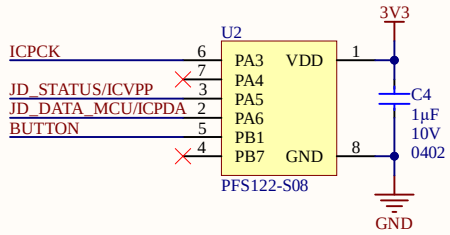
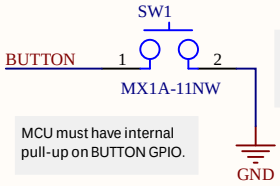
MCU



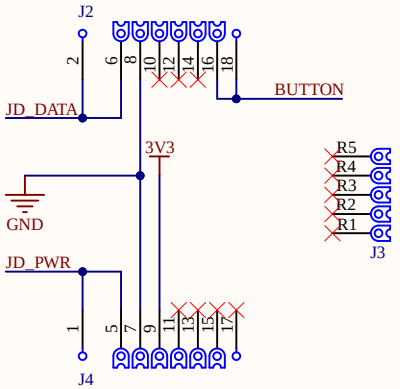
Button



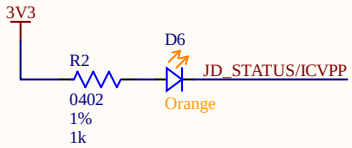
SW1 pin 4 is grounded to aid routing.

MCU must have internal pull-up on BUTTON GPIO.

Stamp holes



Status LED



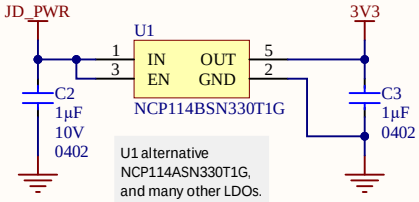
D6 alternative parts:
SML-D12D
E6C0603SEAC1UDA
NCD0603O1

Place a status LED adjacent to edge connector. If using alternative part check R2 value.

3V3 regulator

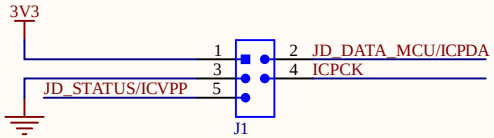
Consider using an LDO that is robust to spikes over 6V on input in case of noise on JD_PWR.

This component is a power-consumer.



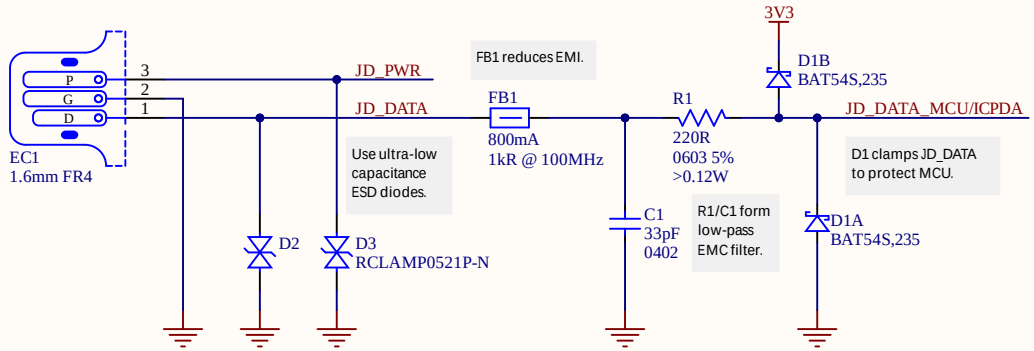
U1 alternative NCP114ASN330T1G, and many other LDOs.

Programming header



"JacConnect" programming adapter for PADAUK.
https://microsoft.github.io/jacdac-docs/ddk/firmware/jac-connect/

Jacdac connector



Use ultra-low capacitance ESD diodes.

R1/C1 form low-pass EMC filter.

D1 clamps JD_DATA to protect MCU.

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 manufacturer & module name and identify the version number and optionally a QR code.

This design uses the 'EC30' board shape.

