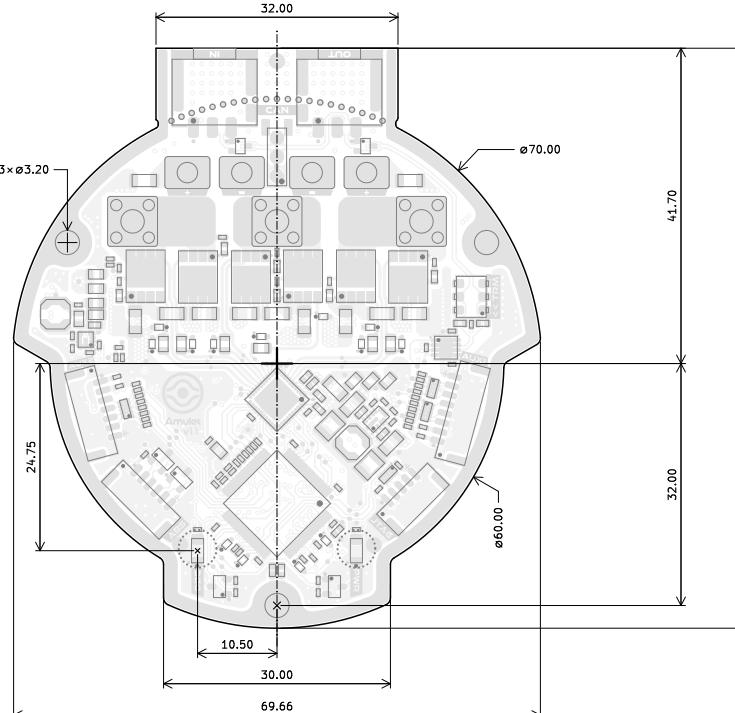
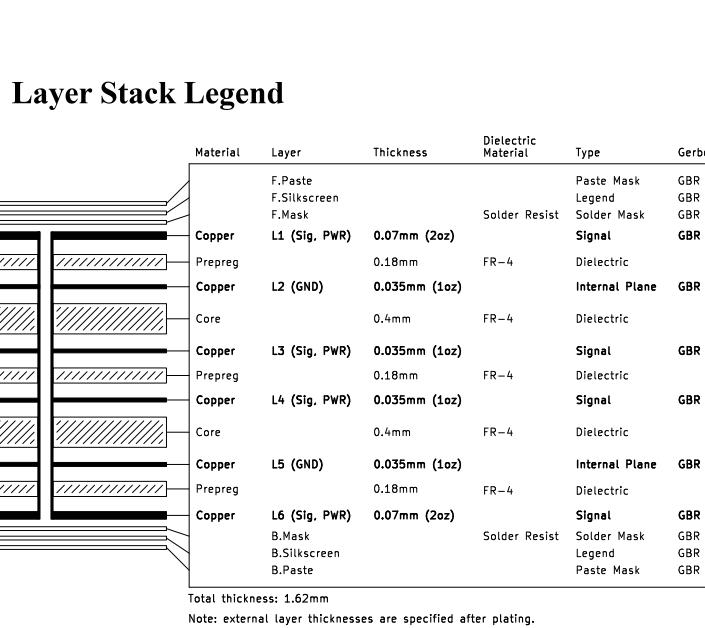


Amulet Motion Controller Fabrication Document

Top Fabrication (Scale 1:1)



FABRICATION NOTES (UNLESS OTHERWISE SPECIFIED)

