

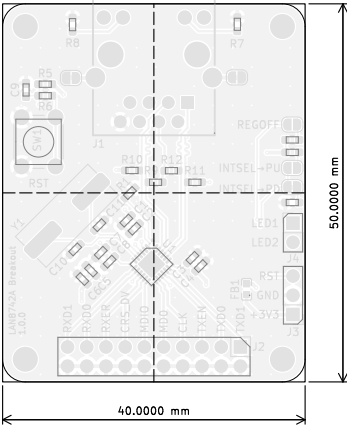
LAN8742A-breakout-board Fabrication Document

Layer Stack Legend

	Material	Layer	Thickness	Dielectric	Type	Gerber
	F.Paste				Paste Mask	
	F.Silkscreen			Direct Printing	Legend	GBR
	F.Mask		0.02mm	Solder Resist	Solder Mask	GBR
	Copper	L1 (Sig, PWR)	0.035mm (1.00oz)		Signal	GBR
	Prepreg		0.2104mm	FR4_7628	Dielectric	
	Copper	L2 (GND)	0.0152mm (0.43oz)		Plane	GBR
	Core		1.065mm	FR4	Dielectric	
	Copper	L3 (Sig, PWR)	0.0152mm (0.43oz)		Signal	GBR
	Prepreg		0.2104mm	FR4_7628	Dielectric	
	Copper	L6 (Sig, PWR)	0.035mm (1.00oz)		Signal	GBR
	B.Mask		0.02mm	Solder Resist	Solder Mask	GBR
	B.Silkscreen			Direct Printing	Legend	GBR
	B.Paste				Paste Mask	

Total thickness: 1.6262mm
Note: external layer thicknesses are specified after plating

Top Fabrication (Scale 1:1)



Impedance Table

Transmission Line	Impedance [ohms]	Tolerance [ohms]	Layer	Trace Width [mm]	Gap [mm]	Ref. Layers
Edge-Coupled Coated Microstrip	100	±10 %	L1	0.2032	0.28	L2

FABRICATION NOTES (UNLESS OTHERWISE SPECIFIED)

1) FABRICATE PER IPC-6012A CLASS 2.

2) OUTLINE DEFINED IN SEPARATE GERBER FILE WITH "Edge_Cuts.GBR" SUFFIX.

DIMENSIONS OF CIRCUMSIZED RECTANGLE SHOWN ON THIS DRAWING FOR REFERENCE ONLY.

3) SEE SEPARATE DRILL FILES WITH ".DRL" SUFFIX FOR HOLE LOCATIONS.

SELECTED HOLE LOCATIONS SHOWN ON THIS DRAWING FOR REFERENCE ONLY.

4) SURFACE FINISH: IMMERSION GOLD

5) SOLDERMASK ON BOTH SIDES OF THE BOARD SHALL BE LPI, COLOR BLACK.

6) SILK SCREEN LEGEND TO BE APPLIED PER LAYER STACKUP USING YELLOW NON-CONDUCTIVE EPOXY INK.

7) ALL VIAS ARE TENTED ON BOTH SIDES UNLESS SOLDERMASK OPENED IN GERBER.

8) VENDOR SHOULD FOLLOW ROHS COMPLIANT PROCESS AND Pb FREE FOR MANUFACTURING

9) PCB MATERIAL REQUIREMENTS:

A. FLAMMABILITY RATING MUST MEET OR EXCEED UL94V-0 REQUIREMENTS.

B. Tg 170 C OR EQUIVALENT.

C. EQUIVALENT MATERIAL SHALL BE RoHS COMPLIANT, HALOGEN FREE AND APPROVED BY PATAPIMLABS.

10) DESIGN GEOMETRY MINIMUM FEATURE SIZES:

BOARD SIZE	40,000 × 50,000 mm
BOARD THICKNESS	1.626 mm
TRACE WIDTH	0.200 mm
TRACE TO TRACE	0.200 mm
MIN. HOLE (PTH)	0.250 mm
MIN. HOLE (NPTH)	3.200 mm
ANNULAR RING	0.125 mm
COPPER TO HOLE	0.254 mm
COPPER TO EDGE	0.250 mm
HOLE TO HOLE	0.254 mm

11) REFER TO IMPEDANCE TABLE FOR IMPEDANCE CONTROL REQUIREMENTS.

12) CONFIRM SPACE WIDTHS AND SPACINGS.

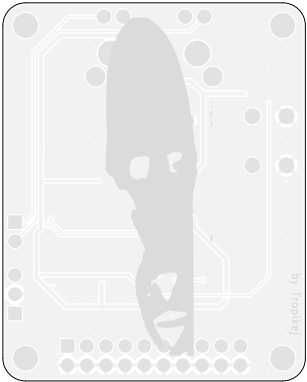
All dimensions are in millimeters unless otherwise specified.

		Comments:	Company: PatapimLabs		Variant: PRELIMINARY	Git Hash: a97e5f9
			Board Name: LAN8742A-breakout-board		Project Name: LAN8742A Breakout	
		Sheet Title: Top Fabrication (Scale 1:1)	File Name: LAN8742A-breakout.kicad_pcb	Designer: Tropikej	Date: 2024-04-13	Revision: + (Unreleased)
		Sheet Path:		Reviewer:	Size: A4	Sheet: 1 of 10

LAN8742A-breakout-board Fabrication Document

3 × 120°

Bottom Fabrication (Scale 1:1)