Silkscreen & layout notes

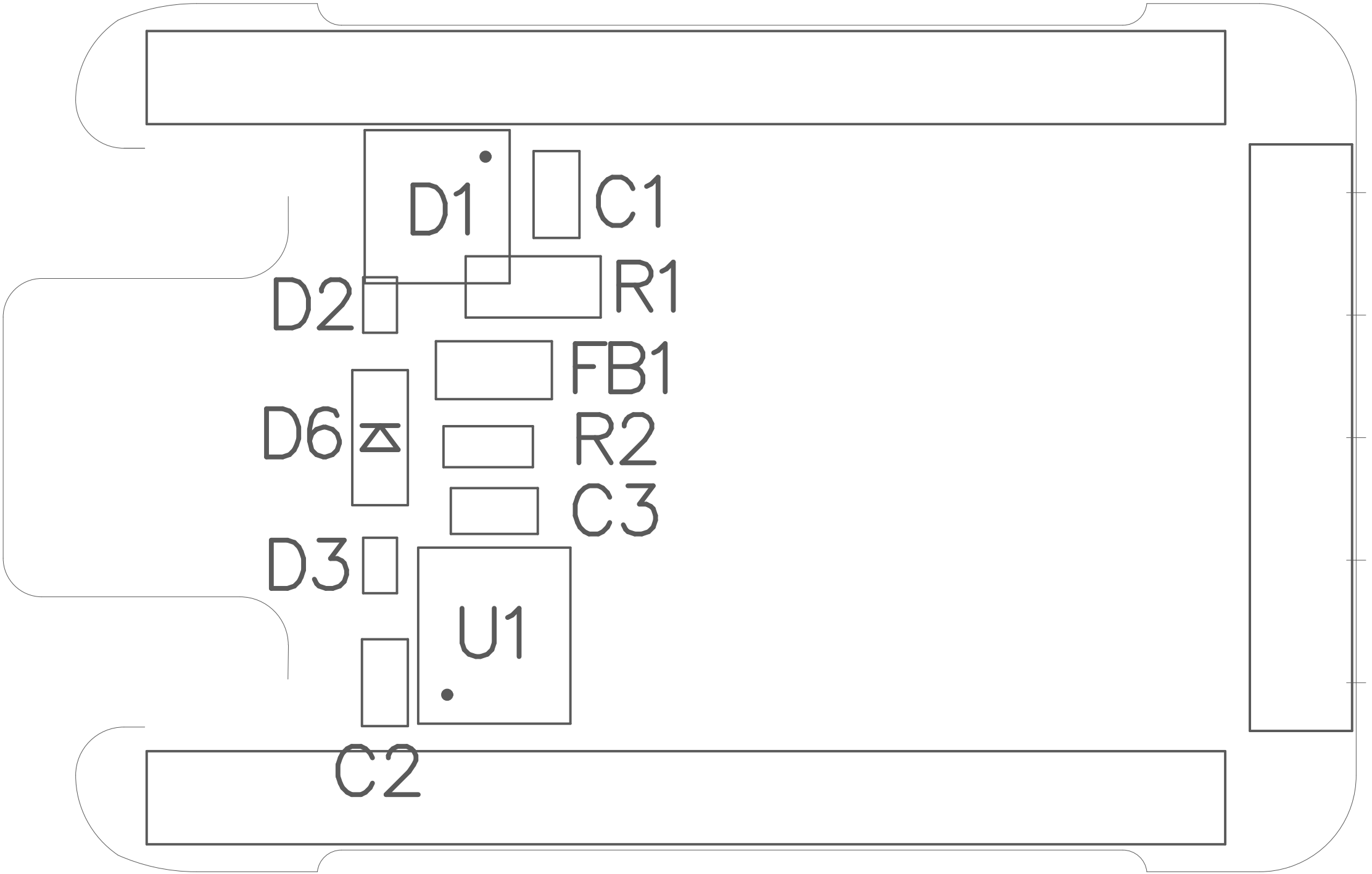
Block name

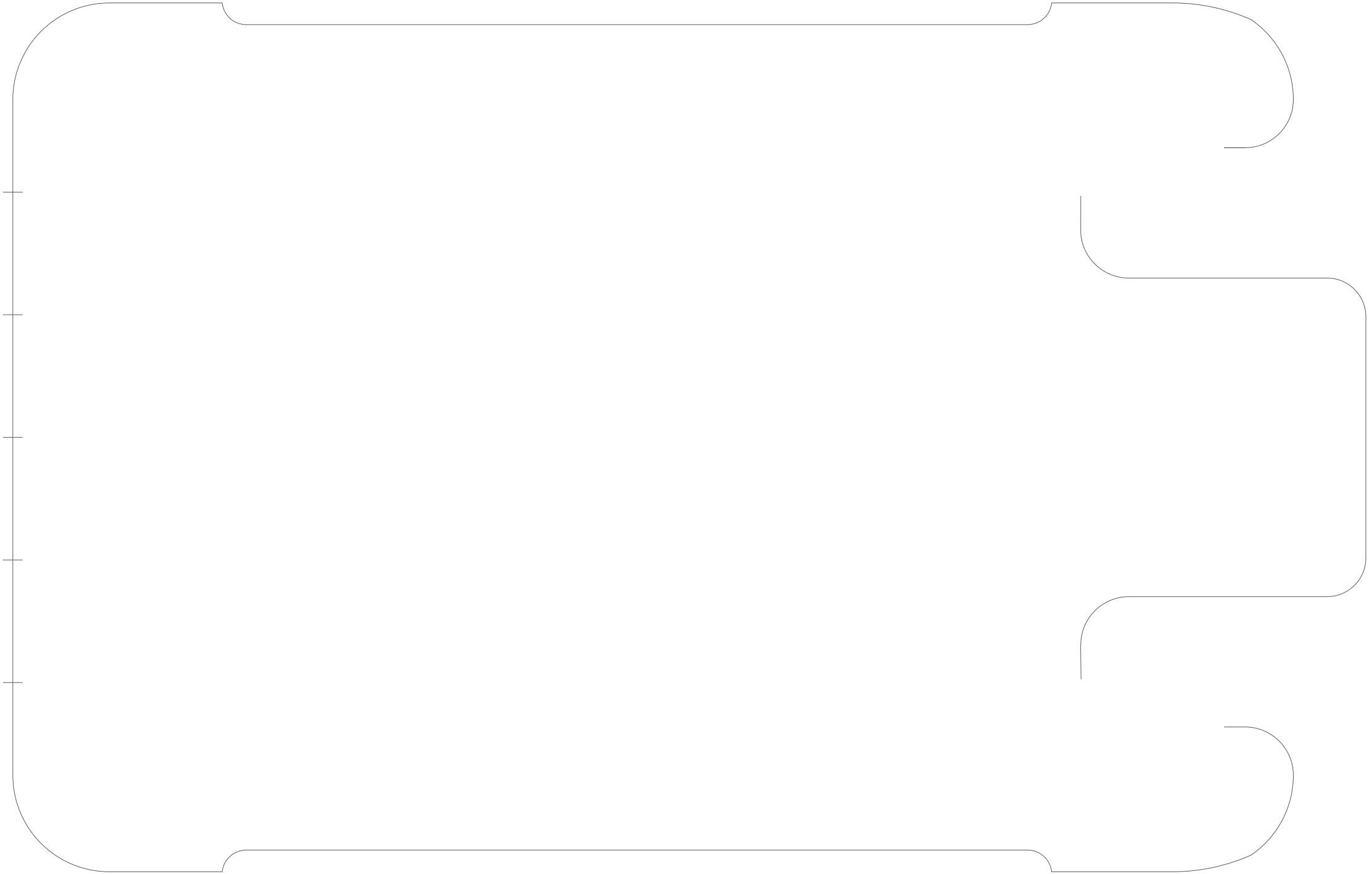
Design notes

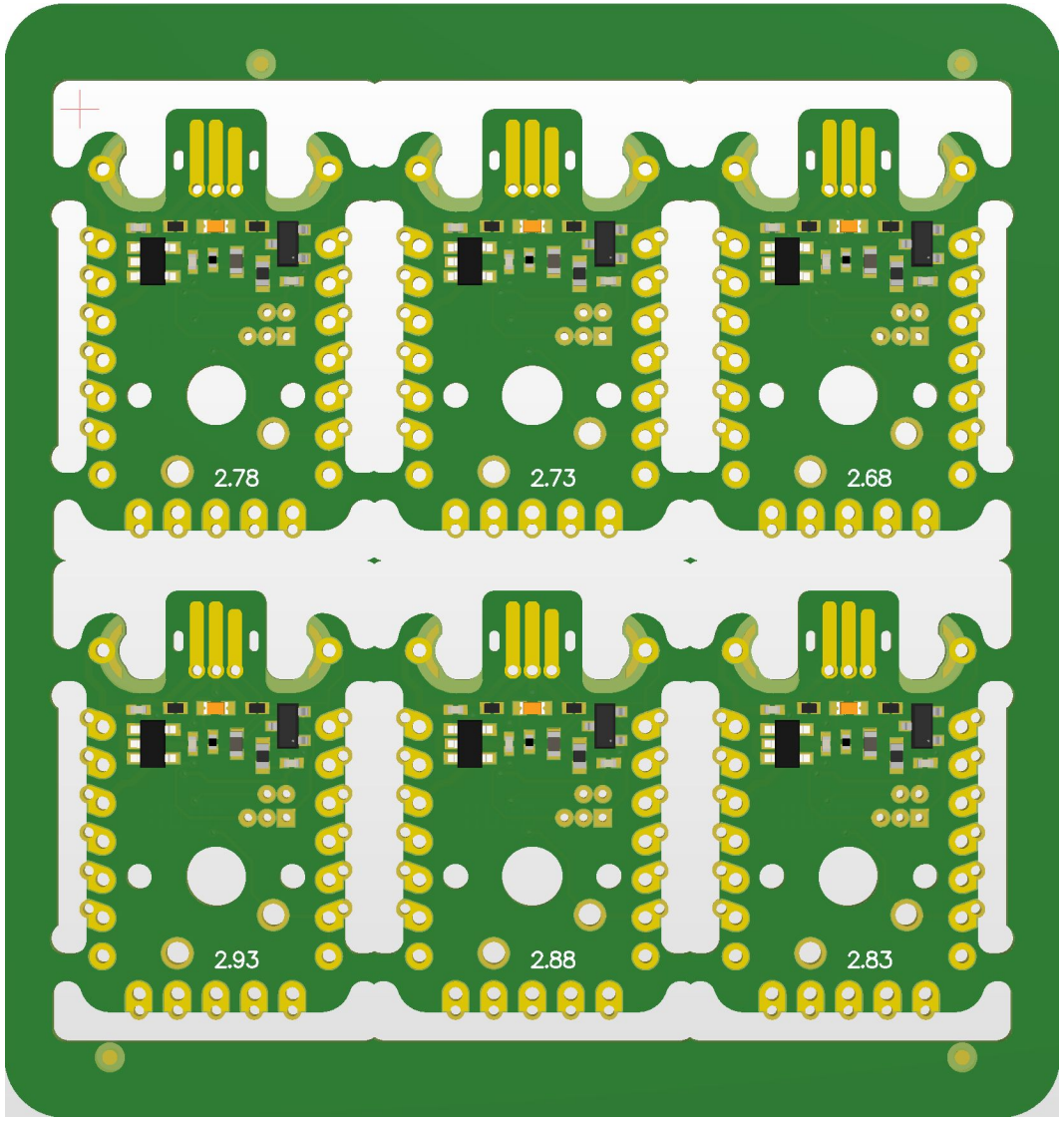
This information is provided "as-is". You bear the risk of using it. Some information relates to pre-released