Submitting Board Files to FreeDFM

Or

How to improve the quality of life for YHI

Always run your entire suites of board verify tools. Get all of the UltiBoard detectable errors fixed first. (Use the DRC tab to check this)

Load your board file, making sure the entire board is visible. Make sure that that you relocate the origin to the lower left if it is not already there. (Design->Set Reference Point) Get it within 100 mils of the board outline as shown in Figure 1. Also, make note of your overall board dimensions. You will need them below.

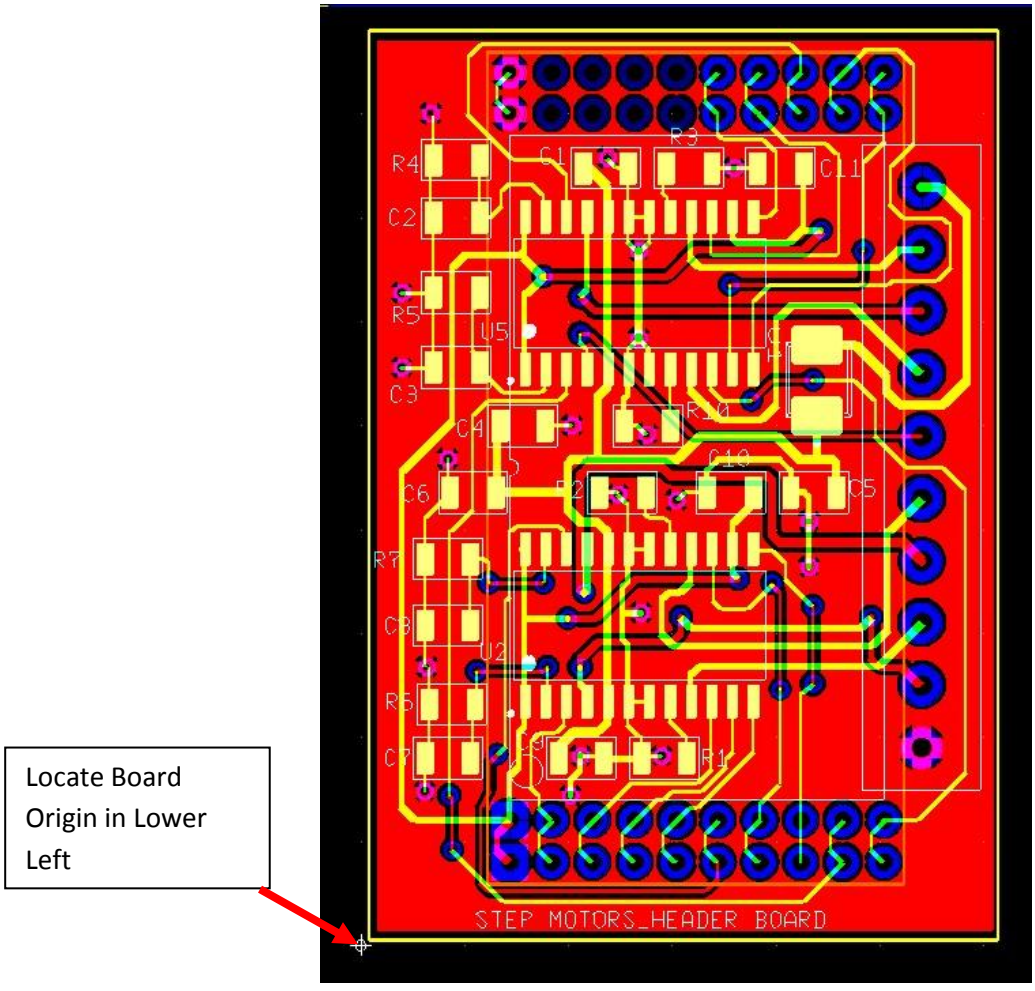

Figure 1

Go to the Global options tab and make sure that the fiducial option is **unchecked** as shown below:

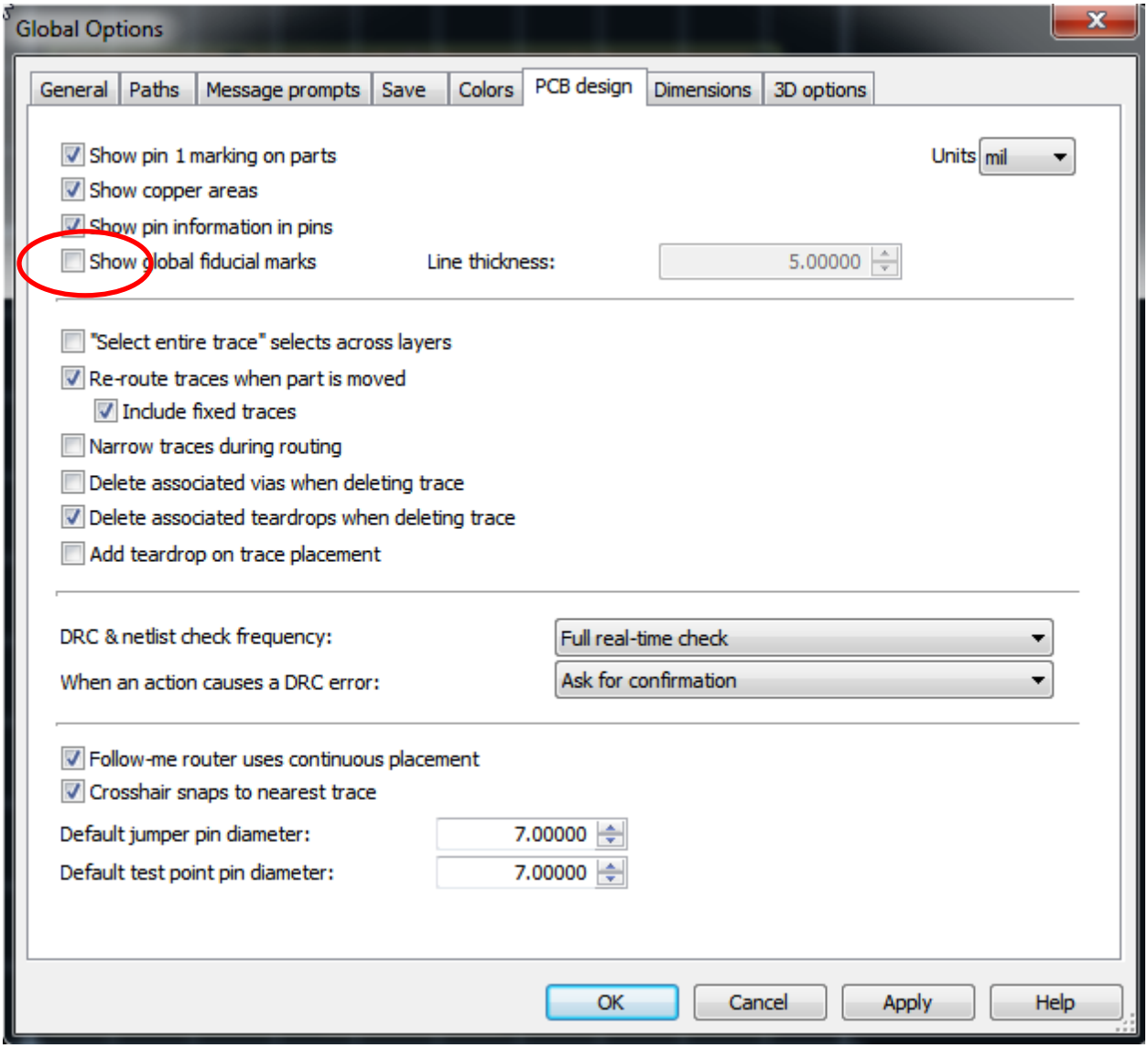

Figure 2

Select the File->Export menu as shown in Figure 3.

