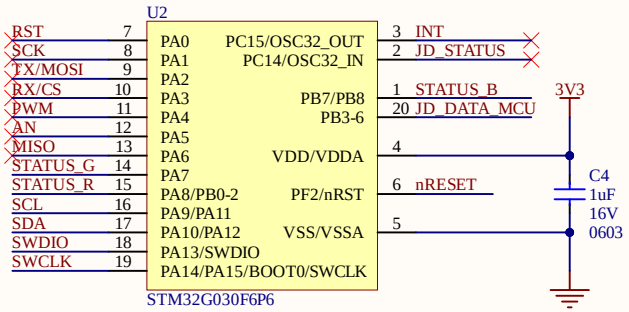
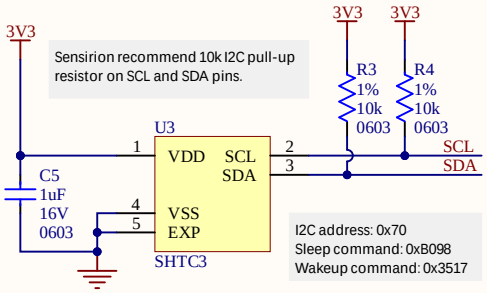
MCU

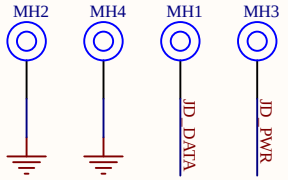
Pin mappings based on 'starfighter' design:
https://github.com/microsoft/pxt-32-hw/blob/master/jm-v3.4/mikrobus28/jdmikrobus.pdf



Temperature & relative humidity sensor



Mounting holes



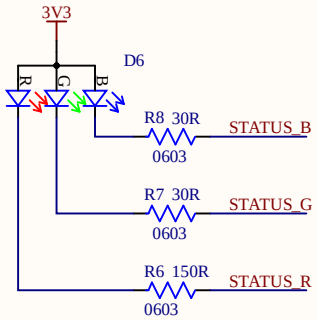
This design uses PTH mounting holes with finished diameter of 3.1mm, annular copper ring of 4.4mm diameter, resist keepout of 5.0mm & copper/component keepout of 7.0mm. The mounting holes must be on 10mm pitch.

Mounting holes should have appropriate silkscreen marker on both sides of PCB, and MH1 should have a pin 1 marker in copper on the side only.

Mounting holes are electrically connected to the Jacdac bus nets so they can be used as an alternative to the PCB edge connector. Please use the following reference designators and net mapping:

MH1: JD_DATA
MH2 & MH4: GND
MH3: JD_PWR

Status LED

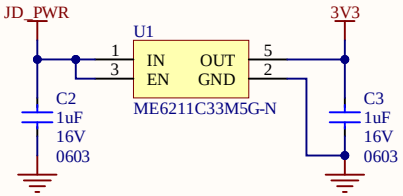


Place a status LED adjacent to edge connector. If using alternative part check series R values.

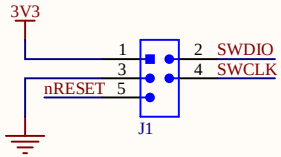
3V3 regulator

Consider using an LDO that is robust to spikes over 6V on input in case of noise on JD_PWR.

This component is a power-consumer.

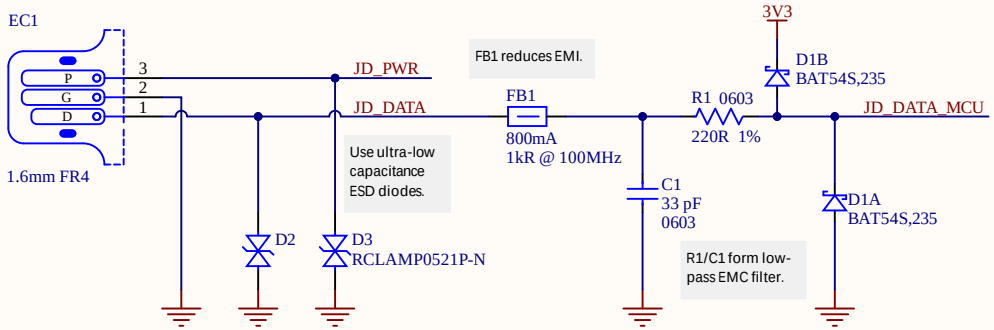


Programming/debug header



"Hack-connect" SWD adapter.
https://arcade.makecode.com/hardware/dbg

Jacdac connector



This reference design is a guideline. Please refer to the Jacdac docs online at https://aka.ms/jacdac for the definitive and most up-to-date information.