specification which may change without notice. Microsoft makes no warranties, express or implied, with respect to the information provided here.

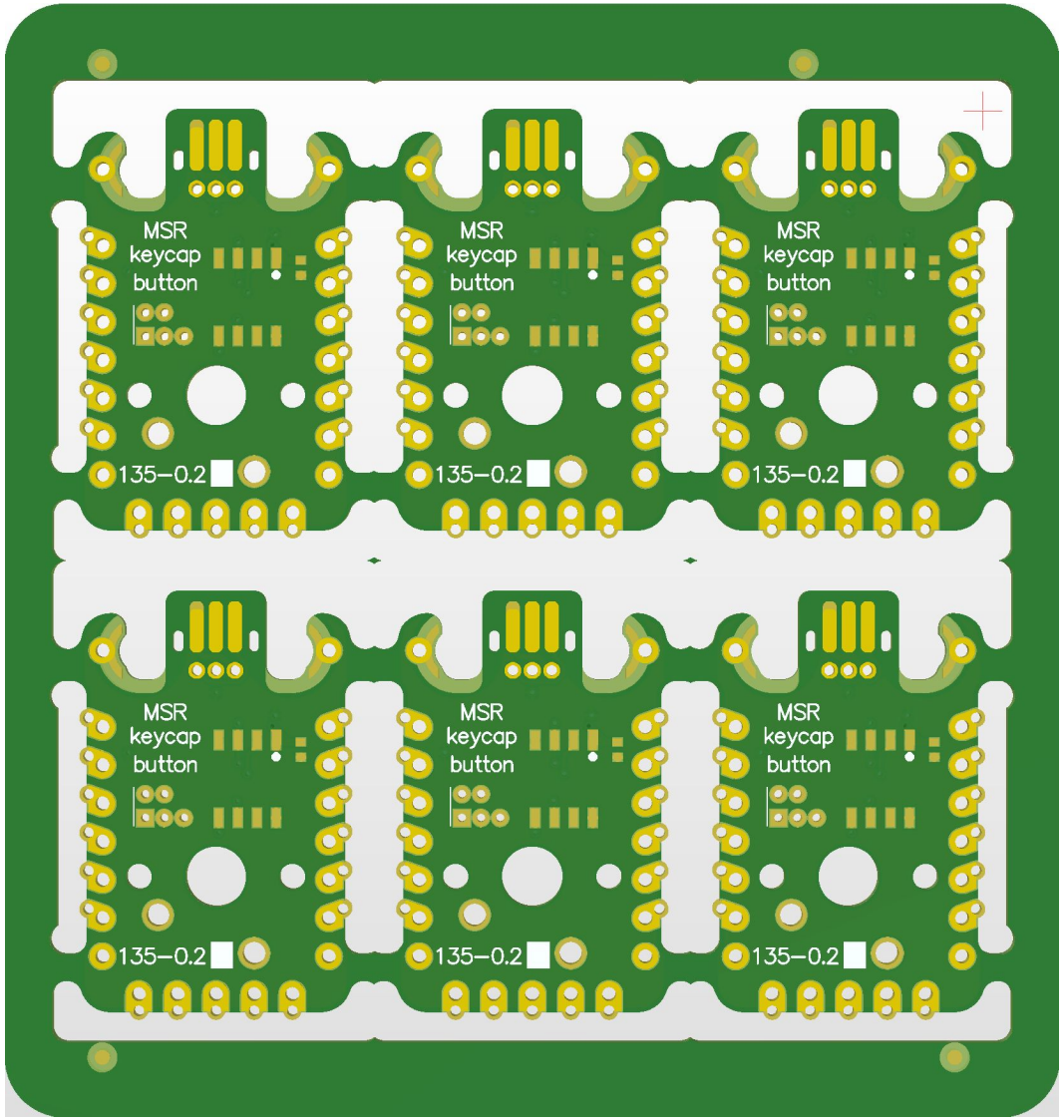
When this PDF is viewed with Adobe Reader, clicking on components shows part numbers and other details.

