

- FlatCam needs filled polygons in order to do edge cuts properly.
Kicad doesn't create filled polygons.
So I created a script which converts lines into a filled polygon

fill-edge-cuts.py Nanino8-Edge.Cuts.gbr

This generates Nanino8-Edge.Cuts-filled.gbr

- In pcbNew
 - Set the grid origin (Place->Grid Origin) and click in bottom left of arduino board
 - Set Drill and Place Offset (aka aux axis) to bottom left corner of board
 - This sets the origin for the gerber/gcode files.
 - When plotting gerbers, check "Use auxiliary axis as origin"
 - When making drill files. Set Drill Origin to "Auxiliary axis"
 - In gerber viewer, confirm origin location
 - For <http://dangerousprototypes.com/store/pcbs> Check "Use Protel file extensions" and the rename-gerbers.py script.
- python flatcam.py
 - Import gerbers
 - Nanino8-B.Cu.gbr
 - Nanino8-Edge.Cuts-filled.gbr
 - Import Excellon
 - Nanino8.drl
 - Nanino8-NPTH.drl
 - Double click on Nanino8-Edge.Cuts-filled.gbr
 - Board cutout only cuts out rectangular
 - so we use isolation routing with a larger endmill 3.125 mm (1/8")
 - generate geometry
 - Add Tabs
 - click on the "Projects" tab
 - Click once on the Nanino8-B-Edge-Cuts-filled.gbr_iso geometry
 - Edit->Edit-Geometry
 - Click on rectangle and draw out tabs
 - Click-Drag and then click again when done
 - Want tabs about 2 endmill widths wide
 - Press ESC (should highlight the Arrow)
 - Click on the outline and Control-Click the tabs in that order
 - Drawing->Cut-Path
 - Press ESC
 - Click on first tab and control-Click on the rest of the tabs
 - Drawing->Delete Shape
 - Edit->Update Geometry
 - Should now have a path with some gaps in it

- Double click on Nanino8-B.Cu.gbr
 - 0.48mm (0.019")
 - generate geometry
- Double click on Nanino8-NPTH.drl
 - Mill Holes - 3.125mm
- Double click on Nanino8.drl
 - Can either drill or mill
 - to mill pick a small mill (smaller than the smallest hole)
 - generate geometry
 - to drill
 - pick Cut Z -2mm
 - Travel Z 3 mm
 - Feed rate 75 mm/min
- Double click on Nanino8-NPTH.drl_mill
 - CutZ -2 mm
 - TravelZ 3 mm
 - Feed Rate 150 mm/min
 - Tool dia: 3.125mm
 - Generate
- Double click on Nanino8-B.Cu.gbr_iso
 - CutX .15 mm
 - TravelZ 3 mm
 - Feed Rate: 380 mm/min
 - Tool Dia: 0.5 mm
 - Generate
- Double click on Nanino8-B-Edge-Cuts-filled.gbr_iso
 - CutZ -2 mm
 - TravelZ 3 mm
 - Feed Rate 150 mm/min
 - Tool dia: 3.125mm
 - Generate

Not verified!

Isolation feed rate 15 IPM = 380 mm/min

Edge cut feed rate 6 IPM = 150 mm/min