Silkscreen should include text to identify the module type and revision, and optionally a QR code.

This design uses an EC30 board shape.

Silkscreen & layout notes

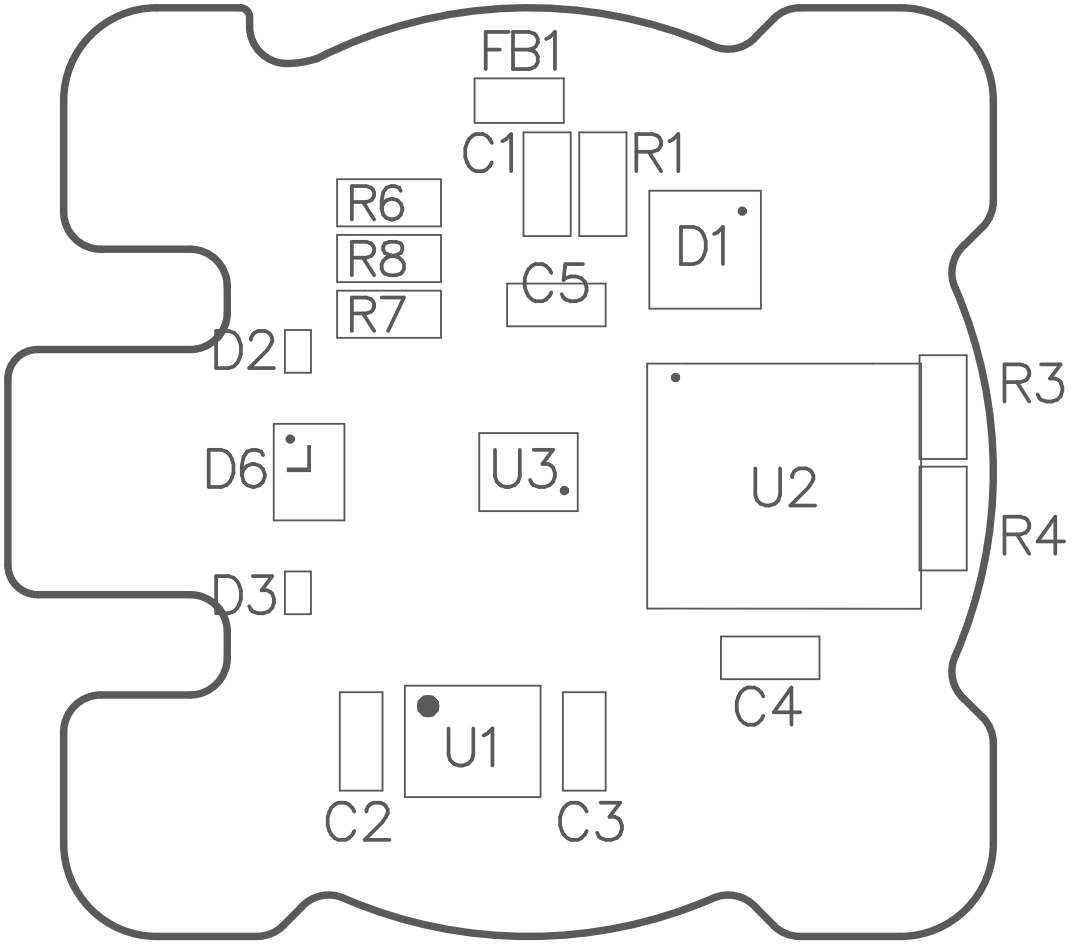
Block name

Design notes

This information is provided "as-is". You bear the risk of using it. Some information relates to pre-released specification which may change without notice. Microsoft makes no warranties, express or implied, with respect to the information provided here.

When this PDF is viewed with Adobe Reader, clicking on components shows part numbers and other details.