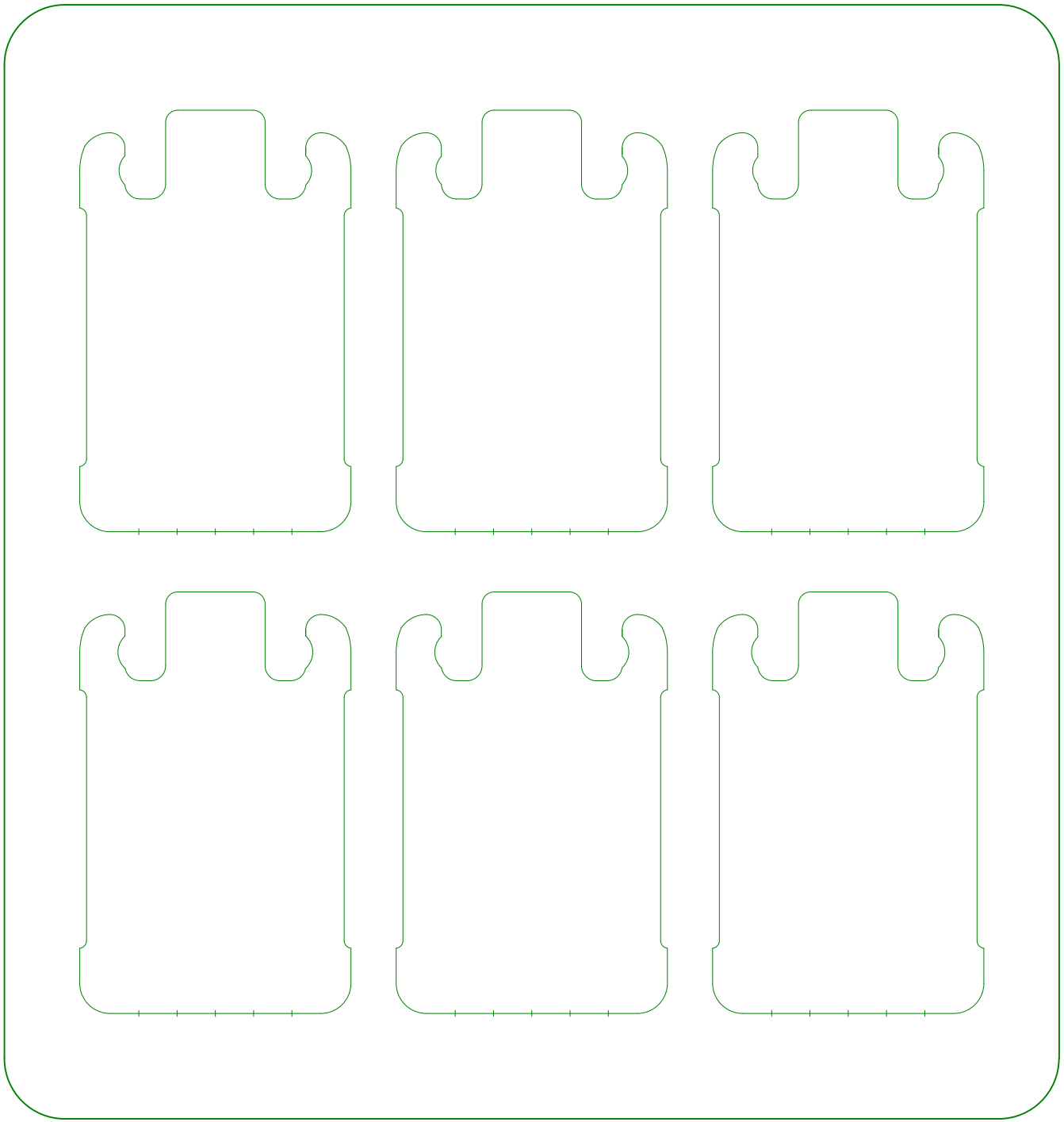
PROJECT FILENAME JacdackeycapButtonBc30 135.PrjPCB	PROJECT CODENAME JacdackeycapButtonBc30	Microsoft	PROJECT DESCRIPTION Jacdac keyboard button for BC mounting
SHEET FILENAME JacdackeycapButtonBc30 135.SchDoc	LICENCE Attribution 4.0 International (CC BY 4.0)	LAST MODIFIED 25/11/2022	PAGE 1 OF 1
		DRAWN BY SH	SHEET DESCRIPTION Complete design
		REVISION 0.2	PCB ID 135-0.2


D1
C1
D2
R1
FB1
D6
R2
C3
D3
U1
C2




2.78
2.73
2.68
2.93
2.88
2.83


MSR
keycap
button
135–0.2
MSR
keycap
button
135–0.2
MSR
keycap
button
135–0.2
MSR
keycap
button
135–0.2
MSR
keycap
button
135–0.2
MSR
keycap
button
135–0.2



GTL - Top Layer
GBL - Bottom Layer
GTO - Top Overlay
GBO - Bottom Overlay
GTP - Top Paste
GBP - Bottom Paste
GTS - Top Solder (resist)
GBS - Bottom Solder (resist)
GM3 - Fabrication Notes
GM6 - Board Outline Only
GM9 - V Score
GM11 - Board Outline + Cutouts
GM15 - Top Assy
GM16 - Bottom Assy

Each circuit has:

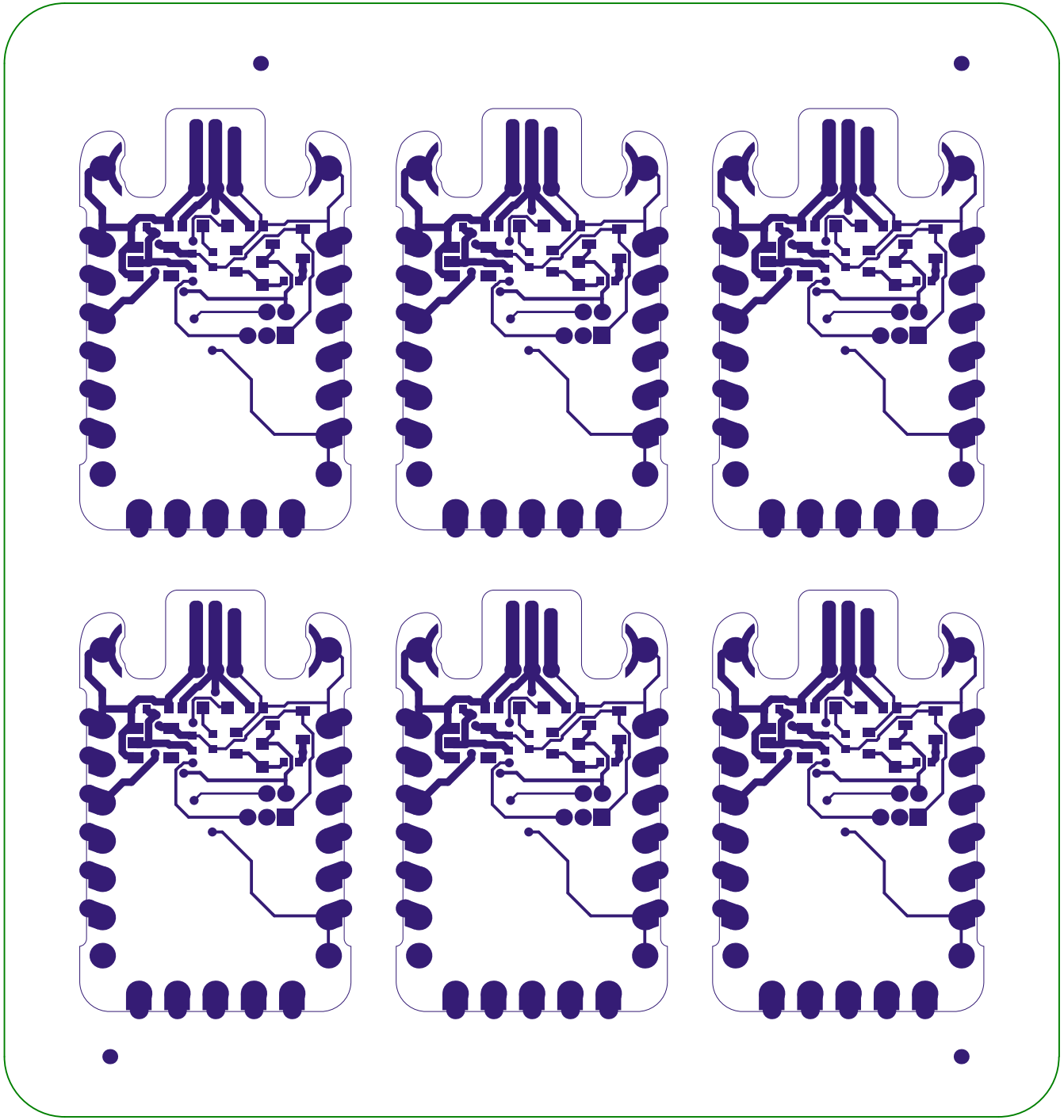
17x stamp-holes/half-holes
2x non-plated 0.7mm slots
(PLEASE USE 0.7mm)

