RELEASE HISTORY

REVISION	DESCRIPTION	DATE
v1.0	Initial Prototype	09/04/2021
v2.0	Second Prototype	07/06/2021
v3.0	Design Candidate	05/08/2021
v4.3	Final Design	10/12/2021

Table of Contents

Board Fabrication Statistics

Item	Value
Board Height	63.50mm
Board Width	50.00mm
Board Area	3171.61sq.mm
Net Count	50
Pad Count	304
Hole Count	131
Via Count	56
Slot Hole Count	10

THIRD ANGLE

APPROVALS		DATE
ENGINEER:	LD STANTON	10/12/2021
CHECKER:	JC Pead	--/--/----

REFERENCE DOCUMENTS

BOM DOC:	Bill of Materials.csv
CPL DOC:	Pick and Place.csv
ASM DOC:	Assembley.PCBDwf
SCH DOC:	Main.SchDoc
PCB DOC:	PCB.PcbDoc

UNIVERSITY OF CAPE TOWN
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CAPE TOWN
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ALTERNATIVE: JUSTIN PEAD justin.pead@uct.ac.za

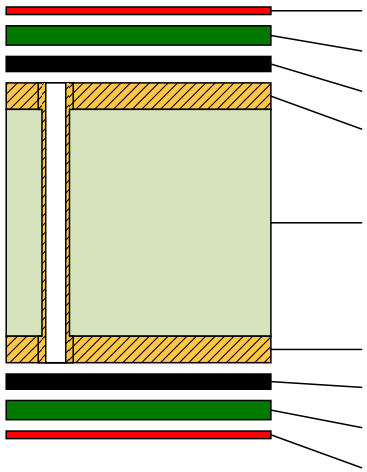
TITLE: SIO2MKR
USB Split Rail Power Supply for Breadboards