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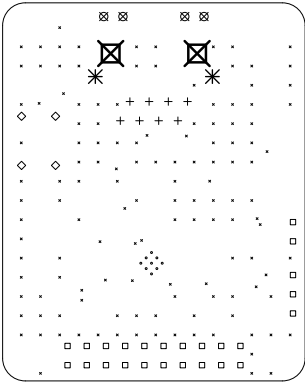
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	Sheet Title: Bottom Fabrication (Scale 1:1)	File Name: LAN8742A-breakout.kicad_pcb	Designer: Tropikej	Date: 2024-04-13	Revision: + (Unreleased)
	Sheet Path:		Reviewer:	Size: A4	Sheet: 2 of 10

LAN8742A-breakout-board Fabrication Document

Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
×	133	0.25mm (9.84mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Via
○	9	0.25mm (9.84mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
+	8	1.00mm (39.37mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
□	25	1.00mm (39.37mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
◇	4	1.10mm (43.31mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
⊗	4	1.10mm (43.31mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
※	2	1.80mm (70.87mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
⊠	2	3.30mm (129.92mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
Total 187						

Drill Drawing L1 - L4 (Scale 1:1)



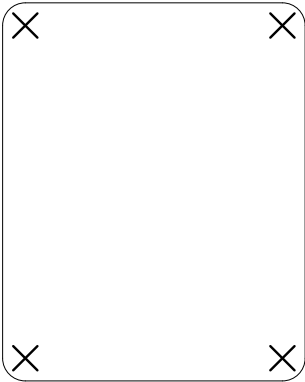
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	Sheet Path:		Reviewer:	Size: A4	Sheet: 3 of 10

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Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
X	4	3.20mm (125,98mils)	NPPTH	Round	L1 (Sig. PWR) - L6 (Sig. PWR)	Mechanical
	Total 4					

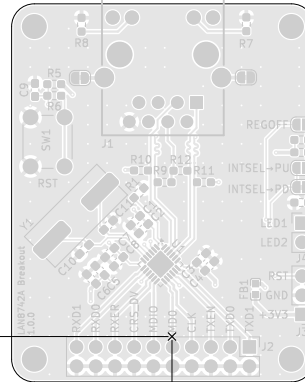
Drill Drawing L1 - L4 (Scale 1:1)



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LAN8742A-breakout-board Fabrication Document

Top Test Points (Scale 1:1)



Ref.	Net	X [mm]	Y [mm]
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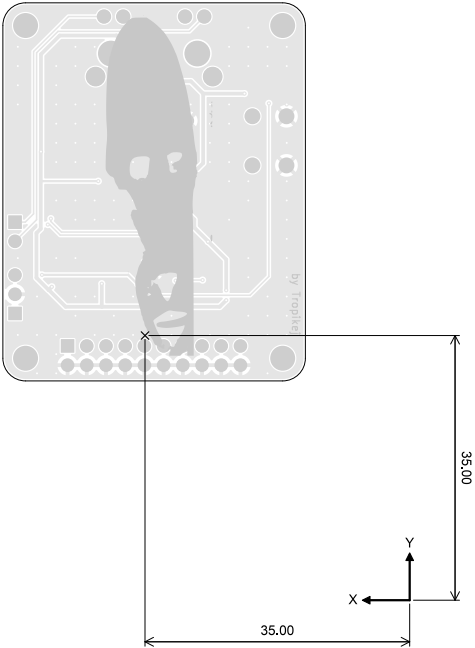
Ref.	Net	X [mm]	Y [mm]
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LAN8742A-breakout-board Fabrication Document

Bottom Test Points (Scale 1:1)



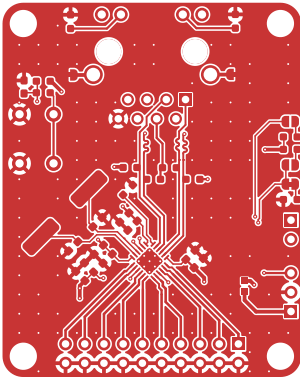
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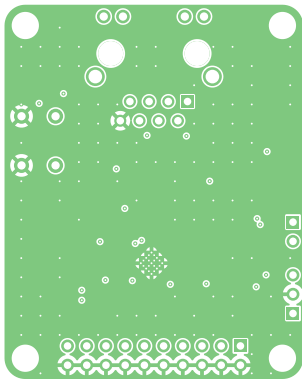
L1 (Sig, PWR) (Scale 1:1)



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	Sheet Title: L1 (Sig, PWR) (Scale 1:1)	File Name: LAN8742A-breakout.kicad_pcb	Designer: Tropikej	Date: 2024-04-13	Revision: + (Unreleased)
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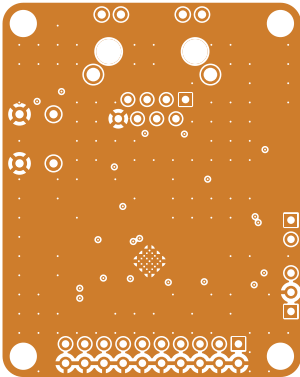
L2 (GND) (Scale 1:1)



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	Sheet Title: L2 (GND) (Scale 1:1)	File Name: LAN8742A-breakout.kicad_pcb	Designer: Tropikej	Date: 2024-04-13	Revision: + (Unreleased)
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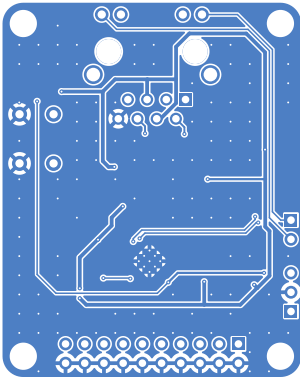
L3 (Sig, PWR) (Scale 1:1)



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	Sheet Title: L3 (Sig, PWR) (Scale 1:1)	File Name: LAN8742A-breakout.kicad_pcb	Designer: Tropikej	Date: 2024-04-13	Revision: + (Unreleased)
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L6 (Sig, PWR) (Scale 1:1)



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