Green solder resist,
ENIG finish, white silk

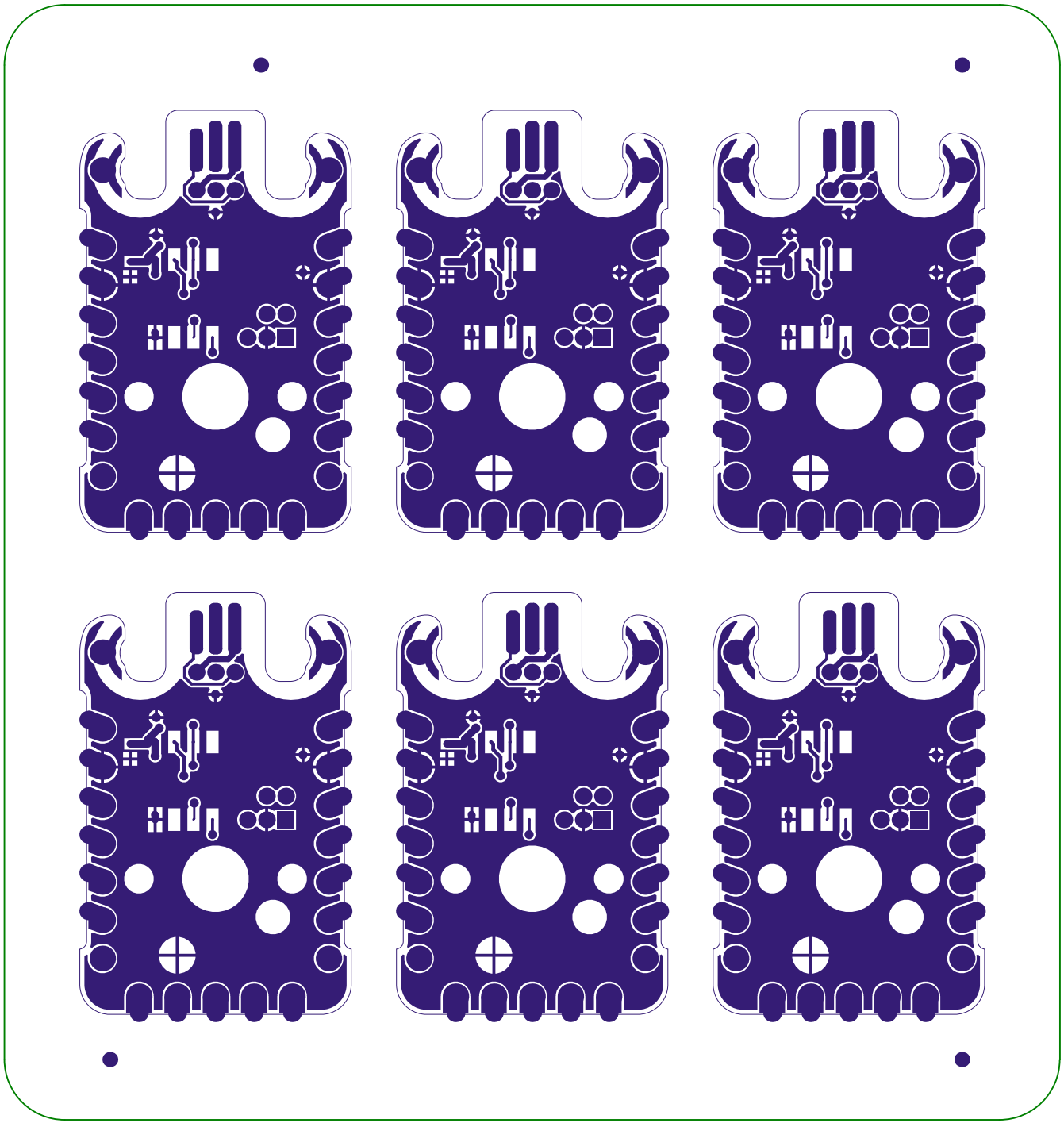
V-score lines on GM9

GM3 - Fabrication Notes

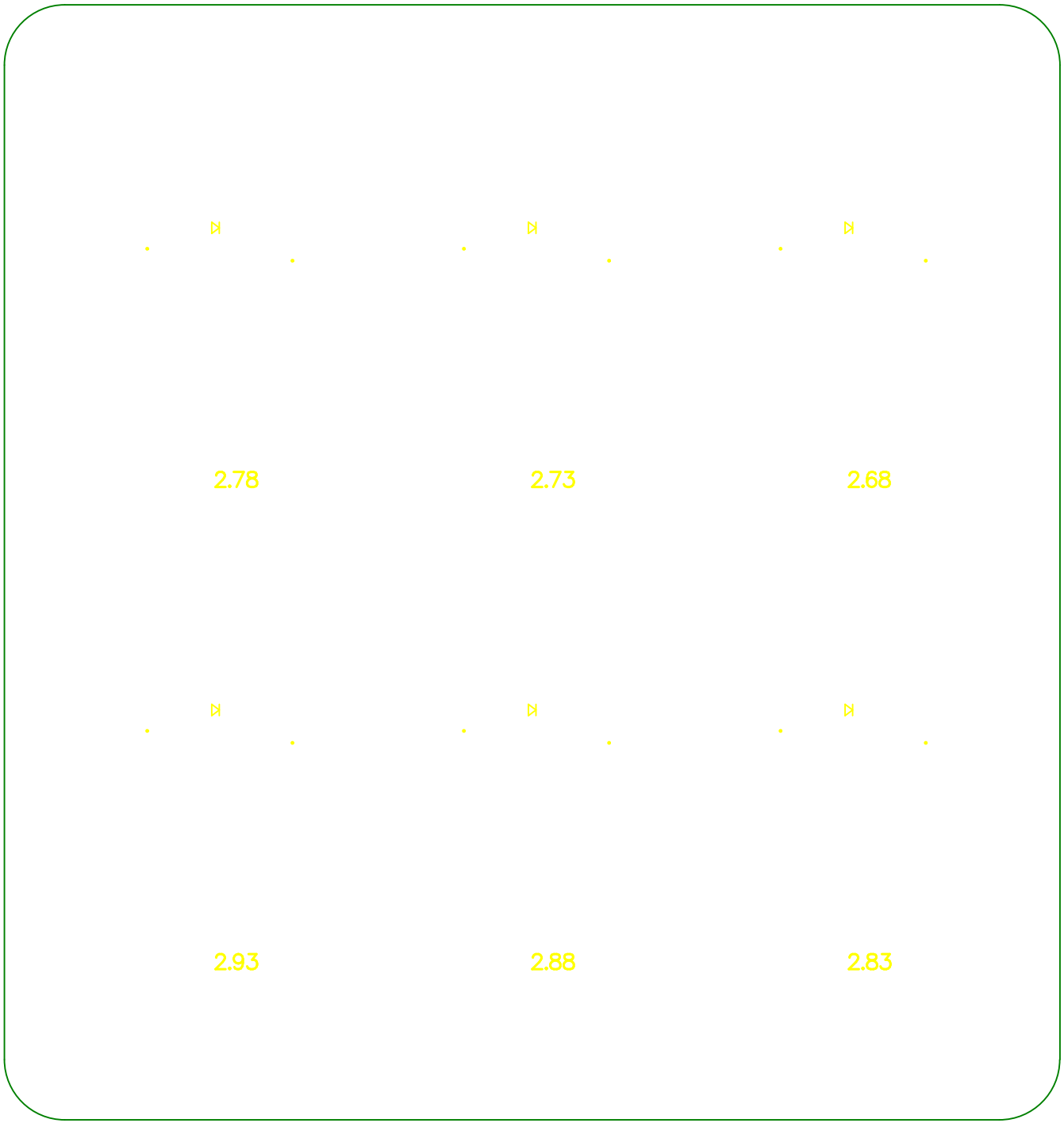
GM11 - Board Outline + Cutouts



GTL - Top Layer



GBL - Bottom Layer