VARIANT: [No Variations]
REVISION v4.3 2021/12/10

SIZE: **A4**
DWG: **FABRICATION**

SCALE: **5:2**
FILE: **Fabrication.PCBDwf**
SHEET 1 OF 11

Layer Stack Legend

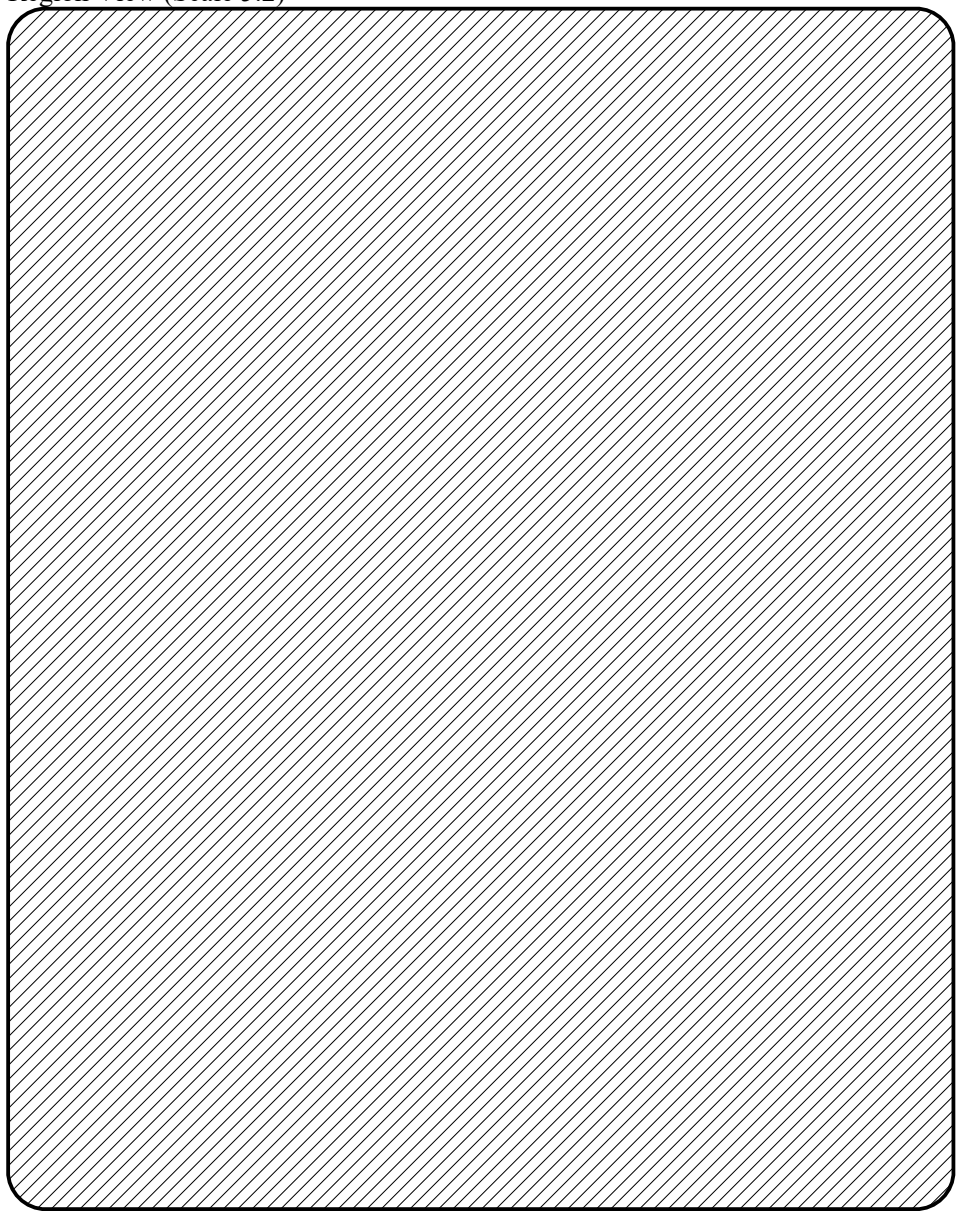


Material	Layer	Thickness	Dielectric Material	Type	Gerber
	Top Overlay			Legend	GTO
Surface Material	Top Solder	0.03mm	SM-001	Solder Mask	GTS
Lead-Free	Top Surface Finish	0.02mm		Surface Finish	
CF-004	**Top Layer**	**0.04mm**		**Signal**	**GTL**
Core		*1.44mm*	*FR-4*	*Dielectric*	
CF-004	**Bottom Layer**	**0.04mm**		**Signal**	**GBL**
Lead-Free	Bottom Surface Finish	0.02mm		Surface Finish	
Surface Material	Bottom Solder	0.03mm	SM-001	Solder Mask	GBS
	Bottom Overlay			Legend	GBO

Total thickness: 1.60mm

SIZE: **A4**	DWG: **FABRICATION**		
SCALE: **5:2**	FILE: **Fabrication.PCBDwf**	SHEET 2 OF 11	

Region View (Scale 5:2)



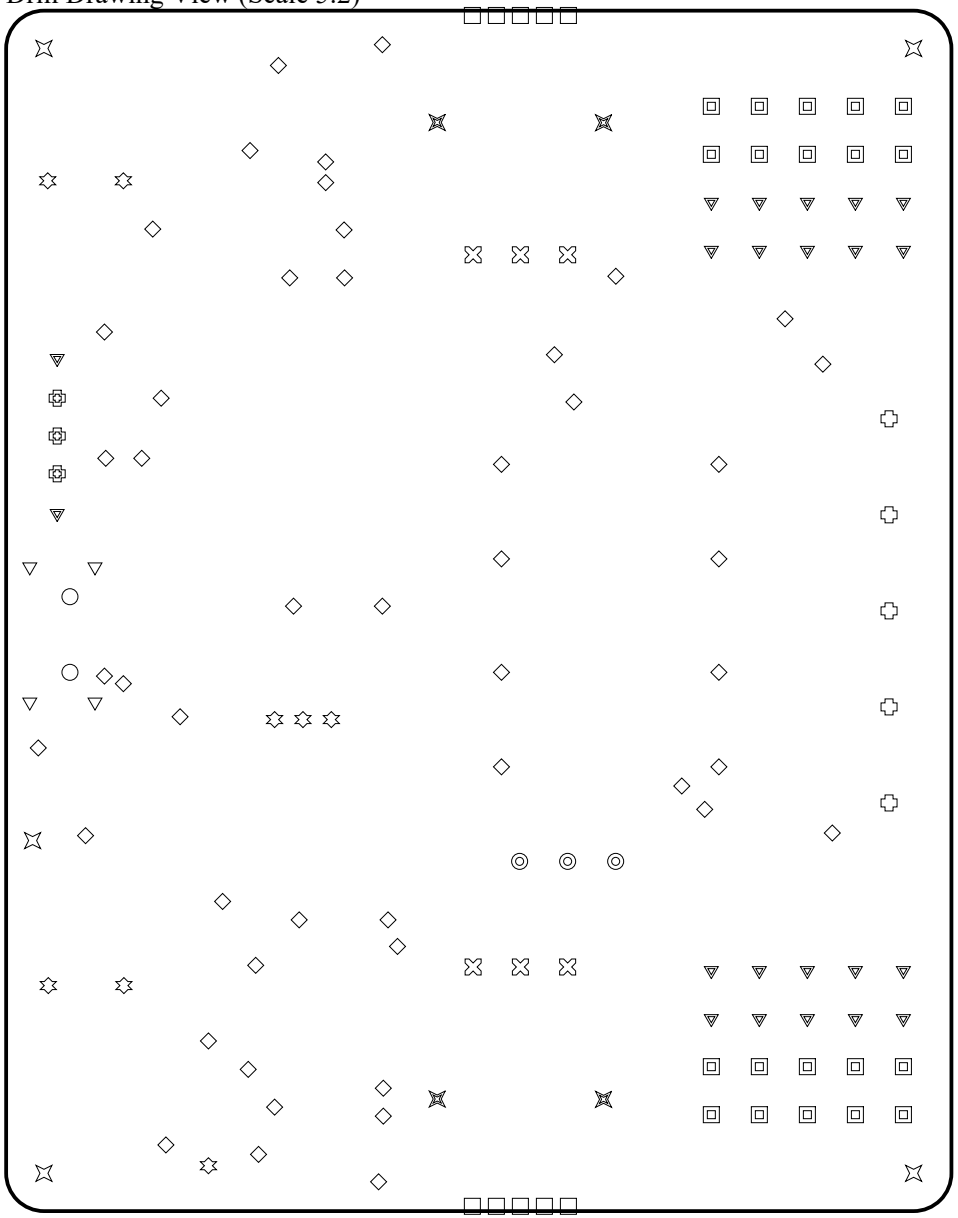
SIZE: A4	DWG: FABRICATION		
SCALE: 5:2	FILE: Fabrication.PCBDwf	SHEET 3 OF 11	

