DIAGNOSTICS OF POWER ELECTRONIC SYSTEMS (DOPES)

Progress Report 2

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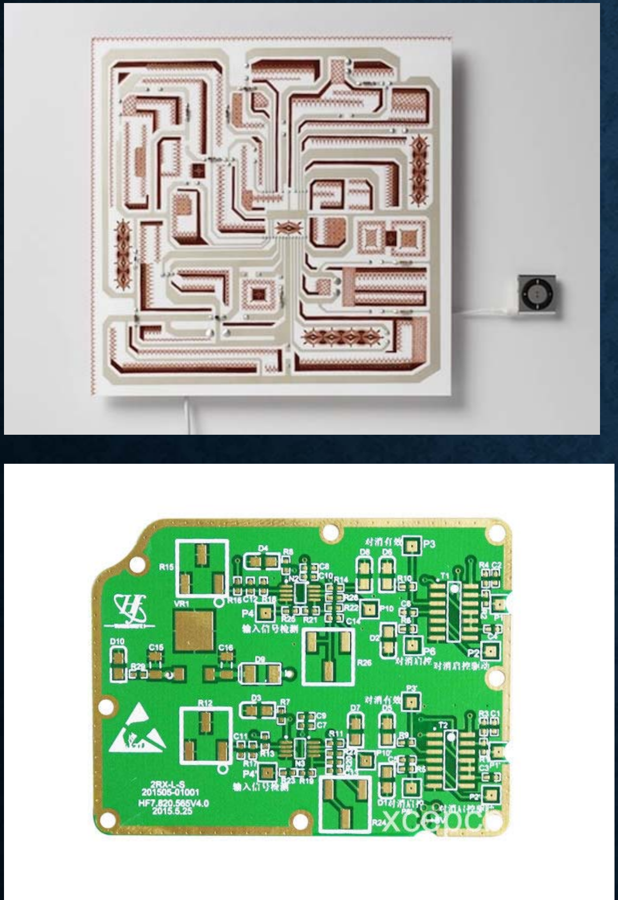
Feb 27, 2018