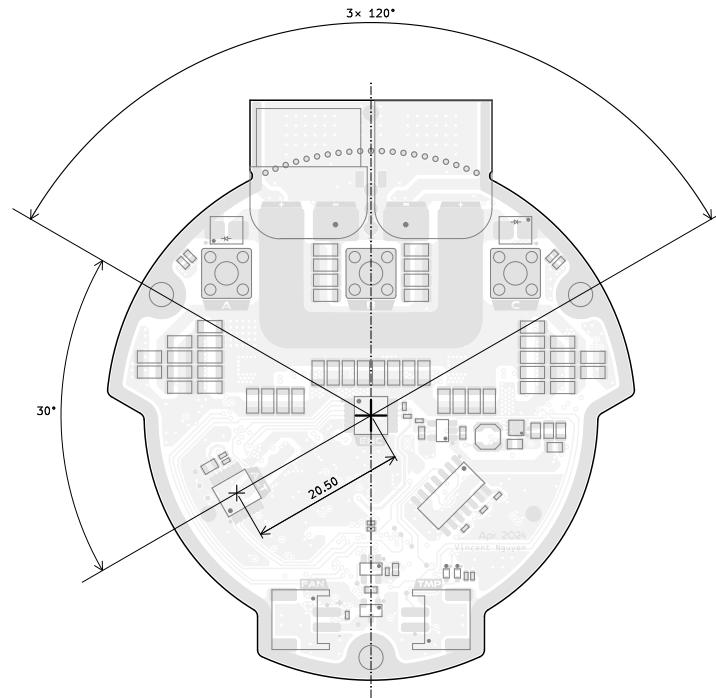
- OUTLINE DEFINED IN SEPARATE GERBER FILE WITH "Edge_Cuts.GBR" SUFFIX.
DIMENSIONS OF CIRCUMSIZEZED RECTANGLE SHOWN ON THIS DWG FOR REF ONLY.
- SEE SEPARATE DRILL FILES WITH ".DRL" SUFFIX FOR HOLE LOCATIONS.
SELECTED HOLE LOCATIONS SHOWN ON THIS DWG FOR REF ONLY.
- IMPEDANCE CONTROL REQUIRED.
Microstrip 100-Ohm Differential (L1 ref. L2)
0.2032mm width, 0.28mm spacing
- CONFIRM TRACE WIDTHS AND SPACINGS.
- DESIGN GEOMETRY MINIMUM FEATURE SIZES:
 TRACE WIDTH 0.20 mm
 TRACE TO TRACE 0.20 mm
 MIN. HOLE (PTH) 0.25 mm
 MIN. HOLE (NPTH) 0.70 mm
 ANNUAL RING 0.15 mm
 COPPER TO HOLE 0.254 mm
 COPPER TO EDGE 0.25 mm
 HOLE TO HOLE 0.254 mm

All dimensions are in millimeters unless otherwise specified.

	Comments:	Company: EPFL Xplore Research		Variant: Released
		Board Name: Amulet Motion Controller		
		Sheet Title: Fabrication Document	File Name: amulet_controller.kicad_pcb	Designer: Vincent Nguyen
		Date: 2024-04-13	Revision: 1.1	
	Sheet Path:	Reviewer:		Size: A4
		Sheet: 1 of 1		

Amulet Motion Controller Fabrication Document

Bottom Fabrication (Scale 1:1)



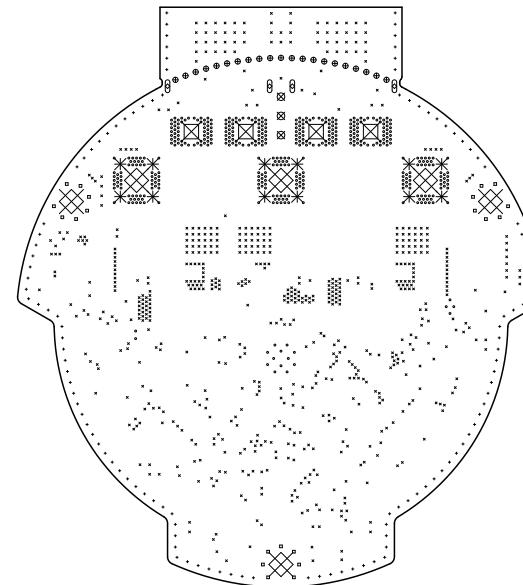
All dimensions are in millimeters unless otherwise specified.

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	Board Name: Amulet Motion Controller		Project Name: Chienpanzé
	Sheet Title: Fabrication Document	File Name: amulet_controller.kicad_pcb	Designer: Vincent Nguyen
	Sheet Path:	Reviewer:	Date: 2024-04-13
			Revision: 1.1
		Size: A4	Sheet: 1 of 1

Amulet Motion Controller Fabrication Document

Drill Drawing (Top View) (Scale 1:1)

Symbol	Count	Hole Size	Plated
•	674	0.25mm	Plated
•	438	0.25mm	Plated
•	120	0.30mm	Plated
▫	21	0.50mm	Plated
◊	4 (slot)	0.60mm	Plated
☒	3	1.00mm	Plated
✳	12	1.50mm	Plated
☒	4	2.70mm	Plated
☒	6	3.20mm	Plated
●	21	0.70mm	Unplated