Drill Table

Symbol	Count	Hole Size	Plated	Hole Type	Drill Layer Pair	Via / Pad	Pad Shape	Hole Tolerance	Hole Length
◇	49	0.50mm(20mil)	Plated	Round	Top Layer - Bottom Layer	Via		+0.13mm(5mil)/-0.08mm(3mil)	
▽	4	0.60mm(24mil)	Plated	Slot	Top Layer - Bottom Layer	Pad	Rounded		1.30mm(51mil)
○	2	0.70mm(28mil)	Non-Plated	Round	Top Layer - Bottom Layer	Pad	Rounded		
□	10	0.79mm(31mil)	Non-Plated	Round	Top Layer - Bottom Layer	Pad	Rounded		
◎	3	0.80mm(31mil)	Plated	Round	Top Layer - Bottom Layer	Pad	(Mixed)		
⛭	8	0.80mm(31mil)	Plated	Round	Top Layer - Bottom Layer	(Mixed)	(Mixed)	+0.13mm(5mil)/-0.08mm(3mil)	
⧈	20	0.90mm(35mil)	Plated	Round	Top Layer - Bottom Layer	Pad	Rounded	+0.13mm(5mil)/-0.08mm(3mil)	
⧨	22	0.90mm(35mil)	Plated	(Mixed)	Top Layer - Bottom Layer	Pad	Rounded		(Mixed)
⧆	3	0.91mm(36mil)	Plated	Round	Top Layer - Bottom Layer	Pad	Rounded		
⛝	6	1.10mm(43mil)	Plated	Round	Top Layer - Bottom Layer	Pad	Rounded	+0.13mm(5mil)/-0.08mm(3mil)	
⛌	5	1.15mm(45mil)	Non-Plated	Round	Top Layer - Bottom Layer	Pad	Rounded	+0.13mm(5mil)/-0.08mm(3mil)	
⛒	5	1.20mm(47mil)	Plated	Round	Top Layer - Bottom Layer	Pad	Rounded	+0.13mm(5mil)/-0.08mm(3mil)	
⛋	4	1.80mm(71mil)	Plated	Slot	Top Layer - Bottom Layer	Pad	Rounded	+0.13mm(5mil)/-0.08mm(3mil)	2.20mm(87mil)
	141 Total								