PROJECT FILENAME JacdacTempRhEc30 116.PrjPCB	PROJECT CODENAME JacdacTempRhEc30	Microsoft	PROJECT DESCRIPTION Jacdac temperature and relative humidity sensor
SHEET FILENAME JacdacTempRhEc30 116.SchDoc	LICENCE Attribution 4.0 International (CC BY 4.0)	LAST MODIFIED 13/06/2022	PAGE 1 OF 1
DRAWN BY SH, DG & JD	SHEET DESCRIPTION Complete design	REVISION 1.1	PCB ID 116-1.1

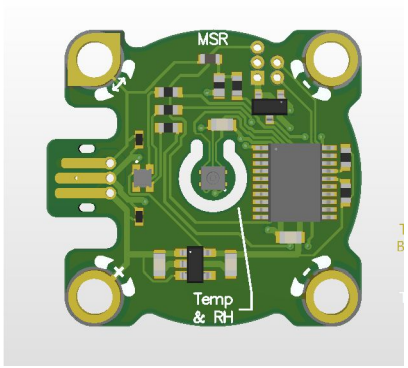


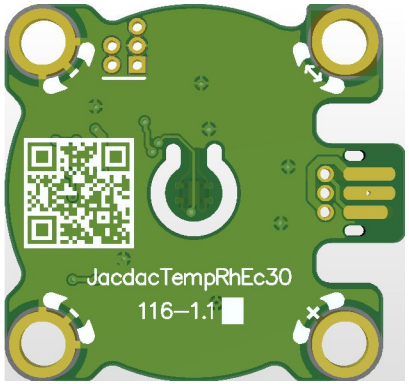
Top Assy

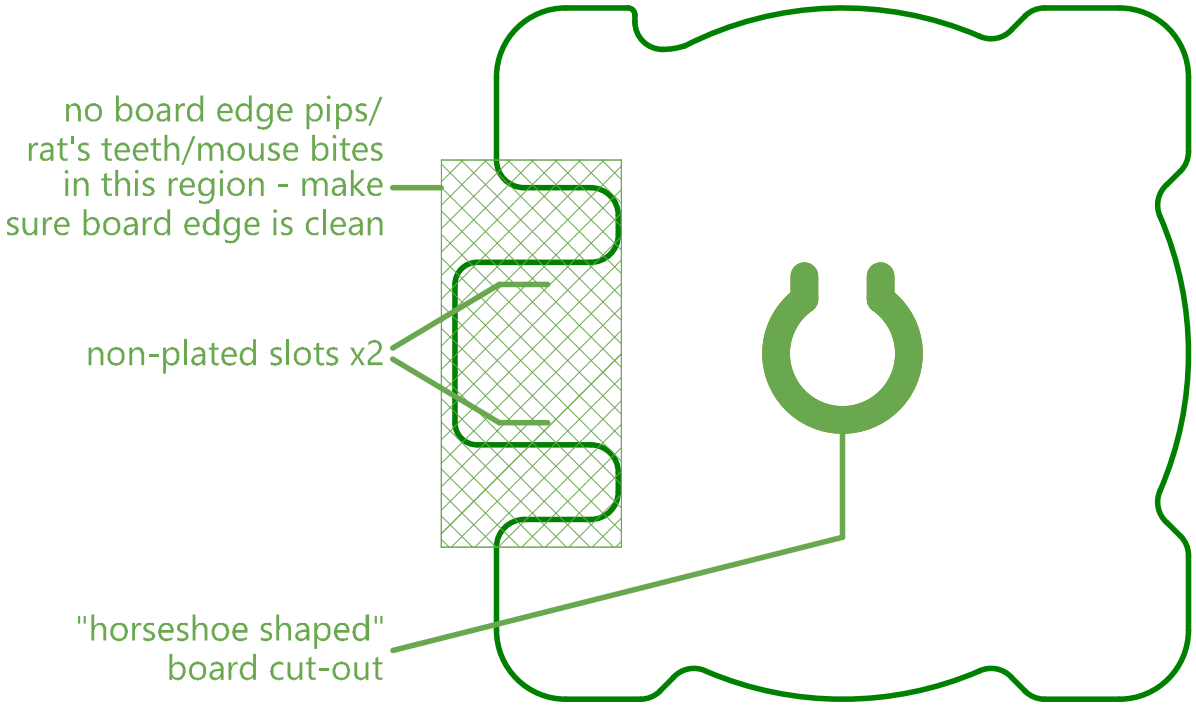
Board Outline