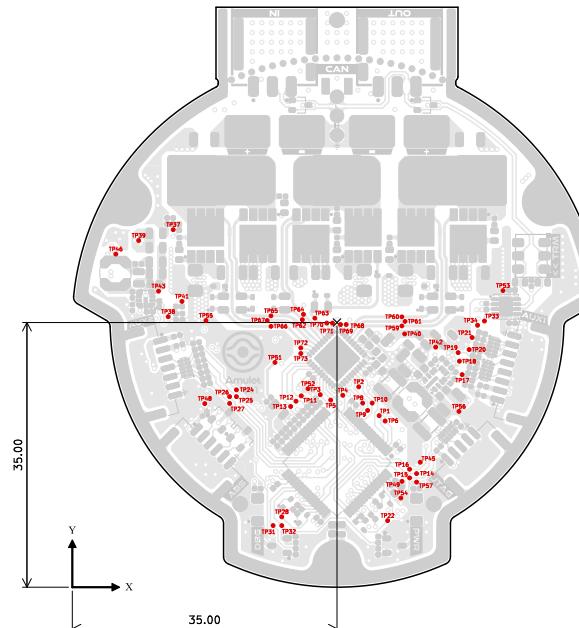


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Amulet Motion Controller Fabrication Document

Top Test Points (Scale 1:1)

Ref.	Net	X [mm]	Y [mm]
TP1	MOTOR_ENABLE	40.58	22.69
TP2	MOTOR_HIZ	37.88	26.50
TP3	MOTOR_FAULT	32.78	25.46
TP4	DRV_SCLK	35.77	25.38
TP5	DRV_MISO	34.17	24.75
TP6	DRV_MOSI	41.36	21.98
TP8	PWN_PHASEA	38.40	24.35
TP9	PWN_PHASEB	39.05	23.37
TP10	PWN_PHASEC	39.65	24.35
TP11	SOA	30.28	25.30
TP12	SOB	29.58	24.60
TP13	SOC	28.88	23.90
TP14	SPIIO	45.50	19.02
TP15	SWCLOCK	44.60	14.45
TP16	NRST	44.60	15.60
TP17	AUX1_A	51.55	28.11
TP18	AUX1_B	51.19	29.89
TP19	AUX1_C	51.02	31.02
TP20	AUX1_D	52.48	31.43
TP21	AUX1_E	52.86	33.02
TP22	AUX1_I2C_PULLUP	41.80	8.80
TP24	AUX2_A	24.70	25.10
TP25	AUX2_B	24.70	25.20
TP26	AUX2_C	20.80	25.20
TP27	AUX2_D	20.80	24.30
TP28	AUX2_I2C_PULLUP	27.70	9.30
TP31	LED_DBG	26.55	8.15
TP32	LED_PWR	27.70	8.15
TP33	FDCAN_RX	50.50	37.20
TP34	FDCAN_TX	53.59	34.64
TP37	SENSE_TEMP_FET	13.34	47.28
TP38	SENSE_VBAT	12.67	35.77
TP39	+VBAT	8.78	45.85
TP40	+VBAT	43.95	33.50
TP41	+VBAT	14.50	37.80
TP42	F_VIN_12V	48.00	31.75
TP43	F_VIN_5V	14.40	30.15
TP45	+12V	6.01	16.53
TP46	+5V	5.75	44.05
TP48	+3V3	17.52	24.28
TP49	+3V3	43.60	14.00
TP51	+A3V3	26.80	29.72
TP52	GND	31.18	26.25
TP53	GND	56.98	32.22
TP54	GND	43.45	11.80
TP55	GND	17.68	35.27
TP56	GND	51.12	23.25
TP57	GND	45.53	13.90
TP59	GHA	43.58	34.55
TP60	GLA	43.58	35.75
TP61	SHA	44.00	35.15
TP62	GB	30.40	35.38
TP63	GLB	52.07	35.88
TP64	SHB	30.57	36.08
TP65	GHC	26.27	35.88
TP66	GLC	26.27	34.50
TP67	SHC	25.77	35.27
TP68	SA_P	36.22	34.74
TP69	SA_N	35.47	34.74
TP70	SB_P	33.65	34.93
TP71	SB_N	51.00	31.93
TP72	SC_P	30.21	31.65
TP73	SC_N	30.21	30.90



All dimensions are in millimeters unless otherwise specified.