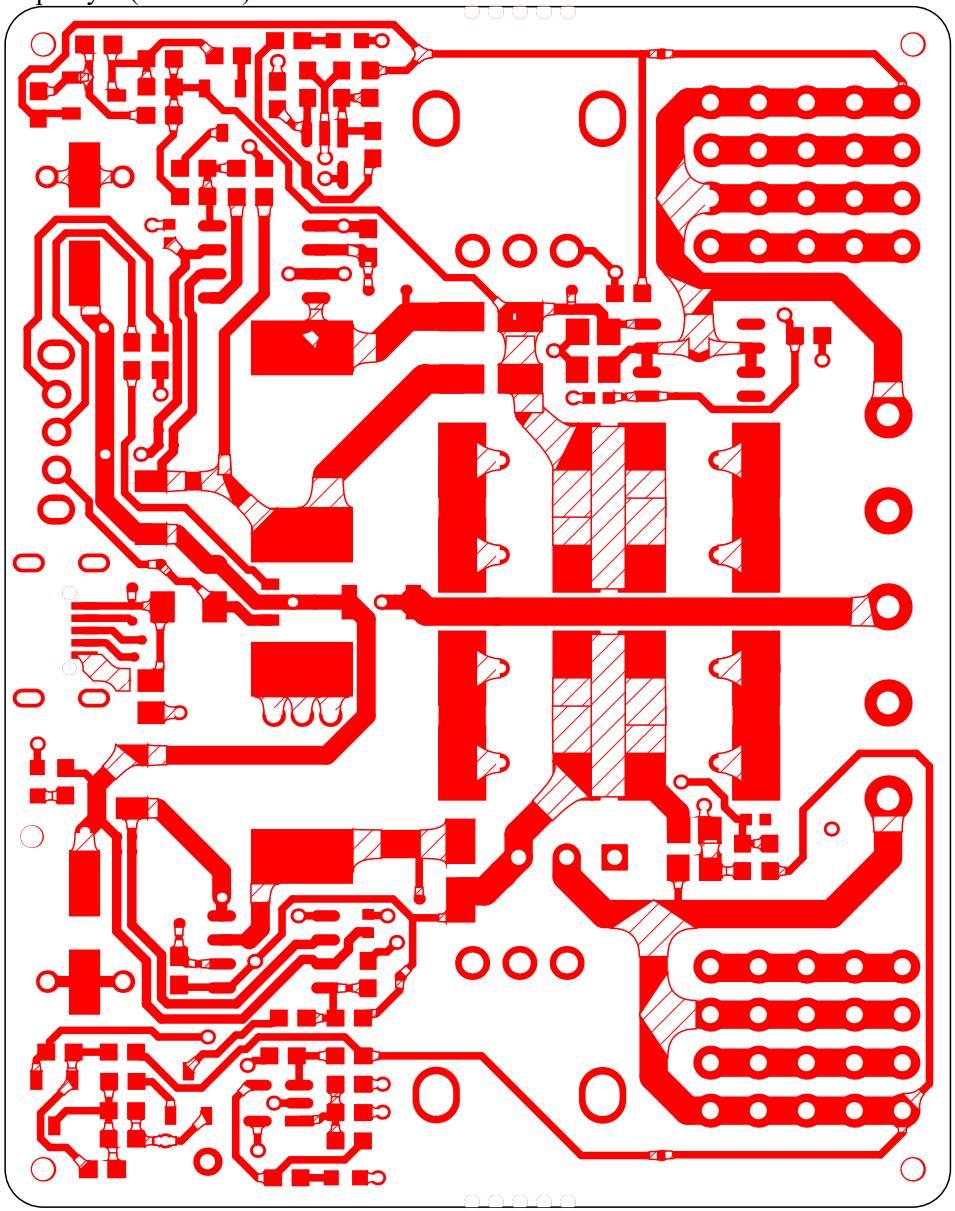
SIZE: A4	DWG: FABRICATION		
SCALE: 5:2	FILE: Fabrication.PCBDwf	SHEET 4 OF 11	

Drill Drawing View (Scale 5:2)