MILESTONE SUMMARY

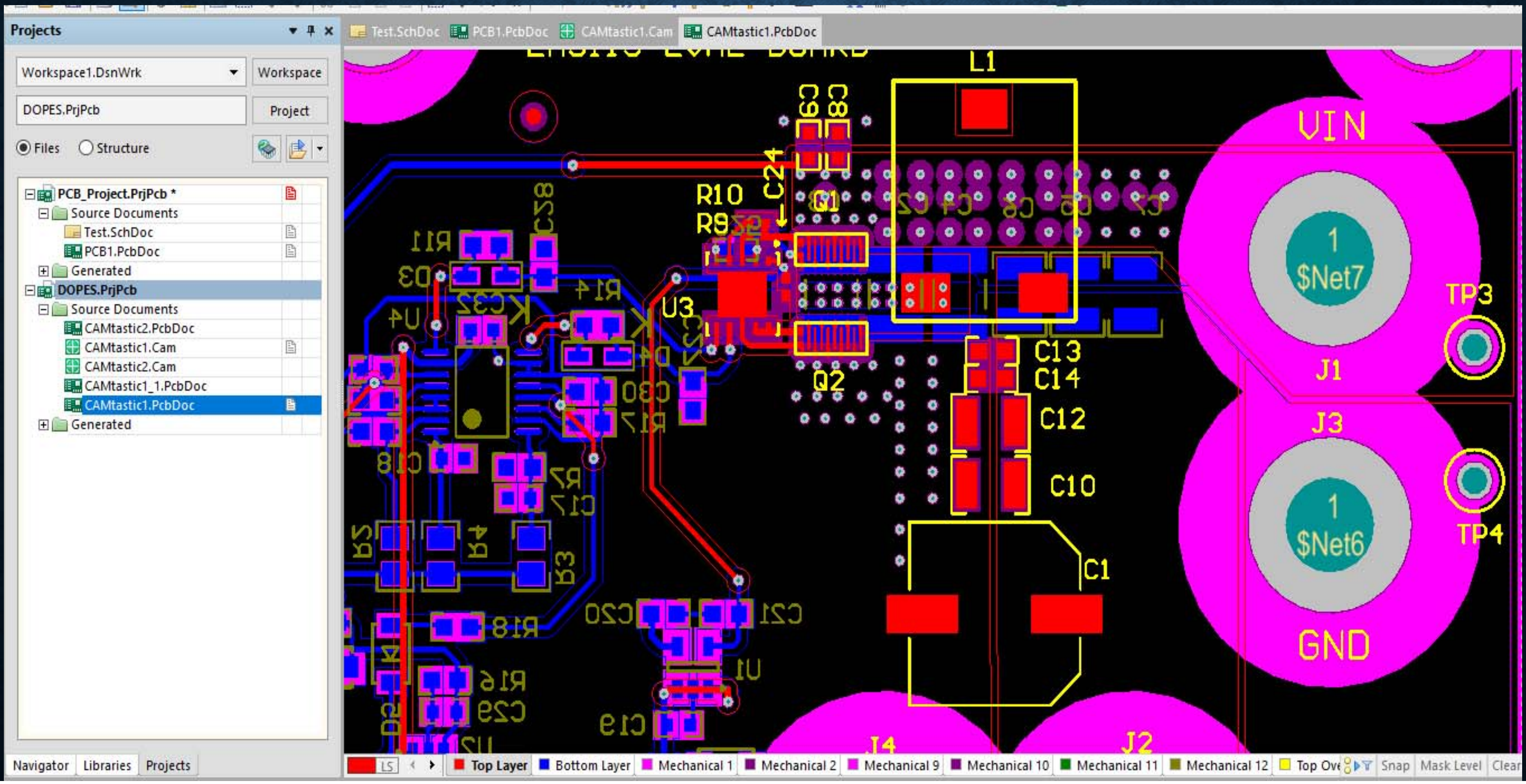
Month	Deliverable	Responsibility	Update
February	PCB Design Submission V3	Shamar Christian	Awaiting approval by advisor for submission to 3rd party manufacturing company