GTO - Top Overlay

MSR
keycap
button

135–0.2

MSR
keycap
button

135–0.2

MSR
keycap
button

135–0.2

MSR
keycap
button

135–0.2

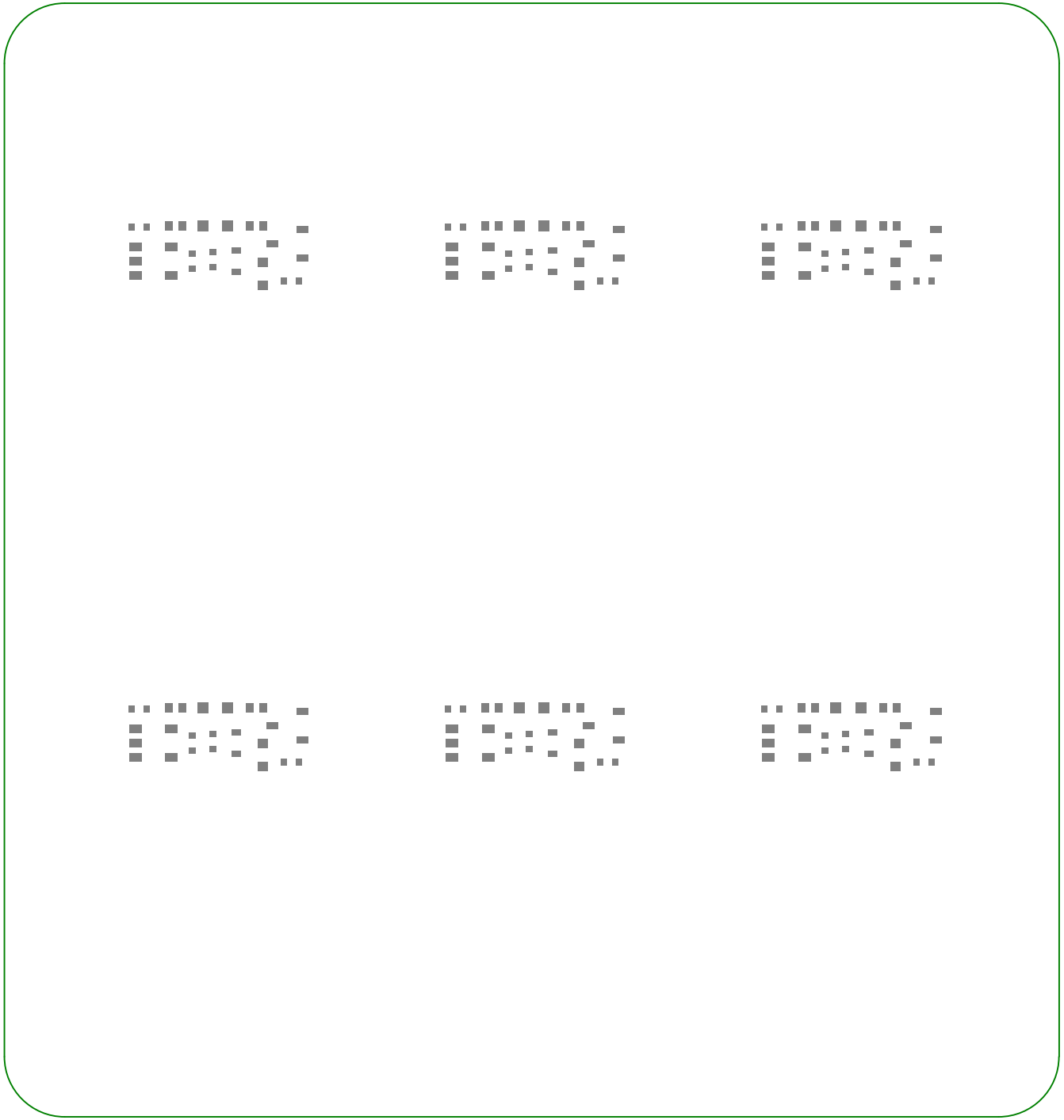
MSR
keycap
button

135–0.2

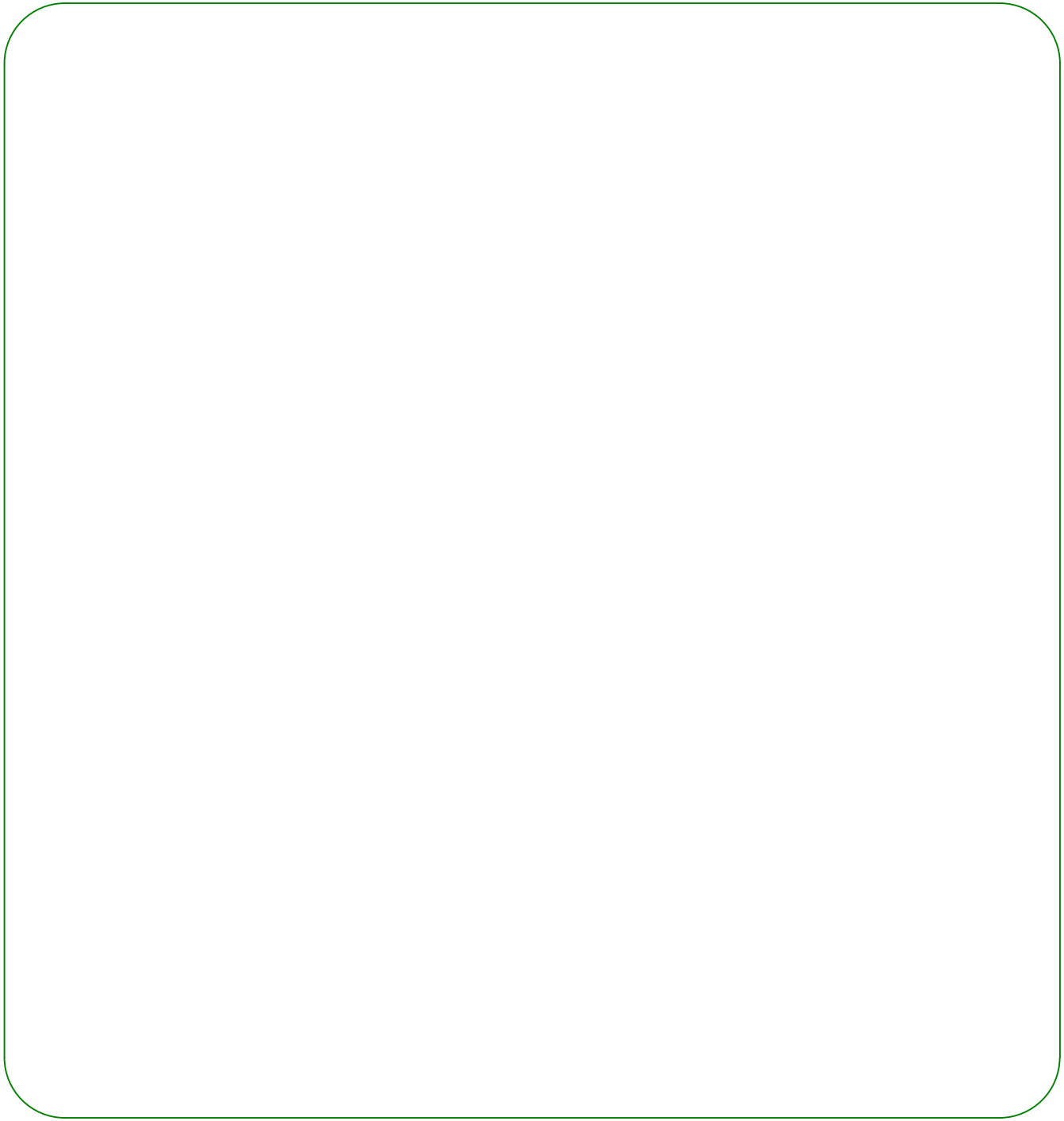