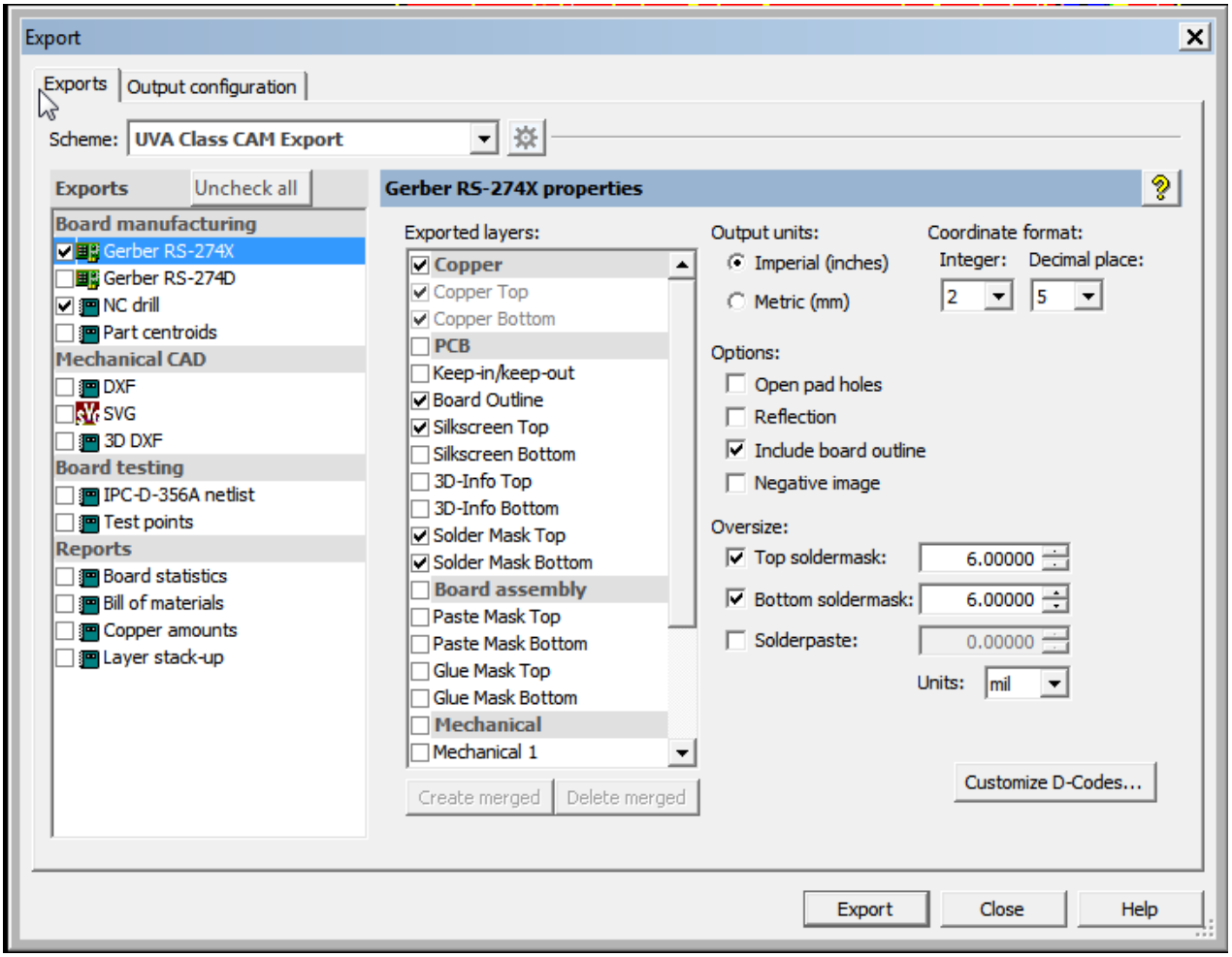

Figure 3

Click in the “Scheme” toolbar and navigate to the location of the “UVA Class CAM Export” file, provided by your instructor. Select it.

