

AD7190 Fabrication Document

Layer Stack Legend

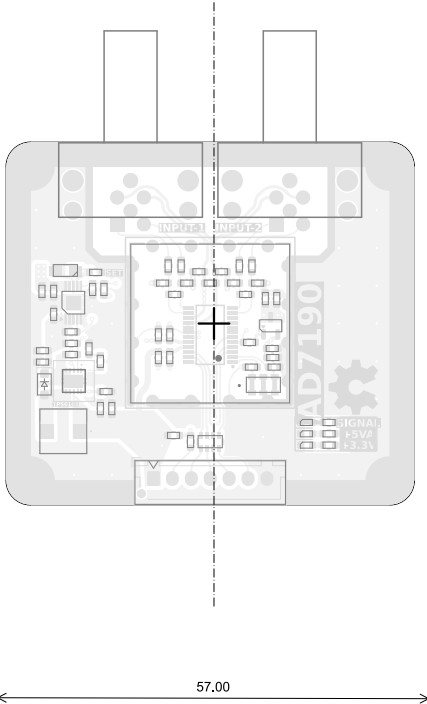
	Material	Layer	Thickness	Dielectric	Type	Gerber
	F.Paste				Paste Mask	
	F.Silkscreen			Direct Printing	Legend	GBR
	F.Mask		0.02mm	Solder Resist	Solder Mask	GBR
	Copper	L1 (Sig)	0.035mm (1.00oz)		Signal	GBR
	Prepreg		0.2104mm	FR4_7628	Dielectric	
	Copper	L2(GND)	0.0152mm (0.43oz)		Plane	GBR
	Core		1.065mm	FR4	Dielectric	
	Copper	L3(POWER,+5VA)	0.0152mm (0.43oz)		Plane	GBR
	Prepreg		0.2104mm	FR4_7628	Dielectric	
	Copper	L4(Sig, GND)	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: 1.66mm
Note: external layer thicknesses are specified after plating

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

Top Fabrication (Scale 1:1)



All dimensions are in millimeters unless otherwise specified.

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 OPEN THRUST LAB.
- 10) DESIGN GEOMETRY MINIMUM FEATURE SIZES:

BOARD SIZE54.000 × 48.000 mm

BOARD THICKNESS1.660 mm

TRACE WIDTH0.200 mm

TRACE TO TRACE0.200 mm

MIN. HOLE (PTH)0.200 mm

MIN. HOLE (NPTH)1.200 mm

ANNULAR RING0.150 mm

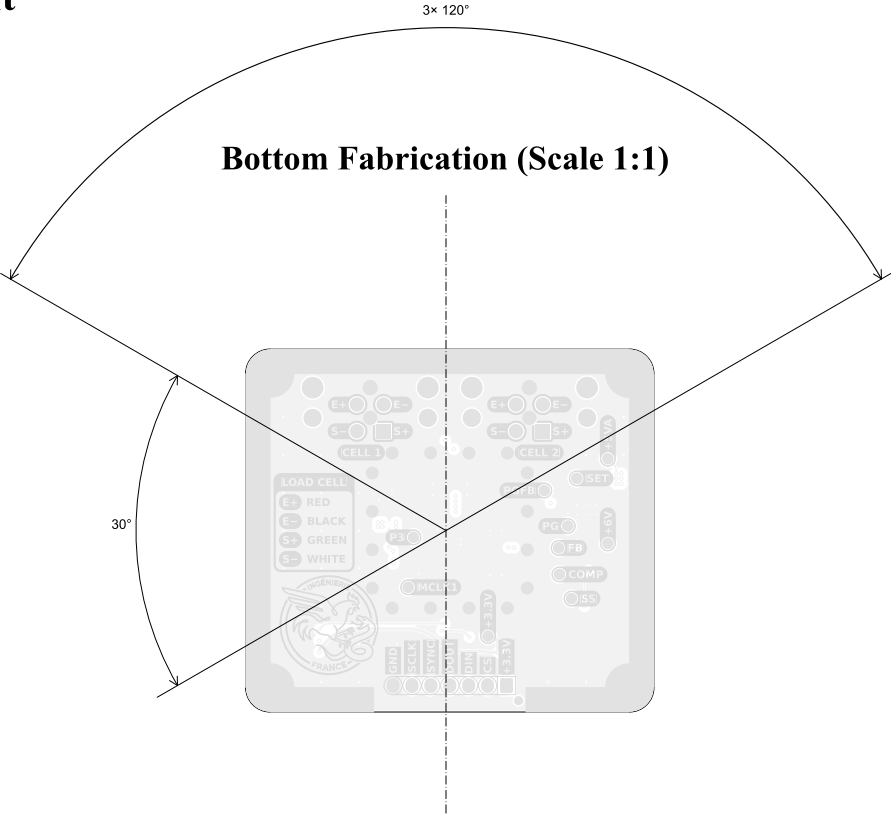
COPPER TO HOLE0.200 mm

COPPER TO EDGE0.200 mm

HOLE TO HOLE0.250 mm
- 11) REFER TO IMPEDANCE TABLE FOR IMPEDANCE CONTROL REQUIREMENTS.
- 12) CONFIRM SPACE WIDTHS AND SPACINGS.

