9/26/23

Griffin Rzonca

ECE 445

9/26/23 Meeting with Jason

* Use whole planes of copper to carry power
* Use common gate driver footprints to get a general size
* Dual-populate like we planned
* KiCAD has a calculator that can factor in temp
* Measure on resistance of FET box in power lab - roughly 10’s of mOhms
* Use SMD over through-hole components
* Using FETS in parallel sounds ok - Jason has seen it done before

Proposal Review Notes from Jason:

* Cite some data in problem statement
* Emphasize that this is direct connection to guitar, every other musical coil uses midi and takes premade files
* Cite visual - use better picture
* Block Diagram:
  + label each connection, say each part that is on a board
  + LOOK at Illini Voyager documentation
  + Leave out caps and FETs but can draw a coil for diagram
* Provide much more numerical solutions
* Bulleted list of criterion for success is good
* Tolerance analysis: write about current consumption about each part on the board for the interruptor board
* Safety:
  + biggest risk comes from primary side - high frequency is safe, cite some sources that say it is non-lethal
  + How will we know it’s safe to touch, safe to handle when moving the coil
  + Figure out time constant of caps
* Ethics - look into OneTesla disclaimers on their site
* Focus on design document
* By design review - have schematic ready
* Prefers Digikey - try to stick to a single vendor
* Usually sites have a way to create a link with a parts list - business office prefers
* No need to dress up or make a PowerPoint for design review - just explain design