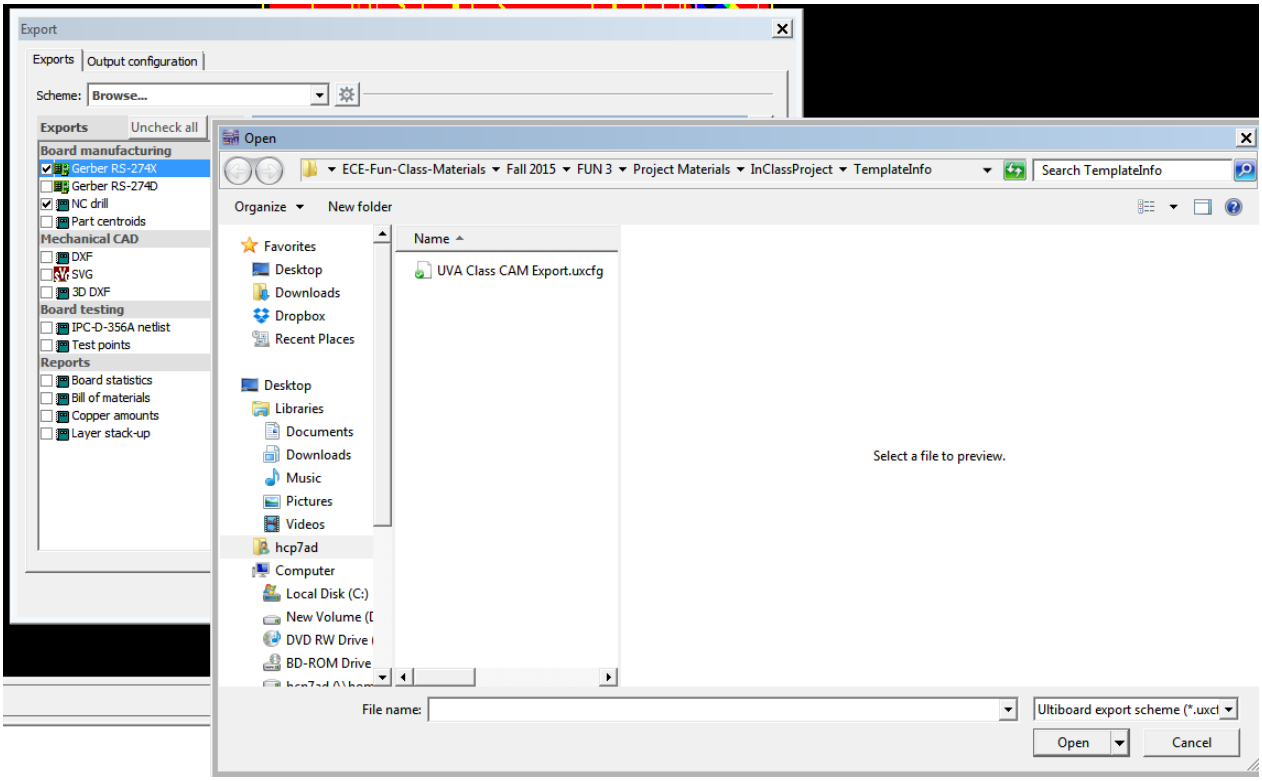
Export
Exports
Output configuration
Scheme:
Browse...
Exports
Uncheck all
Board manufacturing
Gerber RS-274X
Gerber RS-274D
NC drill
Part centroids
Mechanical CAD
DXF
SVG
3D DXF
Board testing
IPC-D-356A netlist
Test points
Reports
Board statistics
Bill of materials
Copper amounts
Layer stack-up
Open
ECE-Fun-Class-Materials
Fall 2015
FUN 3
Project Materials
InClassProject
TemplateInfo
Search TemplateInfo
Organize
New folder
Favorites
Desktop
Downloads
Dropbox
Recent Places
Desktop
Libraries
Documents
Downloads
Music
Pictures
Videos
hcp7ad
Computer
Local Disk (C:)
New Volume (
DVD RW Drive
BD-ROM Drive
Name
UVA Class CAM Export.uxcfg
Select a file to preview.
File name:
Ultiboard export scheme (*.uxcf
Open
Cancel

Figure 4

Click export and in a few seconds the Gerber files will be generated.