	Comments:	Company: OPEN THRUST LAB		Variant: PRELIMINARY	Git Hash: ca7f156
	Sheet Title: Top Fabrication (Scale 1:1)	Board Name: AD7190		Project Name: OPEN_WEIGHT	
	Sheet Path:	File Name: OPEN_WEIGHT.kicad_pcb	Designer: SIEBERT DIMITRY	Date: 2026-09-29	Revision: + (Unreleased)
			Reviewer:	Size: A4	Sheet: 1 of 10

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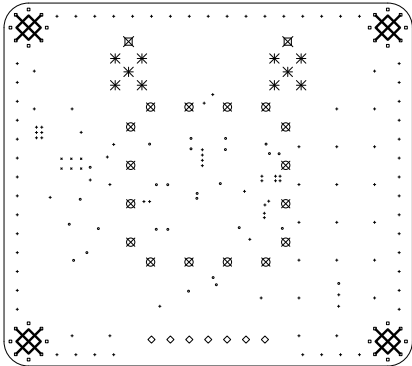
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		Board Name: AD7190		Project Name: OPEN_WEIGHT	
	Sheet Title: Bottom Fabrication (Scale 1:1)	File Name: OPEN_WEIGHT.kicad_pcb	Designer: SIEBERT DIMITRY	Date: 2026-09-29	Revision: + (Unreleased)
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Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
×	6	0,20mm (7,87mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Pad
○	27	0,25mm (9,84mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Via
+	113	0,30mm (11,81mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Via
□	32	0,50mm (19,69mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Pad
◇	7	0,95mm (37,40mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Pad
⊠	16	1,10mm (43,31mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Pad
✱	10	1,25mm (49,21mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Pad
⊞	2	1,35mm (53,15mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Pad
⊞	4	3,20mm (125,98mils)	PTH	Round	L1 (Sig) - L4(Sig, GND)	Pad
Total 217						

Drill Drawing L1 - L4 (Scale 1:1)



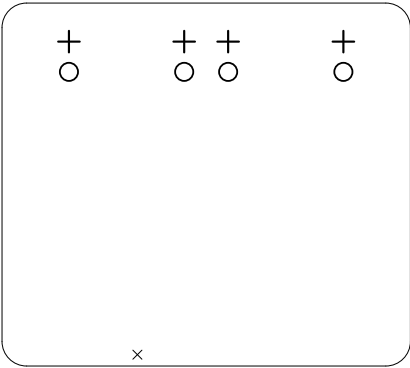
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Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
X	1	1,20mm (47,24mils)	NPTH	Round	L1 (Sig) - L4(Sig, GND)	Mechanical
O	4	2,40mm (94,49mils)	NPTH	Round	L1 (Sig) - L4(Sig, GND)	Mechanical
+	4	2,85mm (112,20mils)	NPTH	Round	L1 (Sig) - L4(Sig, GND)	Mechanical
Total 9						

Drill Drawing L1 - L4 (Scale 1:1)



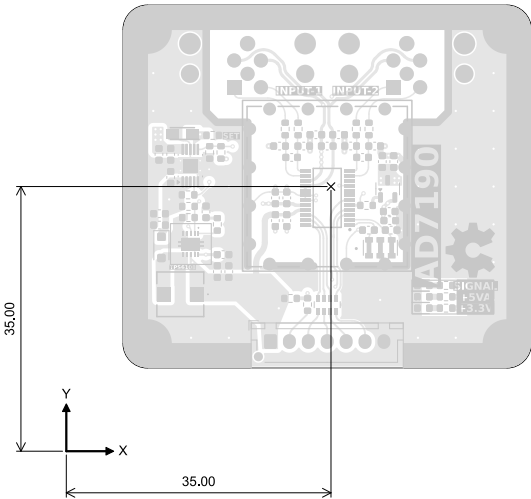
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Top Test Points (Scale 1:1)

Ref.	Net	X [mm]	Y [mm]
TP1		-64.00	106.00
TP3		-64.00	106.00
TP6		-64.00	106.00
TP7		-64.00	106.00
TP8		-64.00	106.00
TP9		-64.00	106.00
TP10		-64.00	106.00

