

PCB Fabrication Method Worksheet

Group: _____ R0.2 31 Jan 2011

The EE Capstone course typically uses one of three methods to fabricate each PCB you design. For budget and logistic reasons, these manufacturing options are listed in order of preference from the course perspective:

- 1 Milled - board is manufactured by a technician. Single-sided preferred.
- 2 In-house Etched - board is manufactured (etched and drilled) by your group.
- 3 Professionally Fabricated - board manufactured by a firm like Alberta Printed Circuit.

This worksheet is intended to help your group and the instruction personnel determine which fabrication method is appropriate for each board used in your project. Since boards need to be designed to meet the requirements of a particular manufacturing process, there is a bit of a chicken/egg scenario. Answer each of the questions the best you can.

Please complete the following table, treating each board separately in its own column.

		Board 1	Board 2	Board 3	Board 4	Board 5
Admin	Title: give each board a meaningful name. eg) "Driver", "MCU", etc.					
	Are you using Eagle 4.XX or 5.XX to design the board?					
Density	Projected board size: width x height in inches.					
	Are components through-hole, surface mount, or mixed?					
	If using surface mount devices, what is the finest pitch required?					
	What is package name of the finest pitch component? e.g. SOIC16, QFP48, etc.					
	How many ICs are on the board?					
	How many other components are on the board?					
	Are you using surface mount adapter PCBs when breadboarding the design?					
	Are the use of adapter PCBs for SMDs possible on this project PCB?					
Signals	Is your client offering PCB stuffing (populating) support?					
	What is the maximum board voltage?					
	What is the maximum current on the board?					
	Do you picture this as a single or double-sided board?					

Budget	Is fabrication of the PCB going to be done through your client?					
	How many of these boards are required?					
	How much money remains in your budget? (Only one figure required.)					
Conclusion	Is there any other information that is relevant to the decision?					
	Your suggested manufacturing method.					

Guidelines:

- 1 If a board uses high voltages, then it is likely not suited for milling.
- 2 If a board has a large number of SMDs, professional manufacturing could be a good option due to hot-tinning.
- 3 If there are budget constraints, milled or in-house etched are likely the better options.

Notes:

Instructional Staff Use	Our suggested manufacturing method.					
	Manufacturing method used.					
	Date of manufacture.					