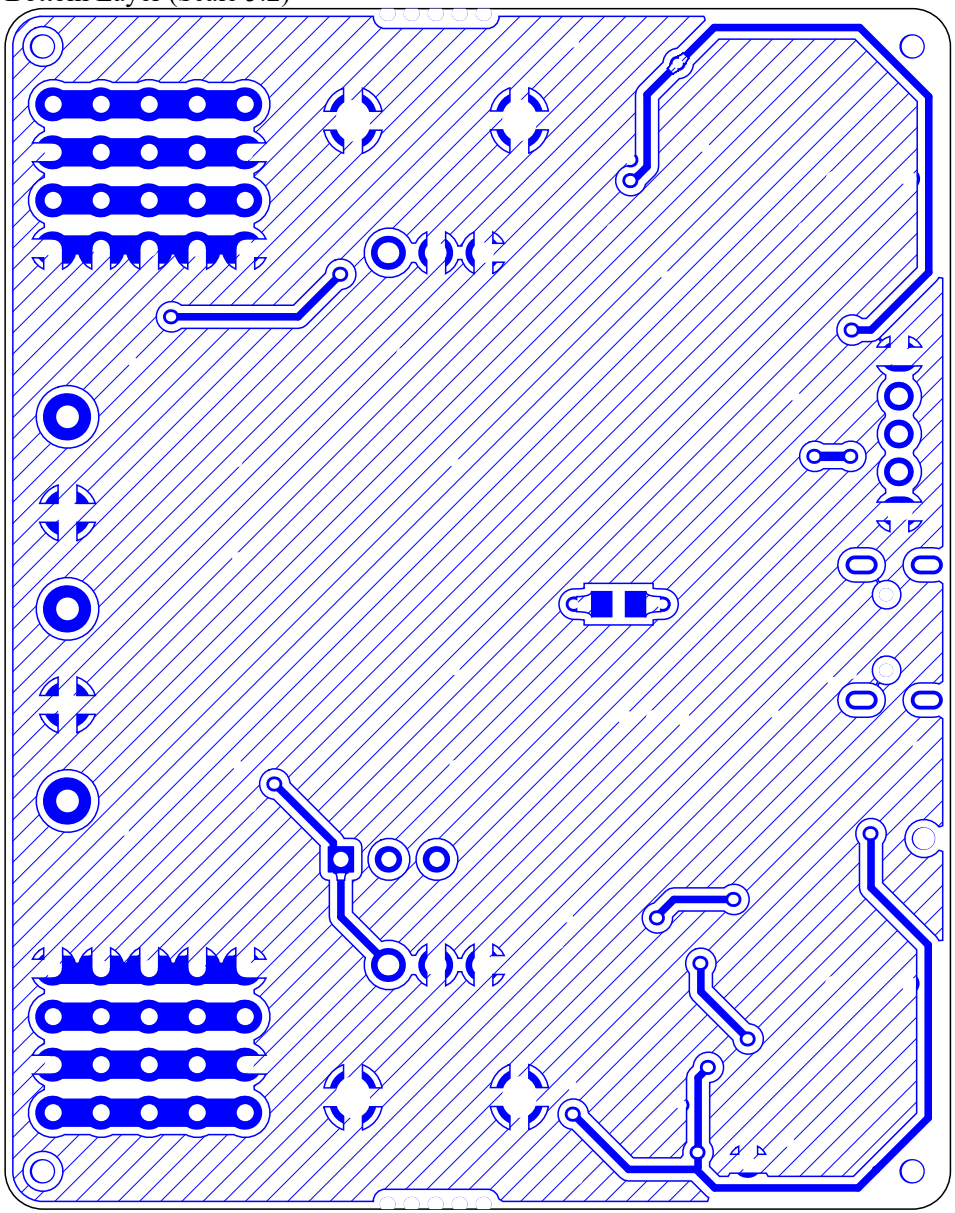
SIZE: A4	DWG: FABRICATION		
SCALE: 5:2	FILE: Fabrication.PCBDwf	SHEET 5 OF 11	

Top Layer (Scale 5:2)



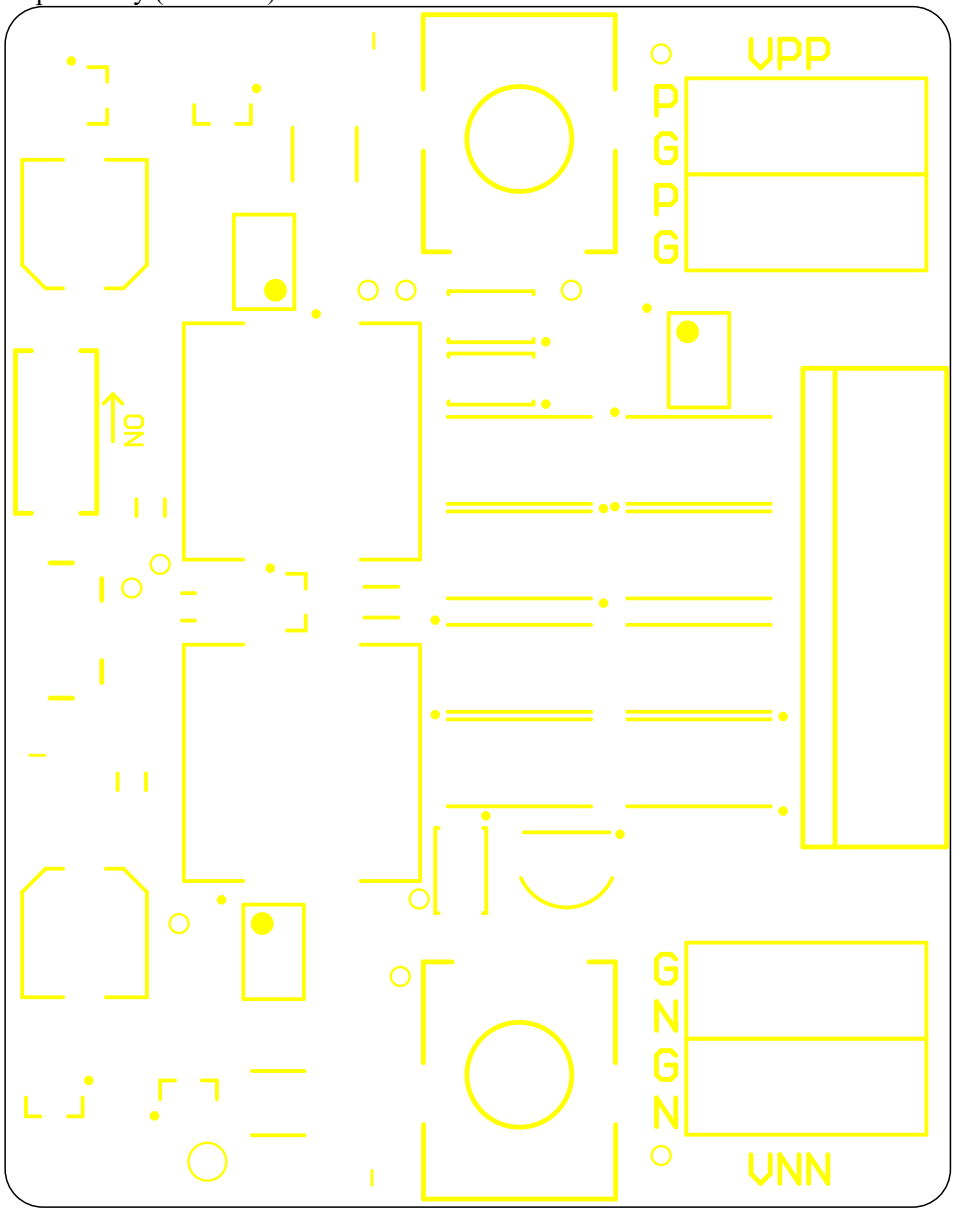
SIZE: A4	DWG: FABRICATION	
SCALE: 5:2	FILE: Fabrication.PCBDwf	SHEET 6 OF 11