Ref.	Net	X [mm]	Y [mm]
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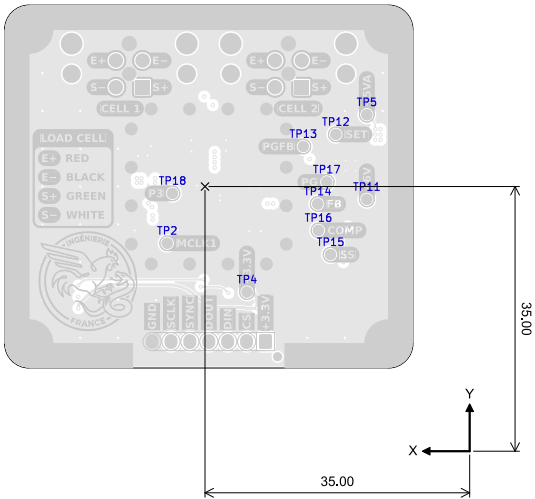


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Bottom Test Points (Scale 1:1)



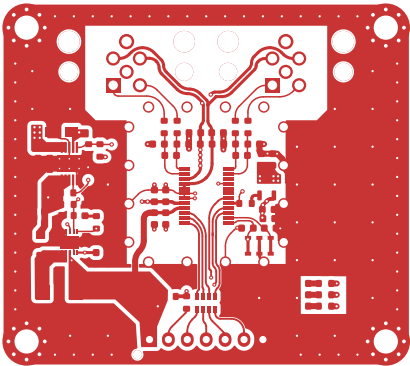
Ref.	Net	X [mm]	Y [mm]
TP2	MCLK1	89.50	8.50
TP4	+3.3V	78.94	2.05
TP5	+5VA	63.10	25.50
TP11	+6V	63.10	14.30
TP12	SET	67.20	22.90
TP13	PGFB	71.50	21.30
TP14	FB	69.60	13.70
TP15	SS	67.90	7.00
TP16	COMP	69.50	10.20
TP17	PG	68.40	16.60
TP18	P3	88.80	15.10

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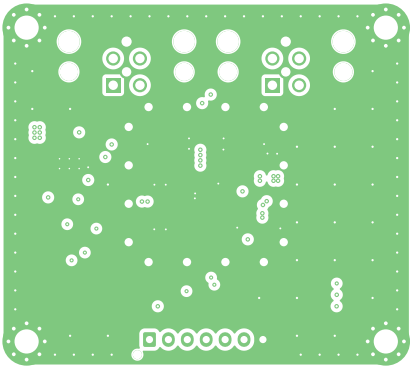
L1 (Sig) (Scale 1:1)



	Comments:	Company: OPEN THRUST LAB		Variant: PRELIMINARY	Git Hash: ca7f156
		Board Name: AD7190		Project Name: OPEN_WEIGHT	
	Sheet Title: L1 (Sig) (Scale 1:1)	File Name: OPEN_WEIGHT.kicad_pcb	Designer: SIEBERT DIMITRY	Date: 2026-09-29	Revision: + (Unreleased)
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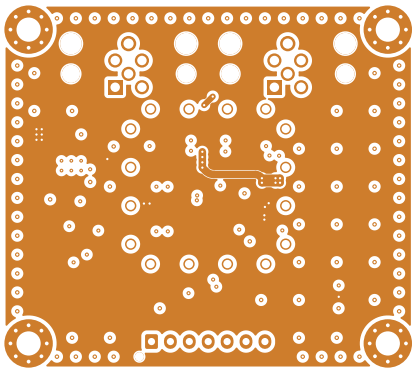
L2(GND) (Scale 1:1)



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	Sheet Title: L2(GND) (Scale 1:1)	File Name: OPEN_WEIGHT.kicad_pcb	Designer: SIEBERT DIMITRY	Date: 2026-09-29	Revision: + (Unreleased)
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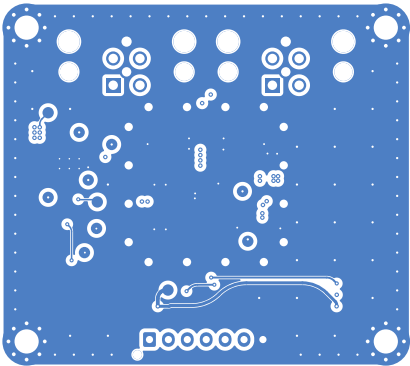
L3(POWER,+5VA) (Scale 1:1)



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	Sheet Title: L3(POWER,+5VA) (Scale 1:1)	File Name: OPEN_WEIGHT.kicad_pcb	Designer: SIEBERT DIMITRY	Date: 2026-09-29	Revision: + (Unreleased)
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L4(Sig, GND) (Scale 1:1)



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	Sheet Title: L4(Sig, GND) (Scale 1:1)	File Name: OPEN_WEIGHT.kicad_pcb	Designer: SIEBERT DIMITRY	Date: 2026-09-29	Revision: + (Unreleased)
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