CERAMIC VS. FR-4

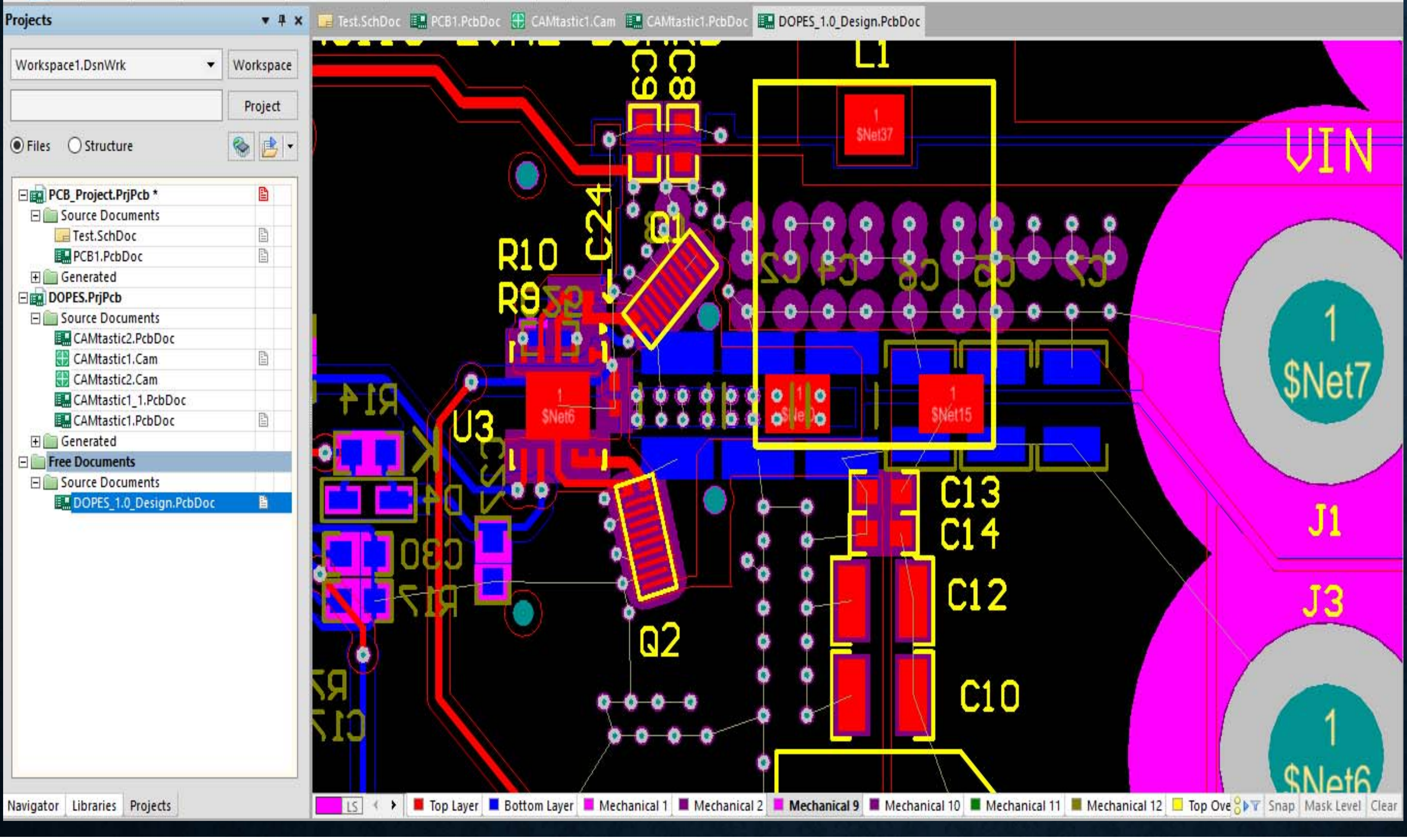


- Material make up
- Thermal Conductivity
- Cost