You may now save your work and exit Ultiboard.

Next you need to convert the filenames for the generated Gerber files. Run the "Cam File Renamer" program supplied by your instructor (Be sure to use the F16 version). Type in your team name and revision number for your design. The can have no periods. If you put in a name that is incorrectly formatted, i.e. with periods, the dialog box will flash red. If it turns green, you have a valid team name and revision number. Navigate to the folder named "Ultiboard Exports" which will be in the same folder as your base folder for your design files. Once you select that folder press the "Run Conversion" button. This will create a new folder at the same level as as your "Ultiboard Exports" folder with the folder name "OrcadFilename". It will also create a zip file with all of your formatted gerbers and the filename for this zip will include your team name, rev number and a date code. This is the file for your submission! Press the "Stop" button and exit the program.

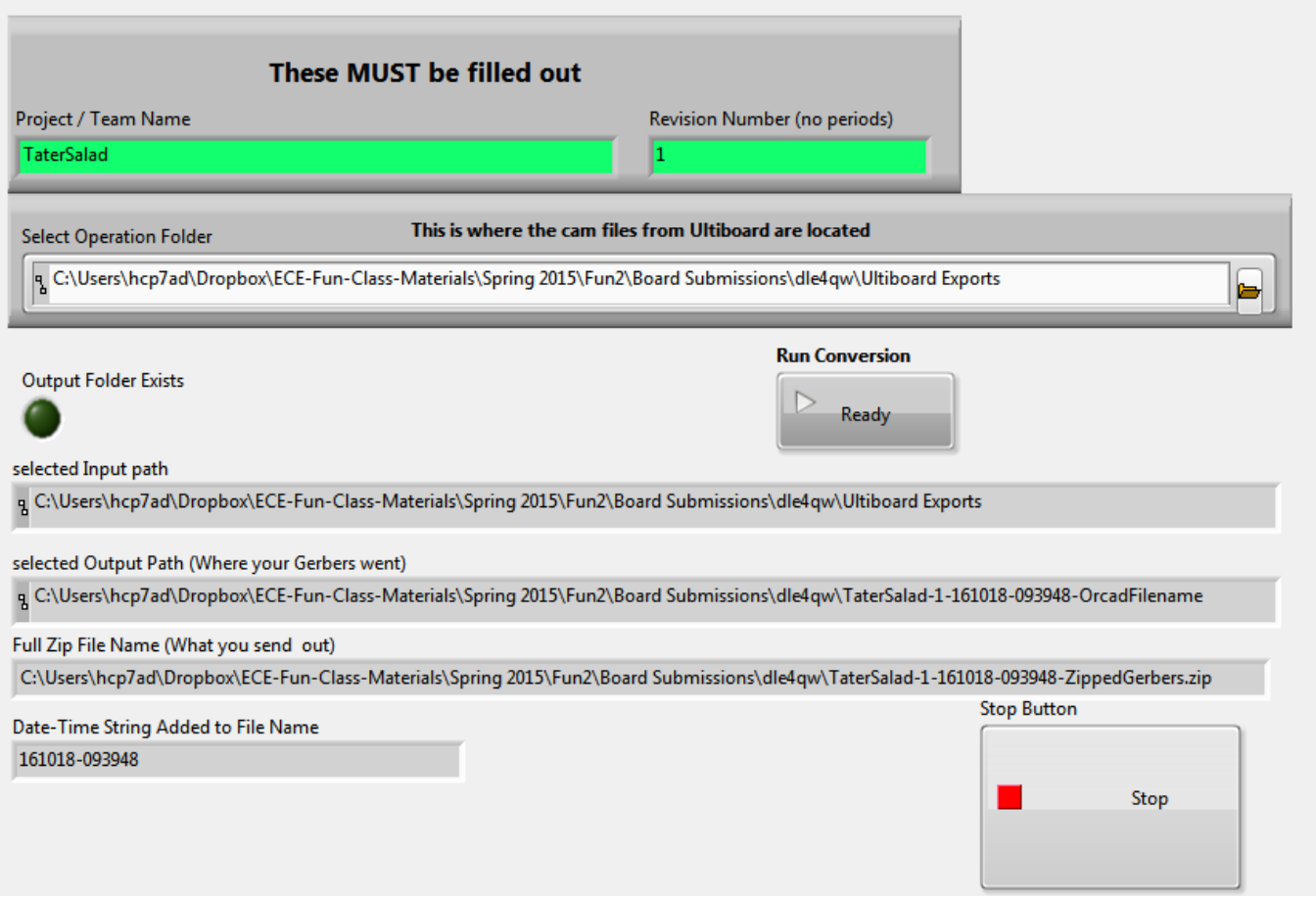

Figure 5

Next, open a web browser and navigate to “Freedfm.com” You will get the following sign on screen (Figure 6). (You may have to register with Advanced, If so, don’t worry – they don’t spam etc.) Fill in your email and upload the zip file you just created.

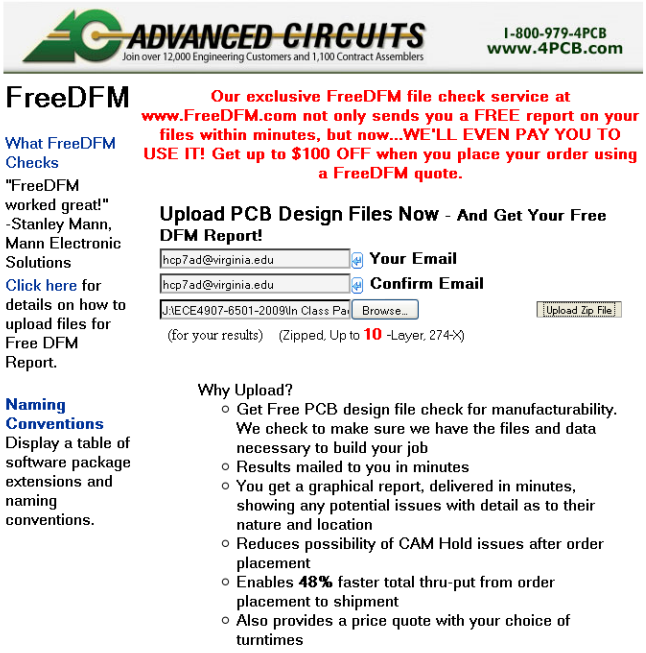

Figure 6

Verify your information as shown below.

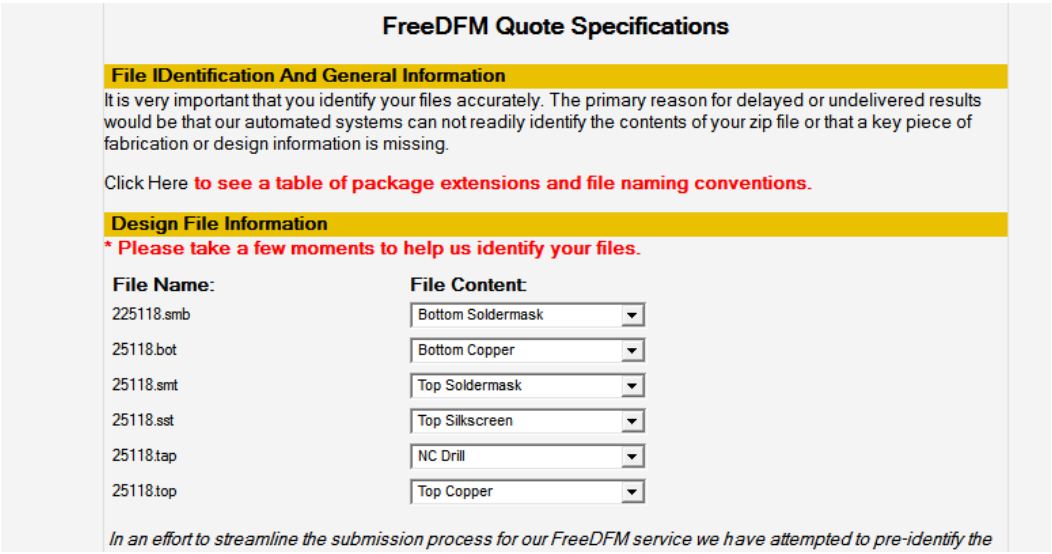

Figure 7

Next, you will need to fill out some basic information to tell Advanced how to check the board. See below.