Bottom Layer (Scale 5:2)



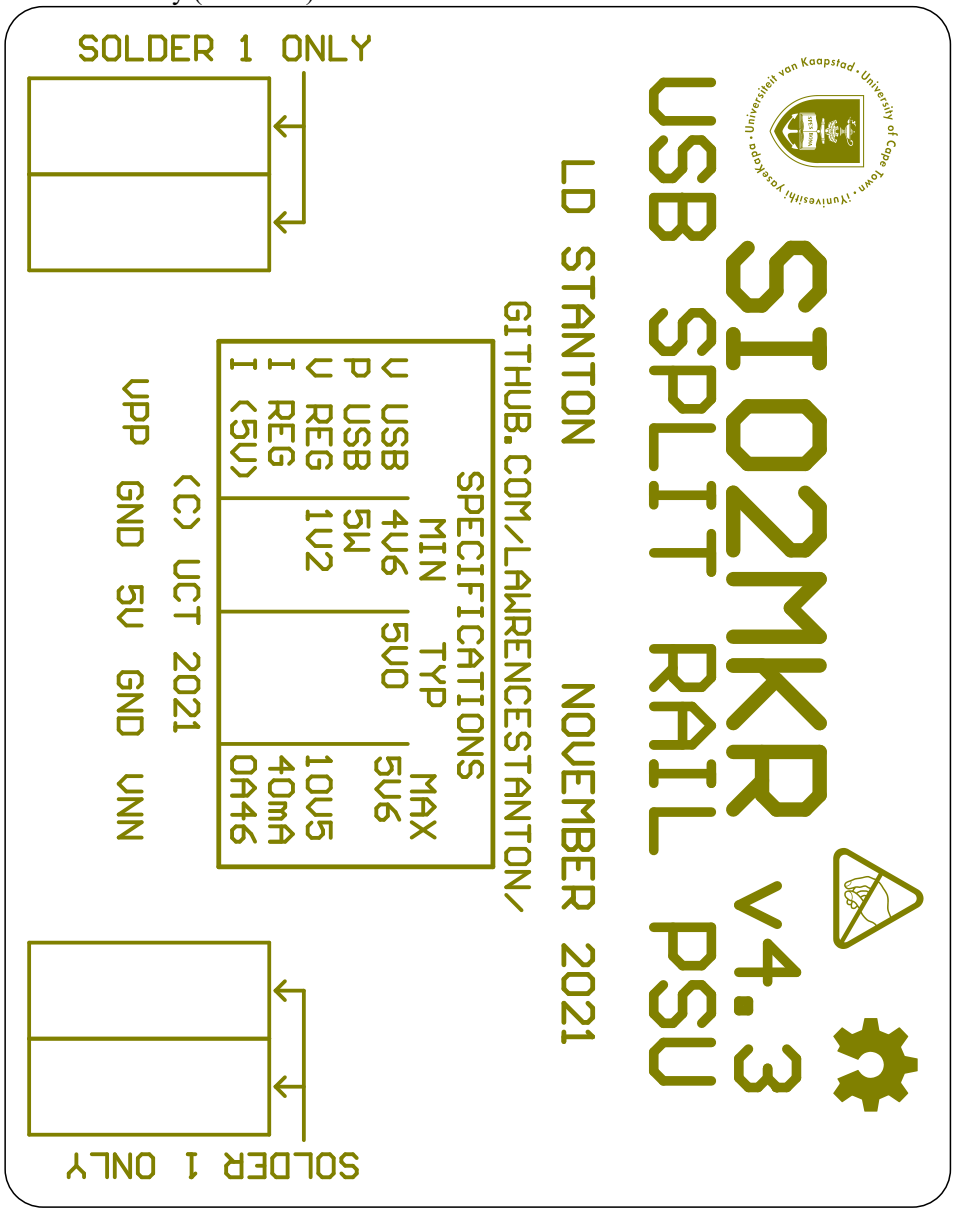
SIZE: A4	DWG:	FABRICATION	
SCALE: 5:2	FILE:	Fabrication.PCBDwf	SHEET 7 OF 11