- Applications

ORIGINAL DESIGN

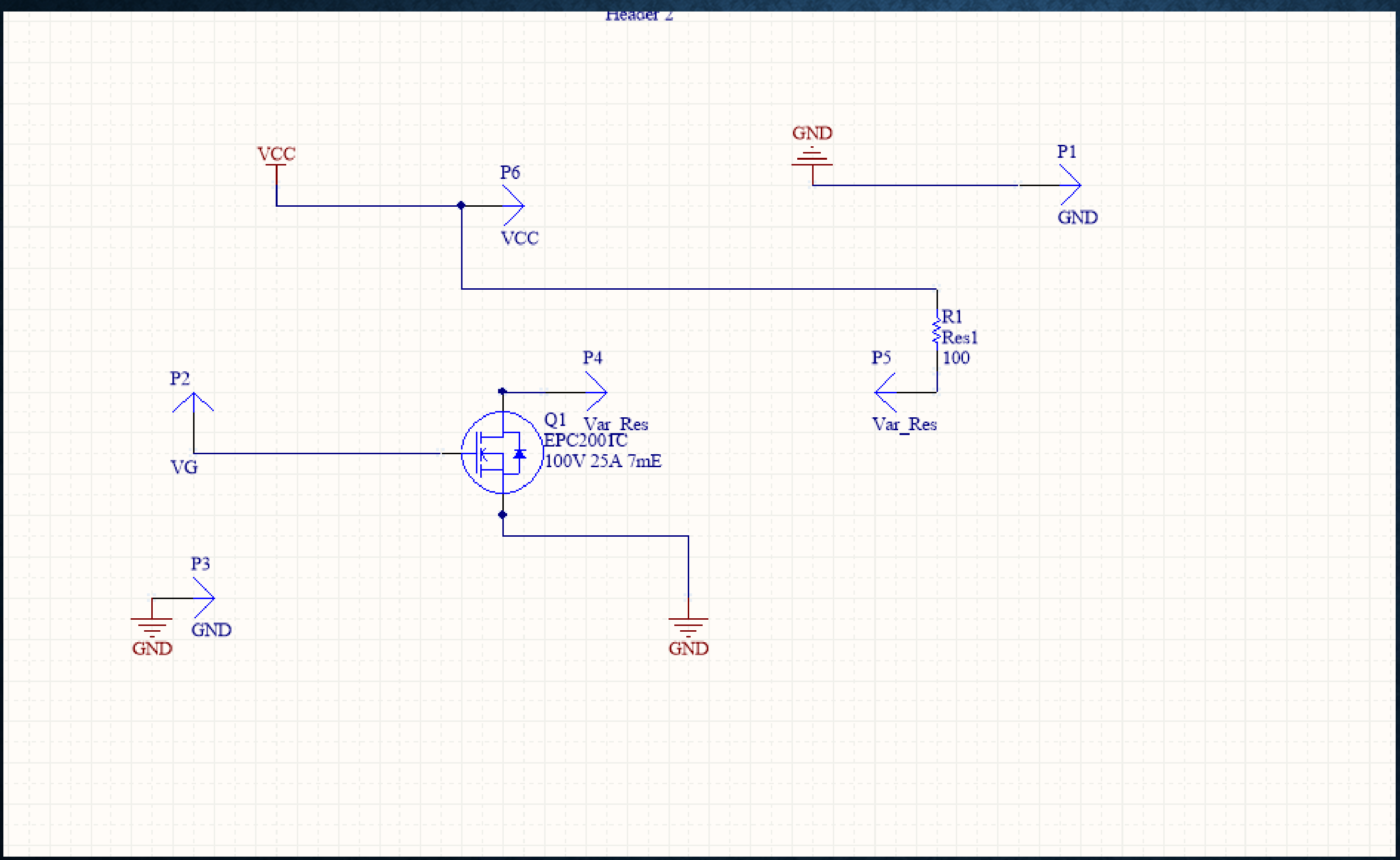


PREVIOUS DESIGN SOLUTION