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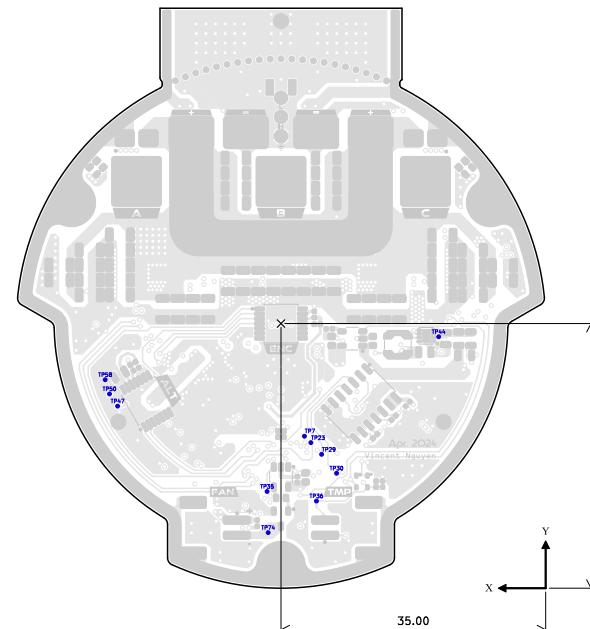
Amulet Motion Controller Fabrication Document

Bottom Test Points (Scale 1:1)

A

Ref.	Net	X [mm]	Y [mm]
TP7	DRV_CS	31.90	20.10
TP23	POS_SENSOR_CS	31.05	19.25
TP29	RS422_RE	29.63	17.71
TP30	RS422_DE	27.65	15.20
TP35	FAN_CTRL	58.31	17.79
TP36	SEN_1TEMP_MOT	50.31	11.52
TP44	F_VIN_3V3	14.15	33.25
TP47	+5V	56.61	24.08
TP50	+3V3	57.68	25.69
TP58	GND	58.25	27.56
TP74	FAN_SW	36.70	7.35

B



C

All dimensions are in millimeters unless otherwise specified.

D

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	Sheet Title: Fabrication Document	File Name: amulet_controller.kicad_pcb	Designer: Vincent Nguyen	Date: 2024-04-13
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Amulet Motion Controller Fabrication Document

A

A

B

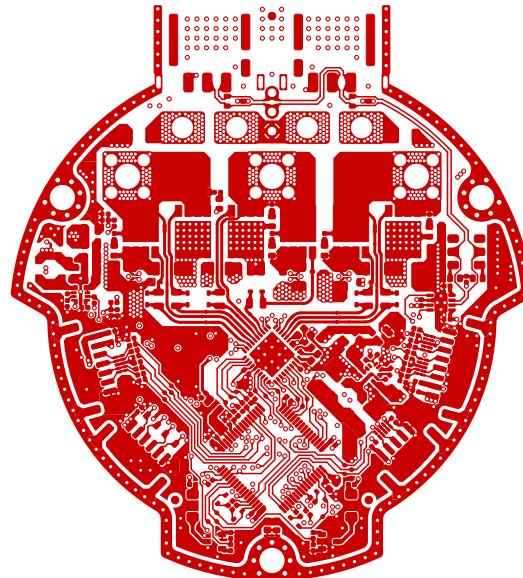
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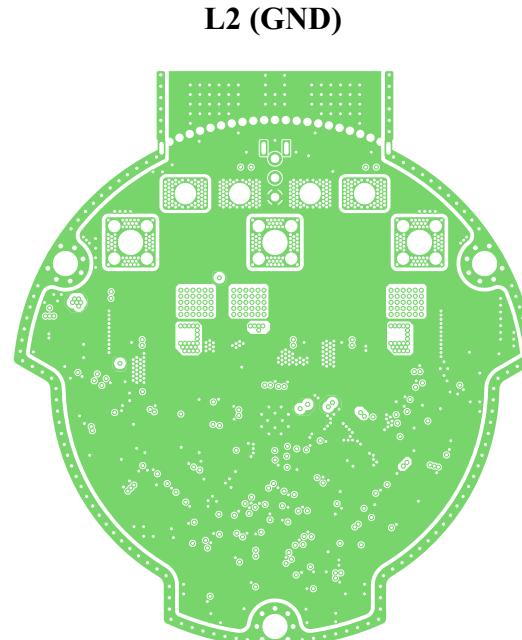
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D

L1 (SIG/PWR)

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Amulet Motion Controller Fabrication Document



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	Sheet Path:	Reviewer:	Date: 2024-04-13 Revision: 1.1
			Size: A4 Sheet: 1 of 1

Amulet Motion Controller Fabrication Document

A

A

B

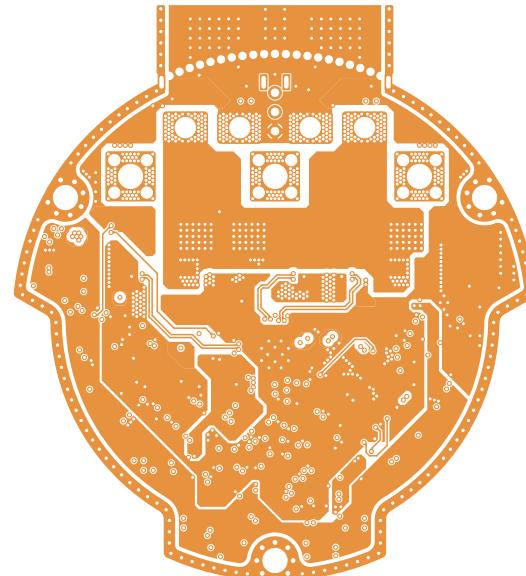
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D