Top Overlay (Scale 5:2)



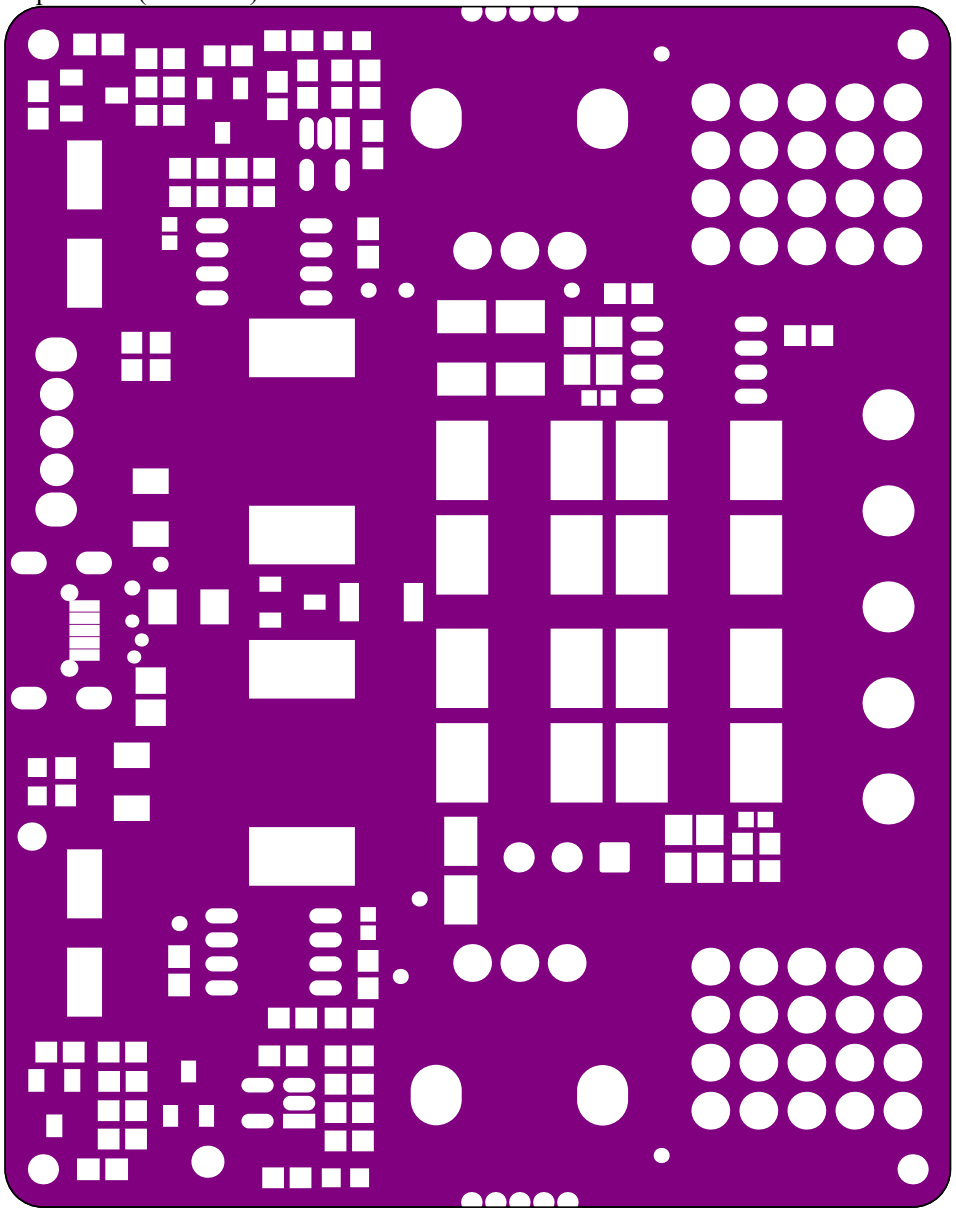
SIZE: A4	DWG: FABRICATION		
SCALE: 5:2	FILE: Fabrication.PCBDwf	SHEET 8 OF 11	