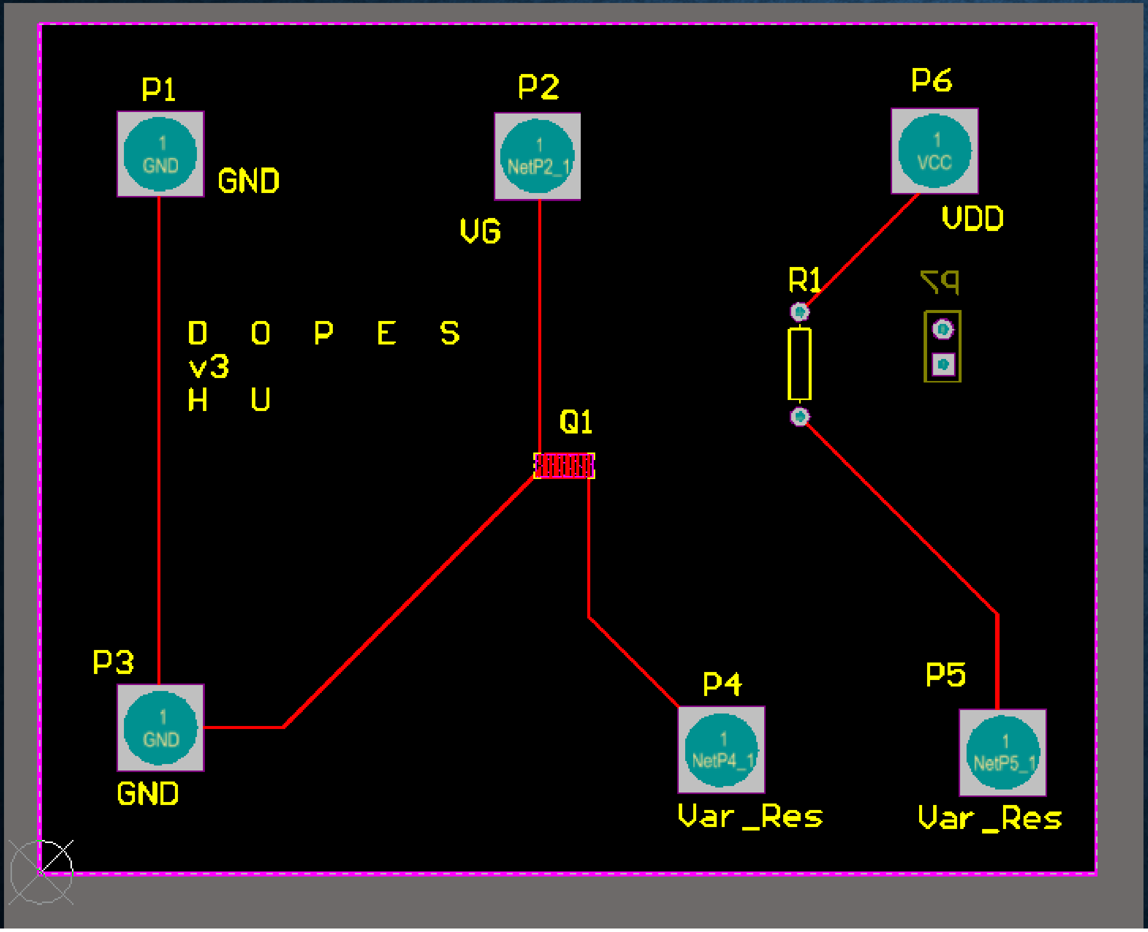
- Modified transistor placement
- Capacity for sensor self mount

SCHEMATIC FOR DESIGN