Board Outline

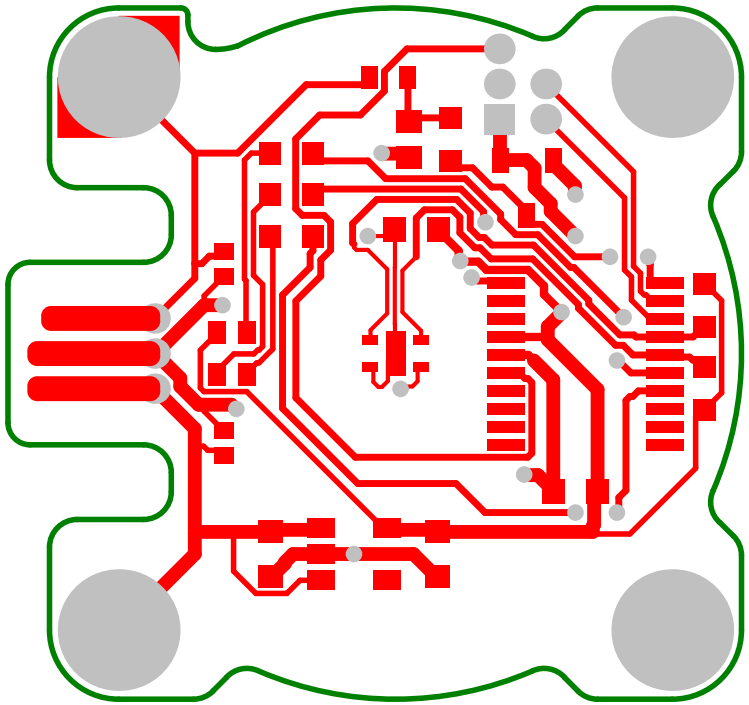
Bottom Assy


MSR
Temp
& RH


JacdacTempRhEc30
116–1.1

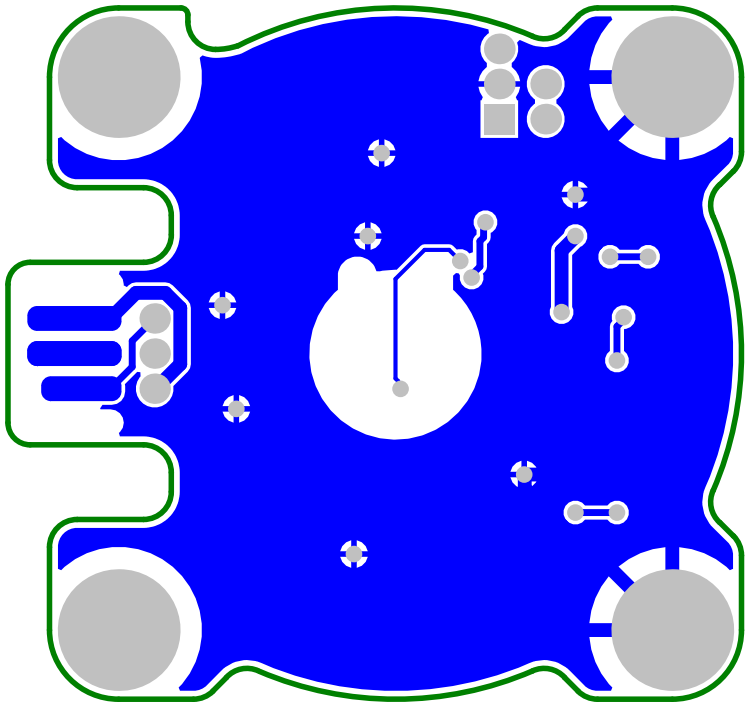


Fabrication Notes
Board Outline



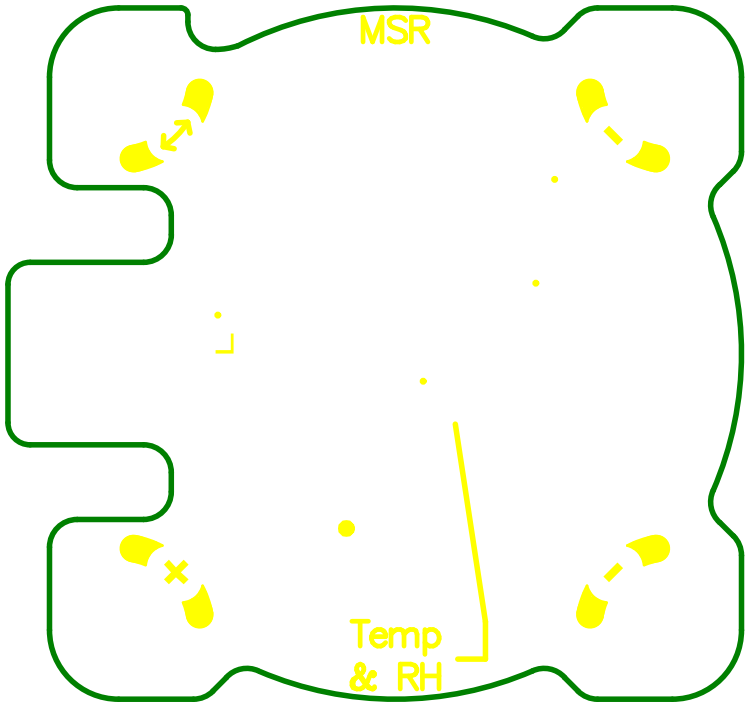
Top Layer