Bottom Overlay (Scale 5:2)



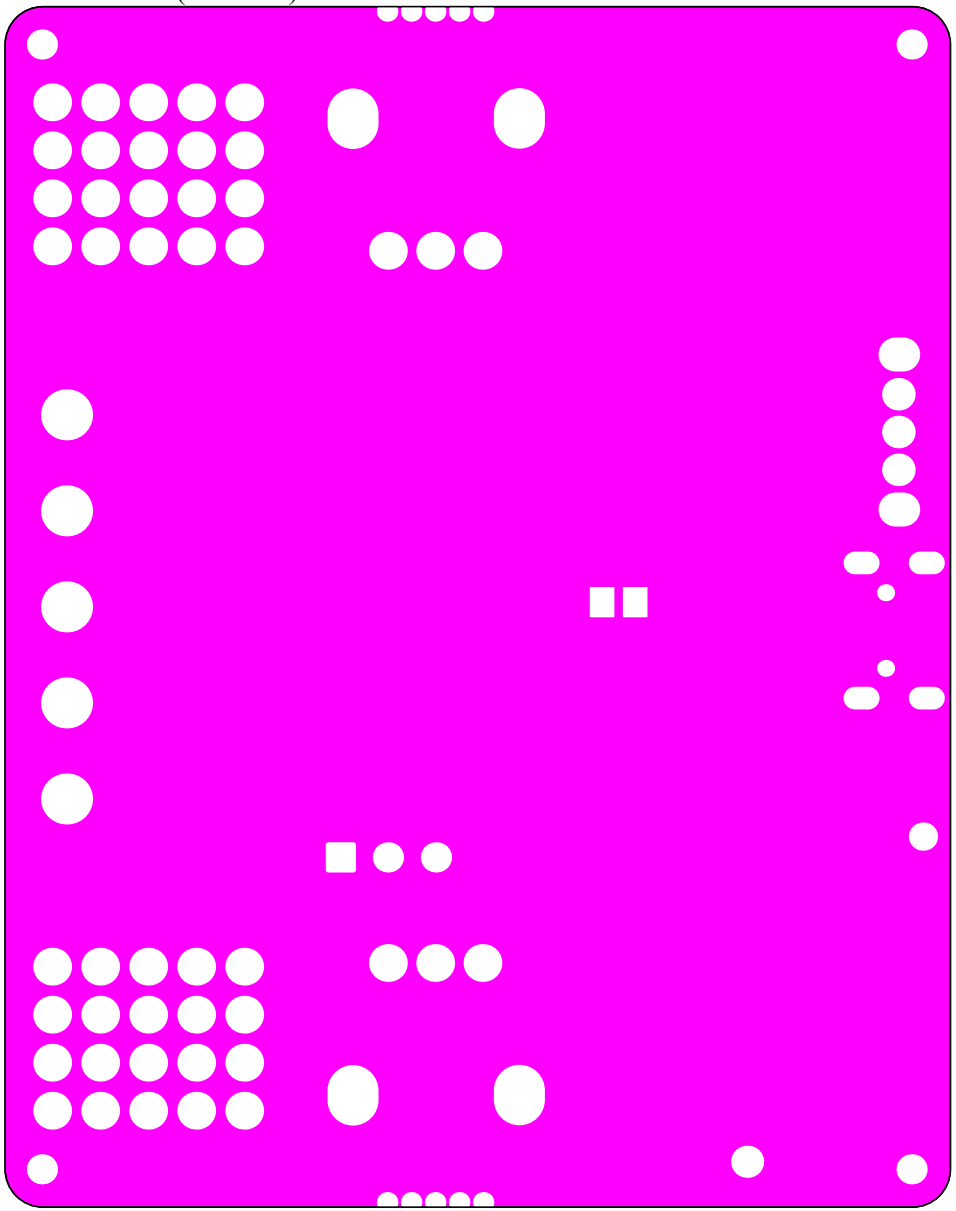
SIZE: A4	DWG: FABRICATION	
SCALE: 5:2	FILE: Fabrication.PCBDwf	SHEET 9 OF 11

Top Solder (Scale 5:2)



SIZE: A4	DWG: FABRICATION	
SCALE: 5:2	FILE: Fabrication.PCBDwf	SHEET 10 OF 11

Bottom Solder (Scale 5:2)



SIZE: A4	DWG: FABRICATION		
SCALE: 5:2	FILE: Fabrication.PCBDwf	SHEET 11 OF 11	