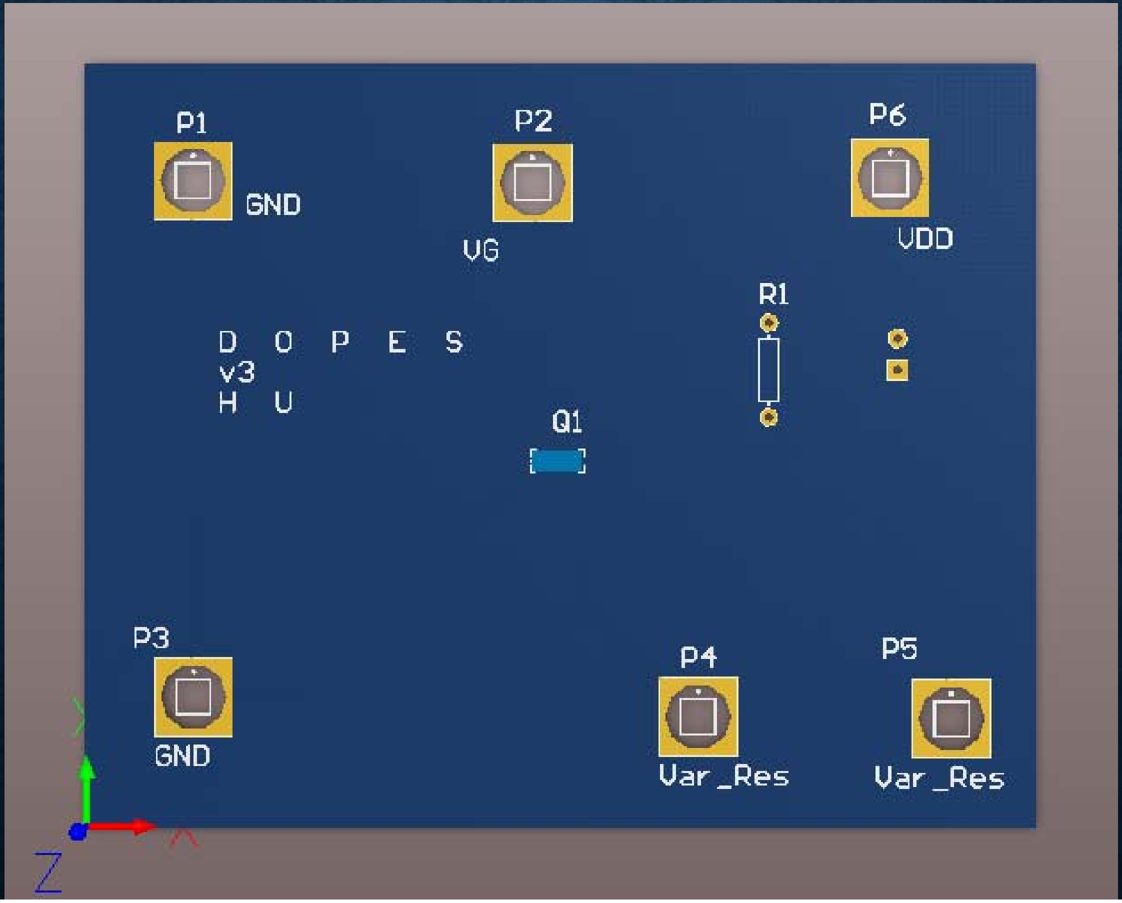
- Acquisition of EPC2001 model
- Free form layout for customization