Board Outline



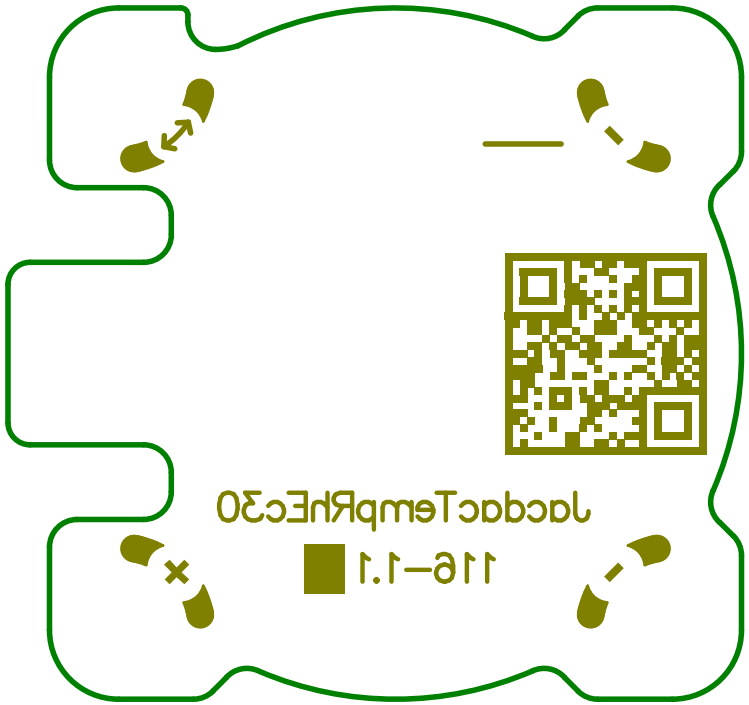
Bottom Layer

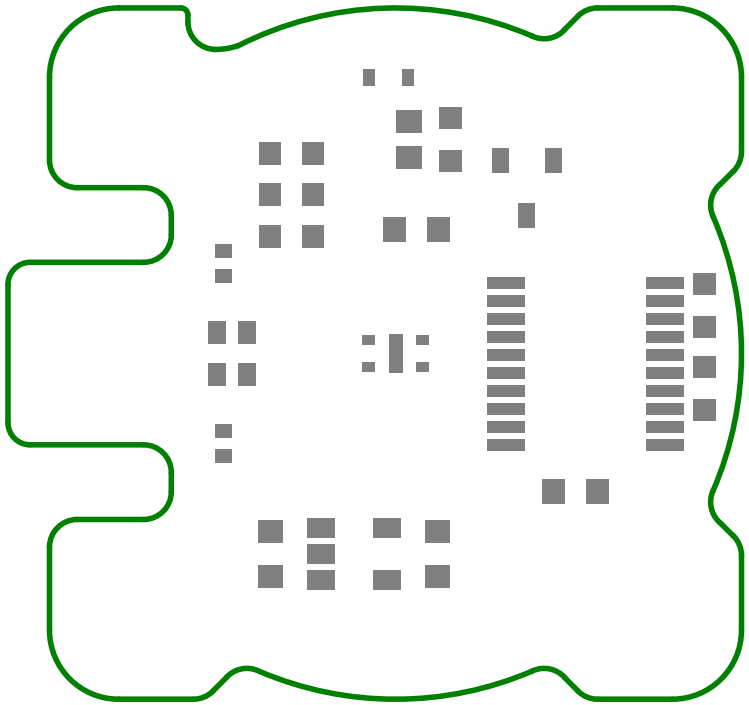
Board Outline



Top Overlay

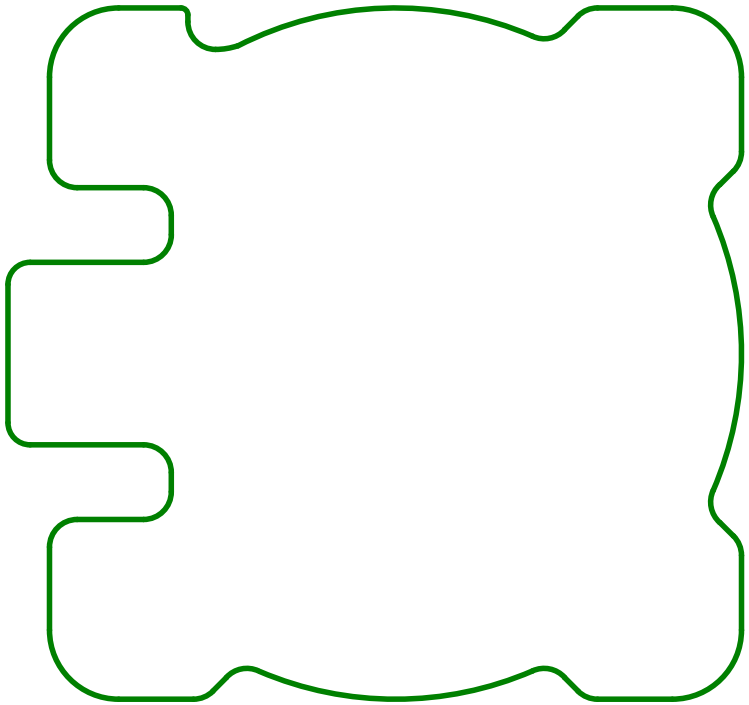
Board Outline


Bottom Overlay
Board Outline



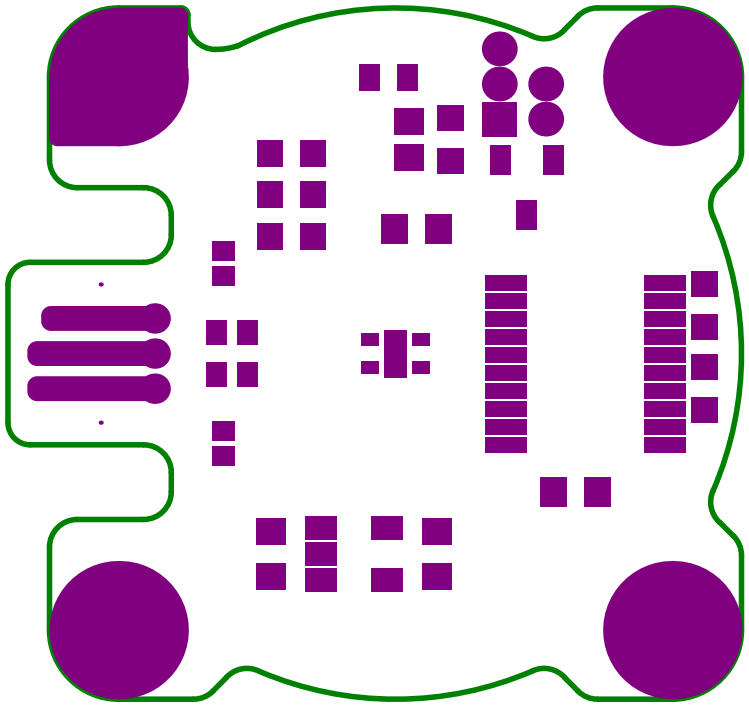
