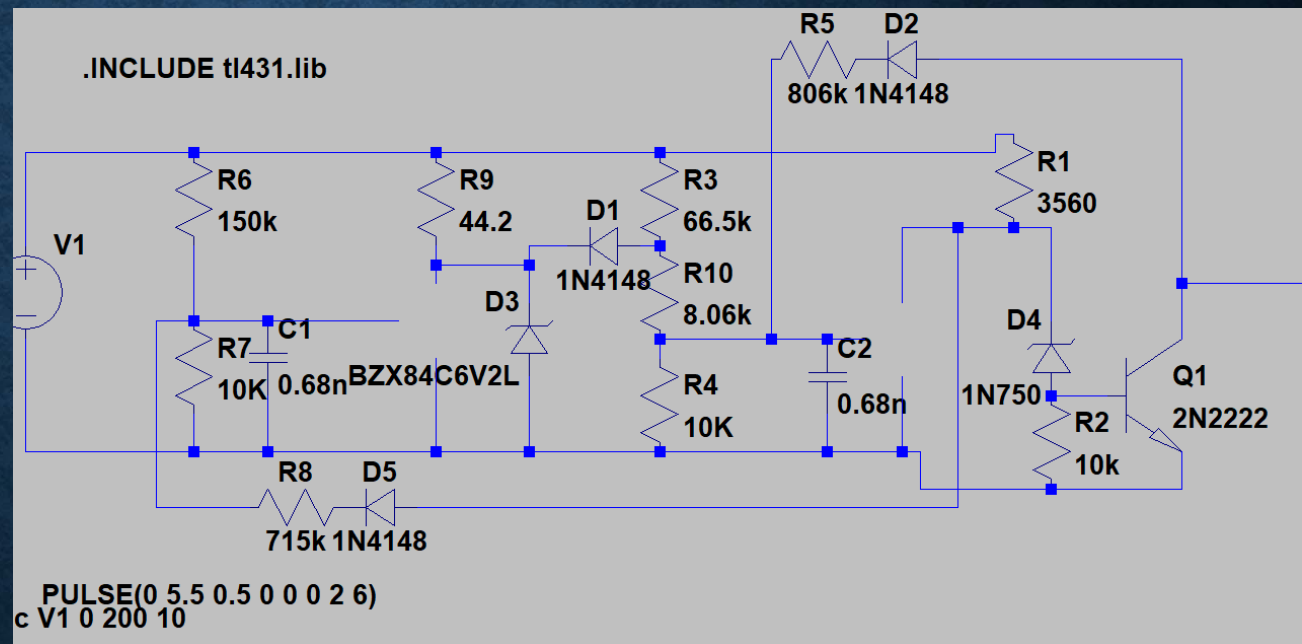


# SIMULATION AND VERIFICATION



# VOLTAGE REGULATION

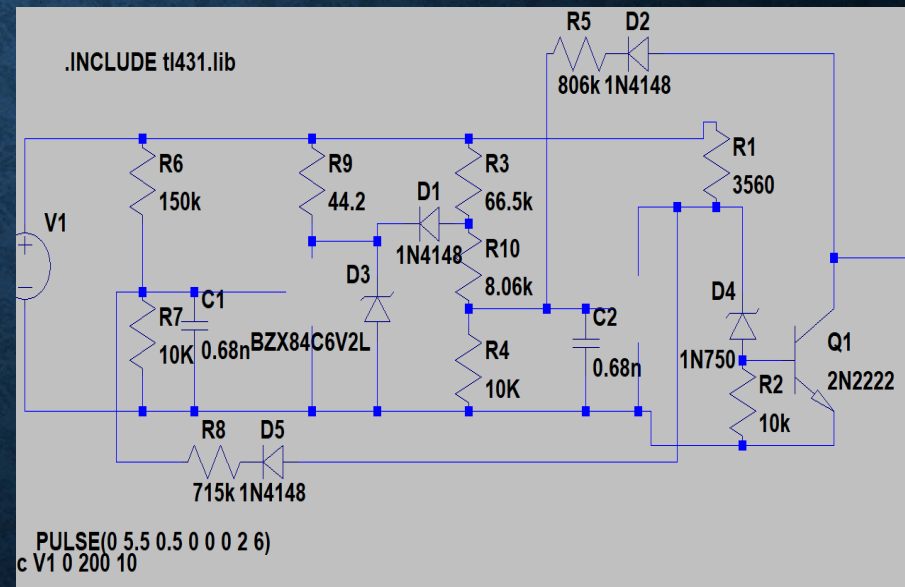
- Protection of components
- Precision





# DESIGN CONSIDERATIONS

- Bias Supply voltage range (4.5-5.5V)
- Hysteresis functions



# ACTIVITY SUMMARY

## Highlights

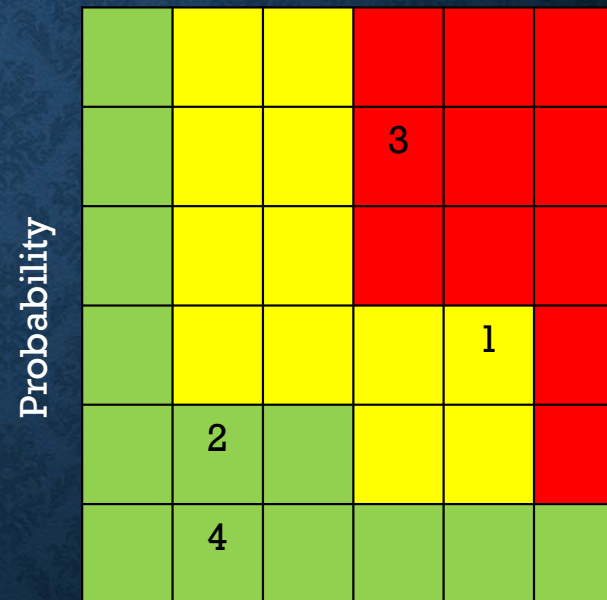
- Completed simplified circuit redesign to produce same results
- Budgetary responsibility
- Design simulated to ensure integrity
- Design completed for v4 possibly

## Lowlights

- Simulation Precision
- Time taken for PCB to arrive

# RISK MANAGEMENT

Rank	Risk	Approach
1	Voltage Regulator Malfunction	Develop Alternatives/Look for existing ones
2	Altered Circuit functionality	Simulate and modify design
3	Time for implementing newer design	Implement previous design but take precaution
4	Low accuracy data yield	Modify Sensor z position



Impact

## **PLANNED ACTIVITY FOR NEXT PERIOD**

- Full implementation of redesigned circuit in current experimental setup
- Subject voltage regulator to more simulation for submission
- Implement voltage regulator design in v4 possibly

# QUESTIONS AND COMMENTS