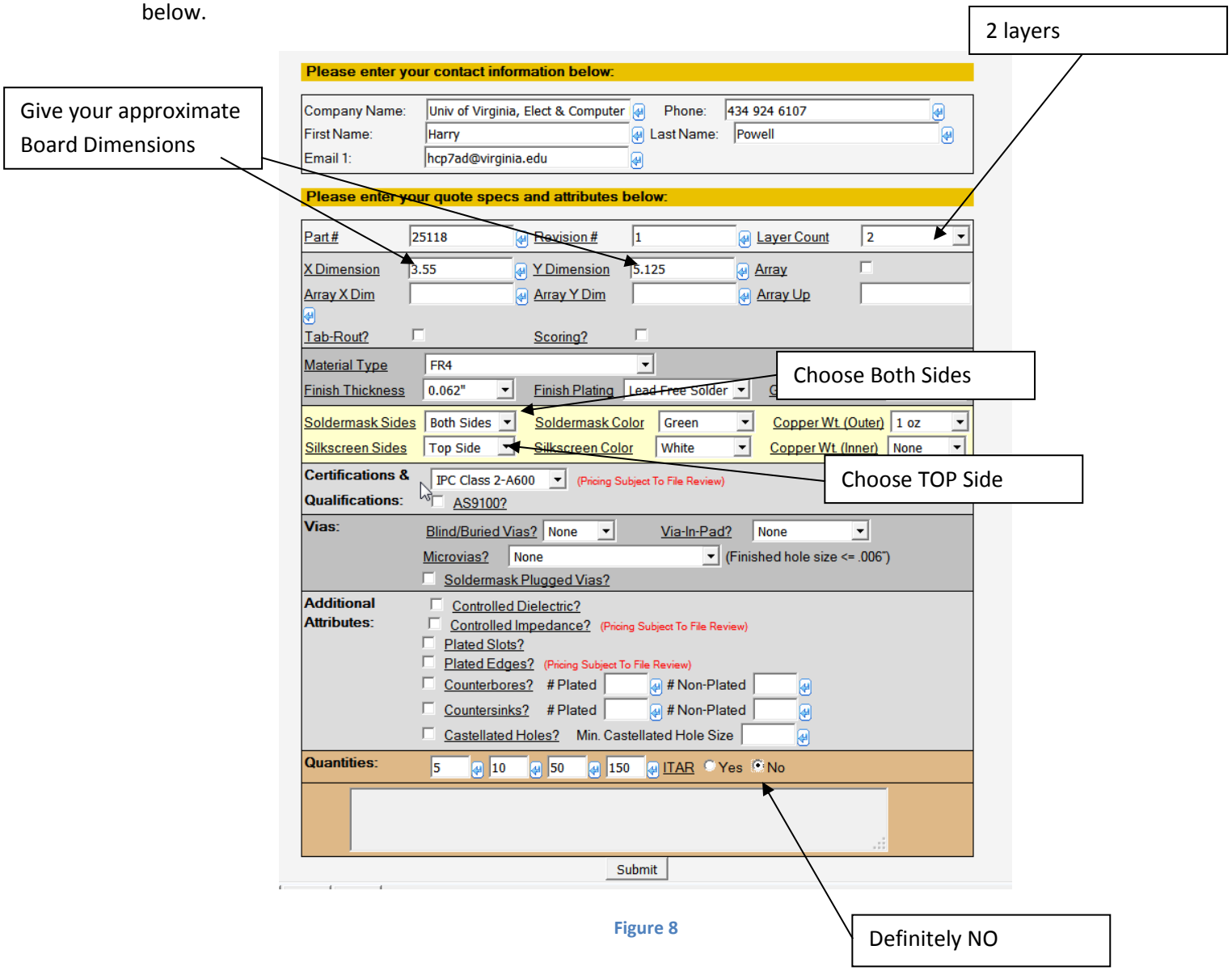

Figure 8

At the end of this process you will click a "Submit" Button. You will receive a confirmation email, then in about 30 min or so (but up to a few hours!) You will receive a dfm report. Note that this is a free service, and there is no guaranteed delivery time for your report! (In other words, be timely)

After the wait you should get an email with the "Your FreeDFM results" in the subject line. Open the results link. You should see a screen that looks like this:

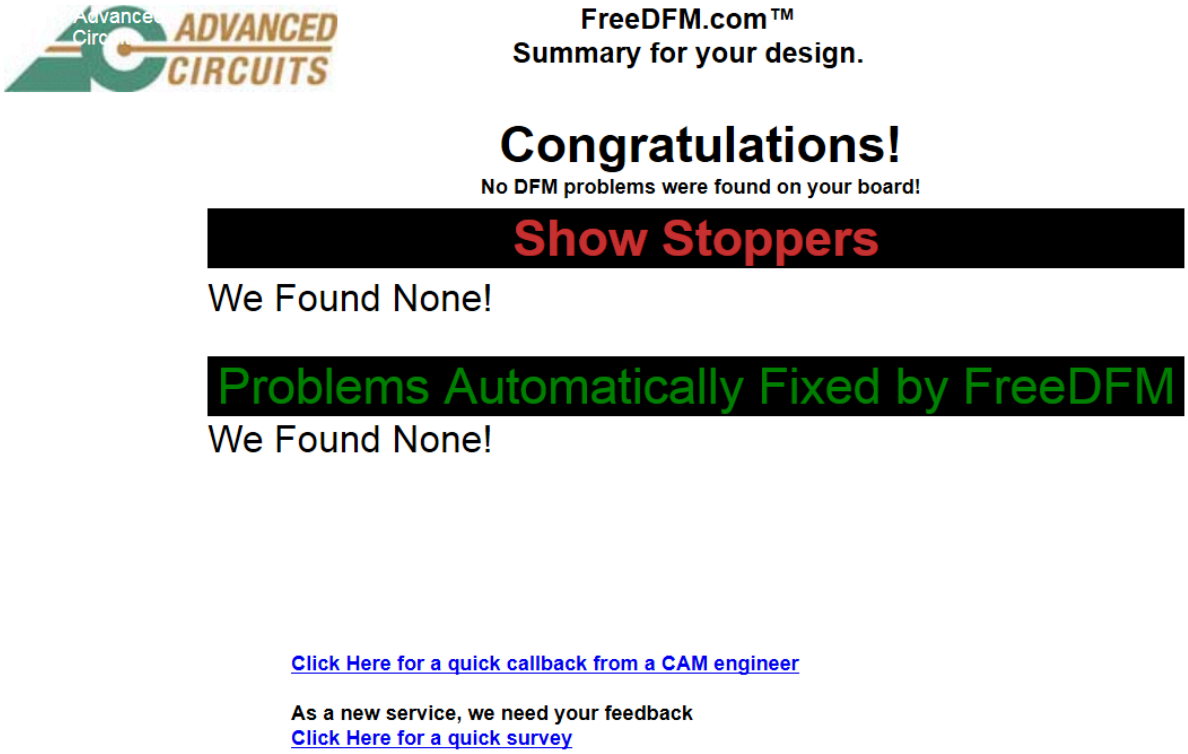

Figure 9

If there are show stoppers, you must go back and fix the problems in your files. If not, submit your .zip file and a screenshot of your results as above. Note that a some “Problems Automatically Fixed” is ok, but you should be aware that there may be some cosmetic differences with your actual board. Electrically it should be fine.