Top Paste

Board Outline



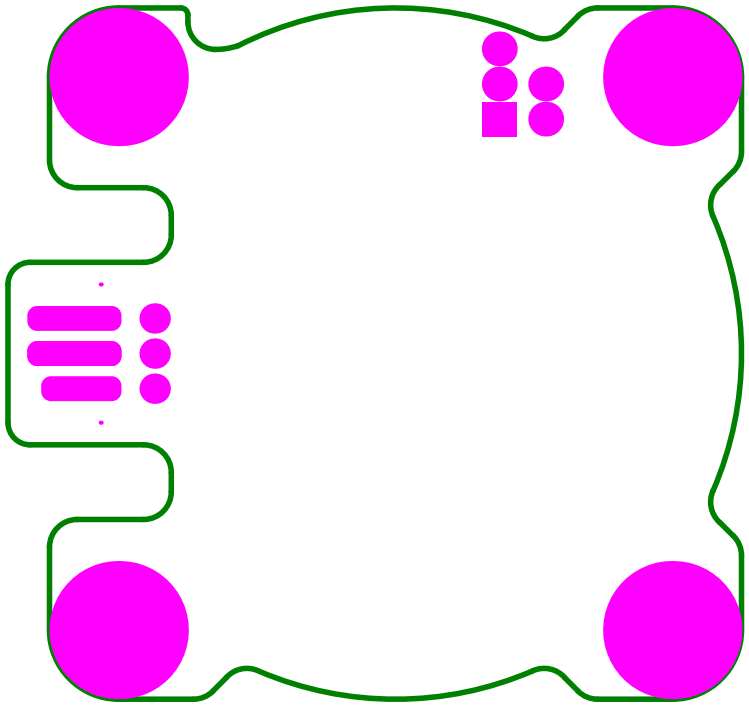
Board Outline

Bottom Paste



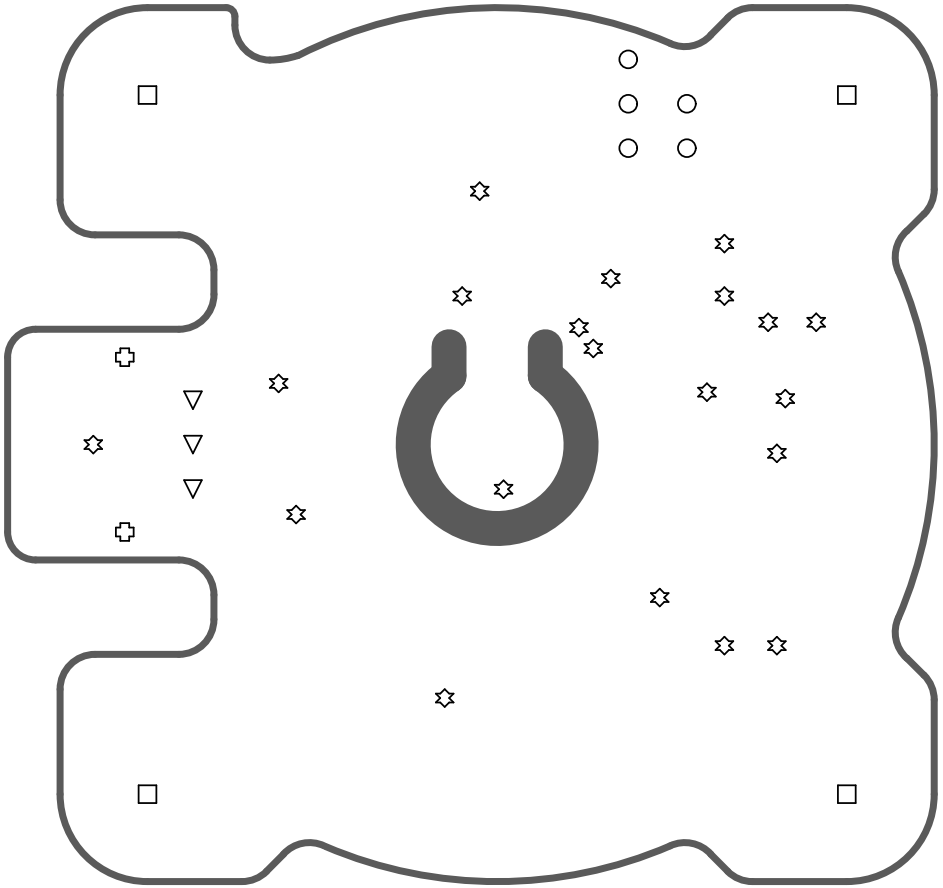
Board Outline

Top Solder (resist)



Board Outline

Bottom Solder (resist)



Board Outline

Drill Drawing