Thesis Project PCB Submission Requirements

PLEASE READ THE ENTIRE DOCUMENT BEFORE BEGINNING YOUR SUBMISSION

PCB's are sent for production on Monday of each week during semester, as long as the numbers are sufficient for a panel. If you are able to wait for these submissions you will only be charged at $2.50/in^2$. If you can't wait and need to have your design manufactured without waiting for the normal Monday submission, you will be charged the actual cost of production; please contact Steve Wright directly to arrange this special submission.

The process of fabricating a PCB from artwork files is complicated, so we send the files to a professional manufacturing facility. You can expect your boards to be returned to you within 7 days from the submission deadline (Monday 08:00 during Semester).

 Please note that your PCB will be manufactured as close as possible to the artwork files you have submitted. If there are mistakes (drill holes too small, tracks too thin, short circuits, wrong footprints, layers mirrored, etc.), these will be present on the board that you receive.

Submission process

To export Gerber files from Altium, follow the tutorial "Gerber File Creation How-to"

Please also refer to the document "Generating Gerbers for ITEE PCBs from Altium" for details which are specific to the UQ submission system.

You may also use other PCB design software if it can produce standard Gerber files. While we will try to assist you with this where possible, we cannot guarantee to support any other tools at this time.

The following additional design steps **must** be adhered to, or you risk your board being rejected.

 ● The board outline **must** be on the "Keep Out" layer. You may have other objects on this layer, but they **must** be completely inside the board outline.

● **Nothing** in your entire design may protrude beyond the board outline on any layer.

● Your full name and student number must be present on the silkscreen layer ("Top Overlay" in Altium) as text so that boards can be returned to you.

 We require one of each of the following files in your zip folder:

● pcb.gtl (Gerber Top Layer)

● pcb.gbl (Gerber Bottom Layer)

● pcb.gts (Gerber Top Soldermask)

● pcb.gbs (Gerber Bottom Soldermask)

● pcb.gto (Gerber Top Overlay)

● pcb.gbo (Gerber Bottom Overlay)

● pcb.gko (Gerber KeepOut)

● pcb.txt (Excellon NC drill)

Any other files will be ignored. The name of the file before the file extension (before the dot) is not important, just use 'pcb' if you can't think of anything else.

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To submit your PCB, put all of the Gerber files into a folder and compress the folder into a zip file. You should then rename the zip file to the following file format:

 <THESIS>-<8 digit student number><PCB letter>-<number of copies>.zip

 The PCB letter should be a letter corresponding to the number of unique PCB designs you are submitting, where the first design should be "a", the second "b", the third "c" and so on.

Some examples:

For a submission of 2 different boards by John Smith (41378524), with two units of design "a" and three units of design "b", John should submit the following files: "THESIS-41378524a-2.zip" and "THESIS-41378524b-3.zip".

 To submit your designs, please use the tool at http://pinecone.uqcloud.net . All parameters presented when reviewing your board are subject to change after the design is reviewed by a member of staff.

Technical parameters

It is likely, but not guaranteed, that your files will be sent to Circuit Labs (http://www.circuitlabs.co.nz / http://www.pcbzone.net) to be manufactured. As such, you should follow the design rules on their website, under the "Technical" header. Unless you are told otherwise, you may assume the following parameters will be used:

Layer count 2, copper thickness 1 oz (ounce), material thickness 1.6mm, solder mask colour green, legend (silk screen) colour white and surface finish sterling silver

Final notes

It is possible that you will receive more boards than you ask for, without being charged extra. When we place the orders at the production facility, they often produce many copies of your board at the same time. This is because the major cost for them is in starting up production, not producing a little bit extra. So if there are any minor problems with one of your copies, they can just throw that one away without restarting an entire production run for a single PCB.

If multiple copies are produced successfully, they will often send you the extras for free with your original order. However, you should not rely on this if you really need extra boards; the only guarantee you have is that you will receive at least the number of boards you ask for.

If you are in doubt of any of the requirements outlined in this document, please ask Steve Wright (sw@itee.uq.edu.au).