MSR
keycap
button

135–0.2

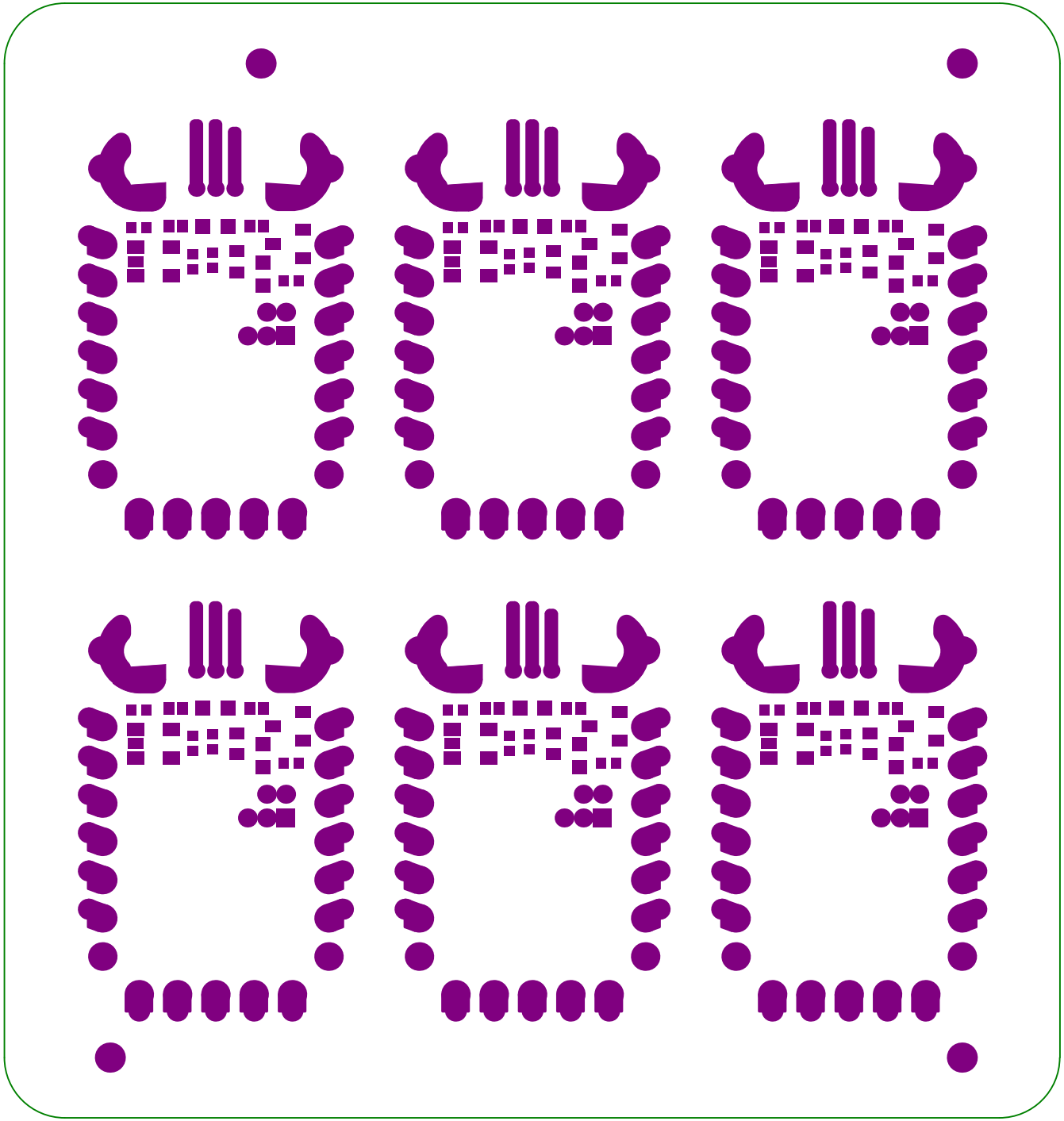
GBO - Bottom Overlay



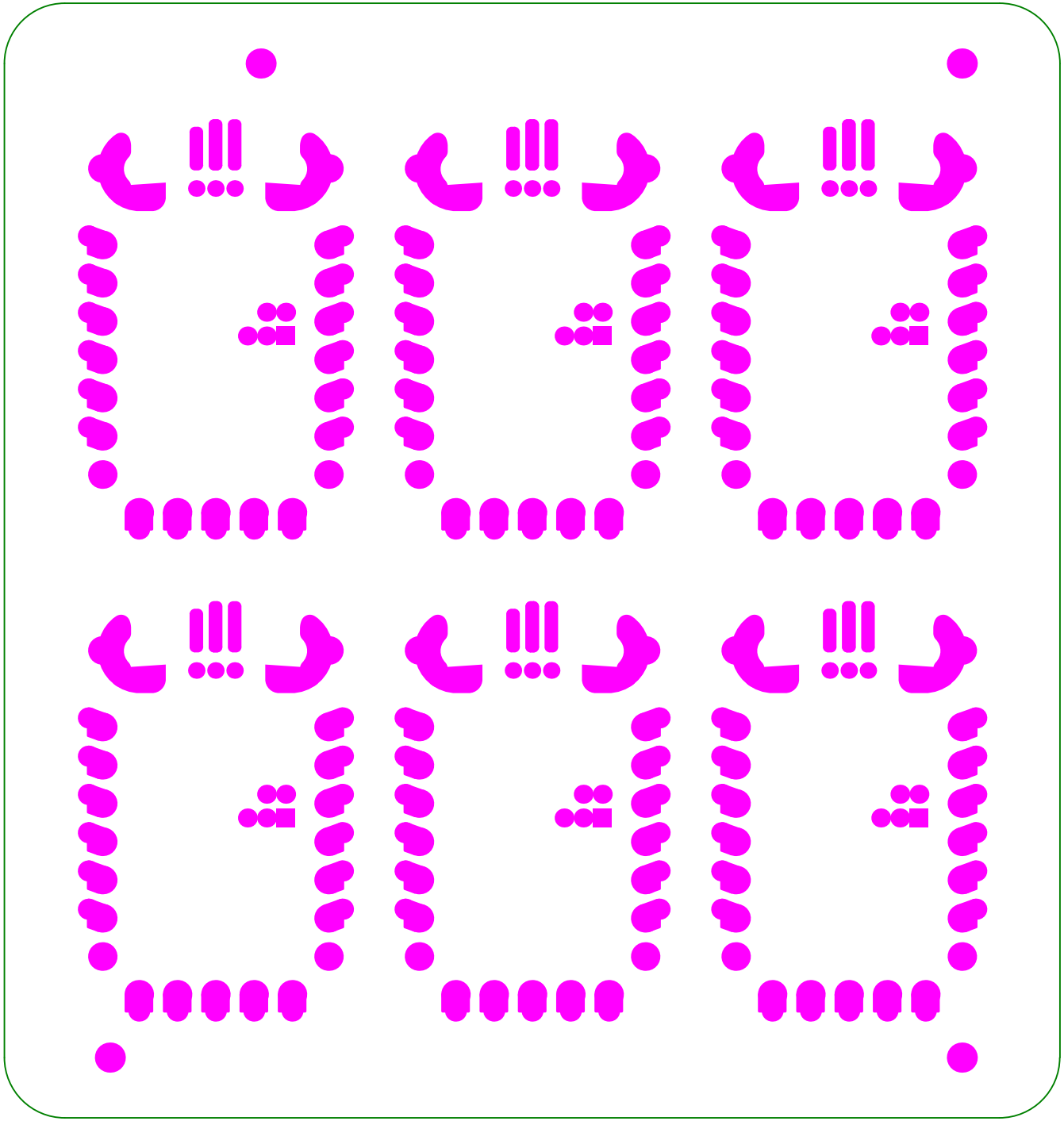
GTP - Top Paste



GBP - Bottom Paste



GTS - Top Solder (resist)



GBS - Bottom Solder (resist)