NEW PCB DESIGN

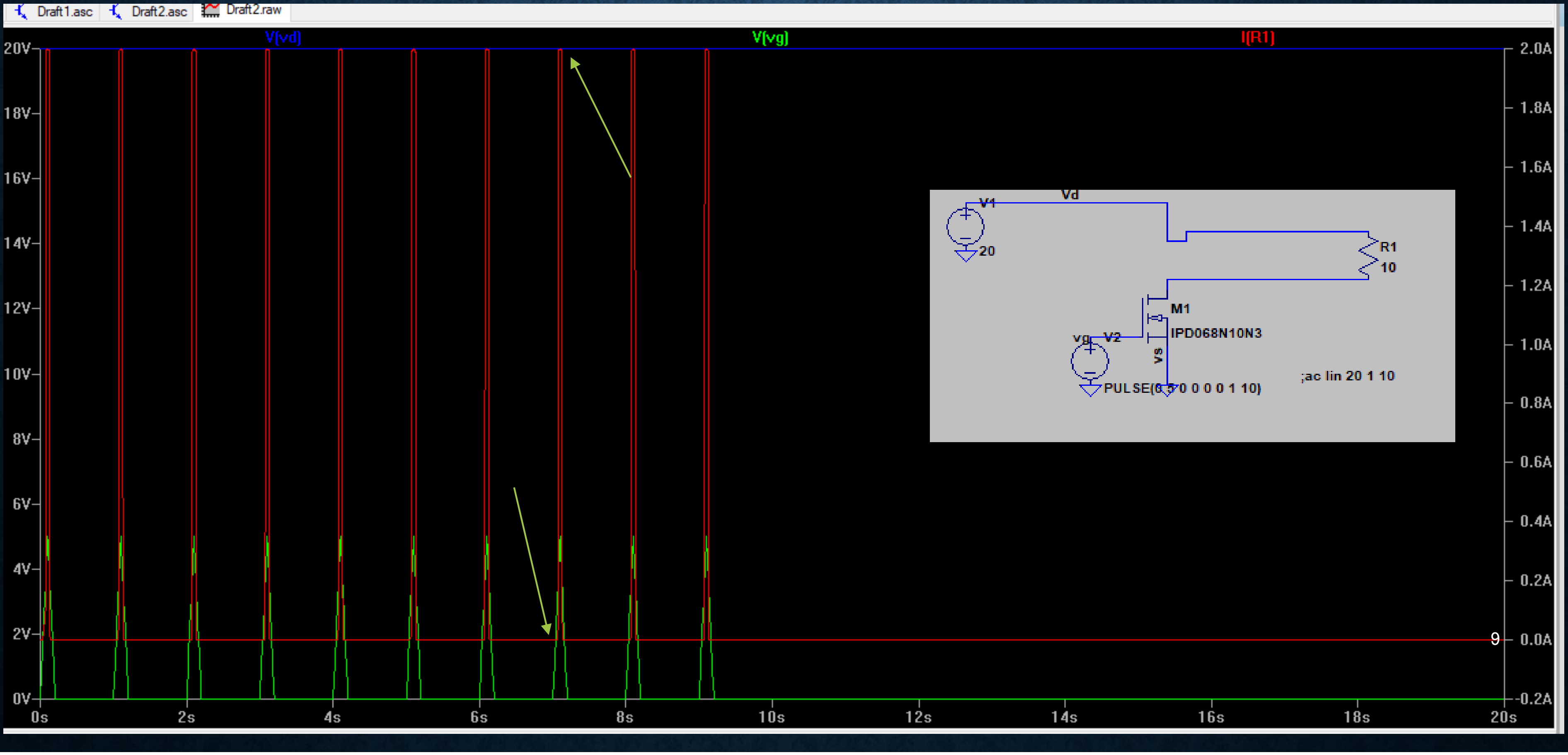


- Added functionality for temperature variance (potentially)

ACTUAL IMPLEMENTATION (REAL WORLD VIEW)



SIMULATION AND VERIFICATION



ACTIVITY SUMMARY

Highlights

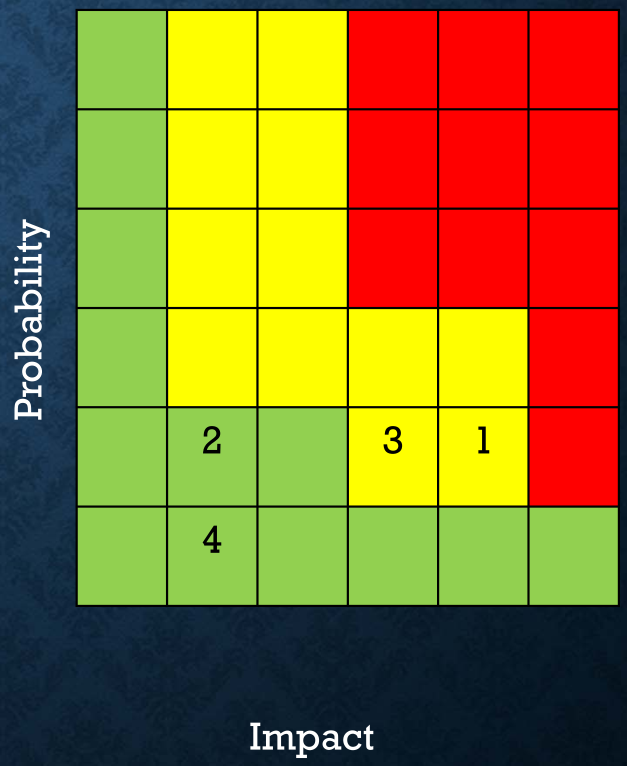
- Completed simplified circuit redesign to produce same results
- Budgetary responsibility
- Design simulated to ensure integrity

Lowlights

- Time lost in waiting for PCB design in waiting for v2 of PCB design

RISK MANAGEMENT

Rank	Risk	Approach
1	Inability to fabricate at 3rd party company	Develop Alternatives
2	Altered Circuit functionality	Simulate and modify design
3	Insufficient Data transported for PCB fabrication	Send entirety of exportation files to PCB mill
4	Low accuracy data yield	Modify Sensor z position



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PLANNED ACTIVITY FOR NEXT PERIOD

- Anticipated feedback and approval for new circuit design
- Submit design to manufacturer ASAP
- LabView set up and manipulation for impedance spectroscopy
- Full implementation of redesigned circuit in current experimental setup

QUESTIONS AND COMMENTS