L3 (SIG/PWR)

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	Sheet Title: Fabrication Document	File Name: amulet_controller.kicad_pcb	Designer: Vincent Nguyen
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Amulet Motion Controller Fabrication Document

A

A

B

B

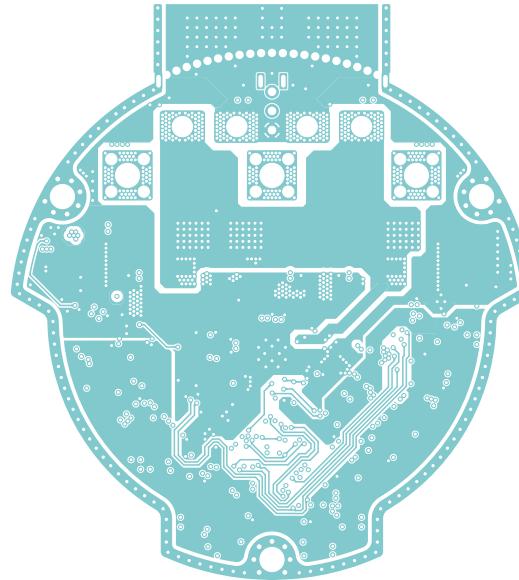
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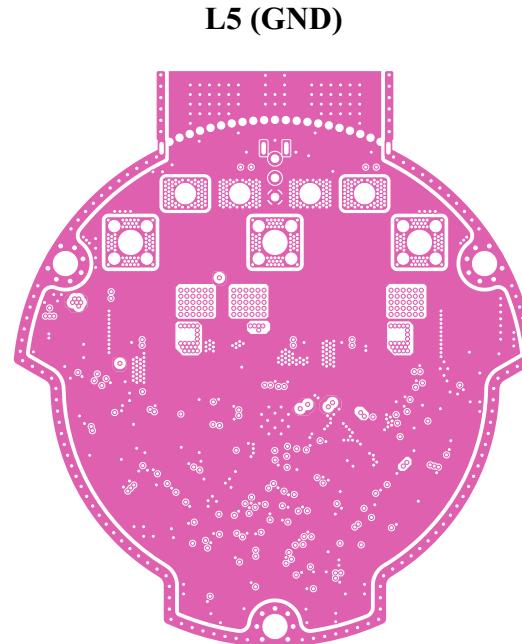
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L4 (SIG/PWR)



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	Board Name: Amulet Motion Controller	Project Name: Chienpanzé	
	Sheet Title: Fabrication Document	File Name: amulet_controller.kicad_pcb	Designer: Vincent Nguyen
	Sheet Path:	Reviewer:	Date: 2024-04-13 Revision: 1.1
			Size: A4 Sheet: 1 of 1

Amulet Motion Controller Fabrication Document



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			Size: A4 Sheet: 1 of 1

Amulet Motion Controller Fabrication Document

A

A

B

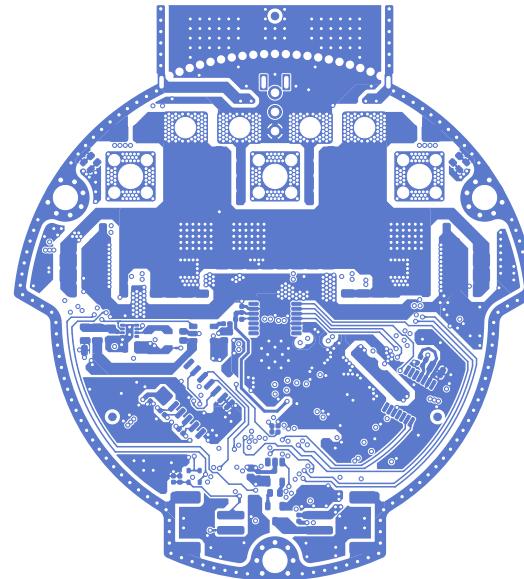
B

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D

D

L6 (SIG/PWR)

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	Sheet Title: Fabrication Document	File Name: amulet_controller.kicad_pcb	Designer: Vincent Nguyen
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