

# 0 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)	0.07mm (2.00oz)		Signal	GBR
Prepreg		0.18mm	FR4_7628	Dielectric	
Copper	L2 (GND)	0.035mm (1.00oz)		Plane	GBR
Core		0.4mm	FR4	Dielectric	
Copper	L3 (Sig, PWR)	0.035mm (1.00oz)		Signal	GBR
Prepreg		0.18mm	FR4_7628	Dielectric	
Copper	L4 (Sig, PWR)	0.035mm (1.00oz)		Signal	GBR
Core		0.4mm	FR4	Dielectric	
Copper	L5 (GND)	0.035mm (1.00oz)		Plane	GBR
Prepreg		0.18mm	FR4_7628	Dielectric	
Copper	L6 (Sig, PWR)	0.07mm (2.00oz)		Signal	GBR
B.Mask		0.02mm	Solder Resist	Solder Mask	GBR
B.Silkscreen			Direct Printing	Legend	GBR
B.Paste				Paste Mask	

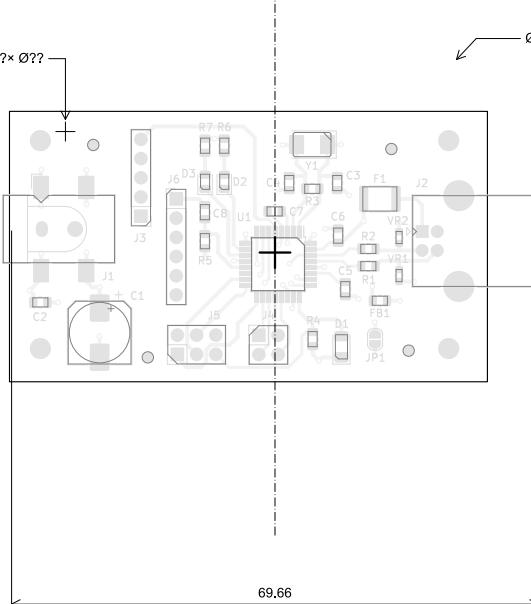
Total thickness: 1.66mm

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  
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 INTI.

### 10) DESIGN GEOMETRY MINIMUM FEATURE SIZES:

BOARD SIZE	63.200 × 35.760 mm
BOARD THICKNESS	1.660 mm
TRACE WIDTH	0.381 mm
TRACE TO TRACE	0.200 mm
MIN. HOLE (PTH)	0.400 mm
MIN. HOLE (NPTH)	1.500 mm
ANNUAL RING	0.200 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.

	Comments:	Company: INTI	Variant: PRELIMINARY	Git Hash: d5db5df
	Board Name: <b>0</b>		Project Name: <b>Test KDT</b>	
	Sheet Title: Top Fabrication (Scale 1:1)	File Name: KDT_Hierarchical_KiBot.kicad_pcb	Designer: SET	Date: 2024-04-13 Revision: + (Unreleased)
	Sheet Path:		Reviewer: A4	Size: Sheet: <b>1 of 12</b>

# 0 Fabrication Document

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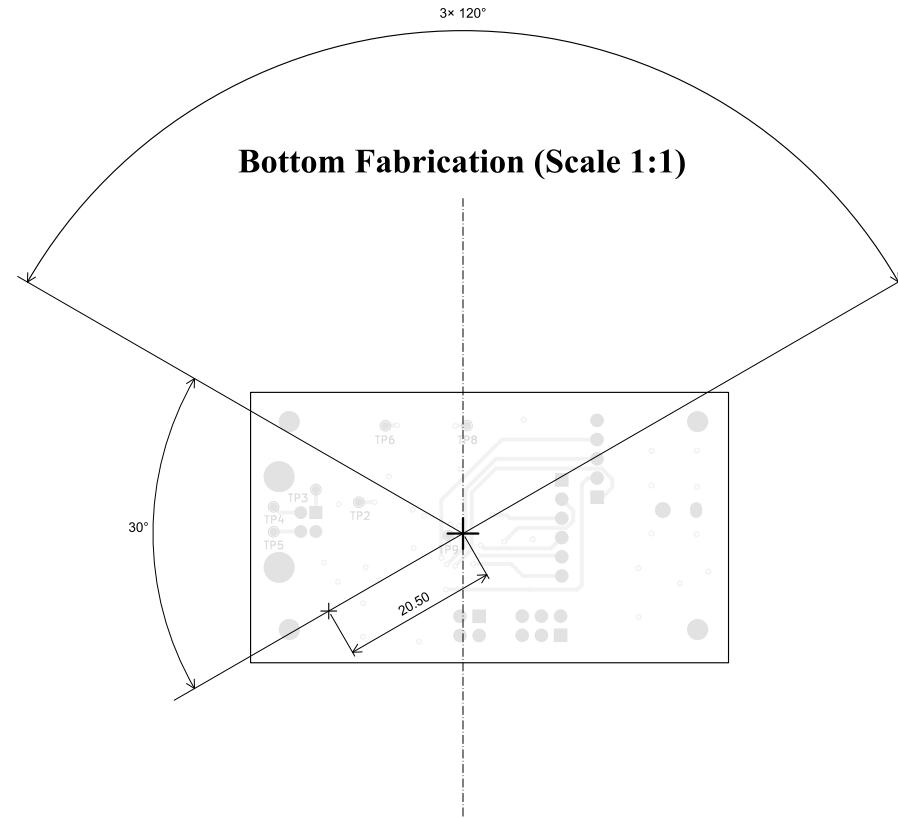
B

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	Comments:	Company: INTI	Variant: PRELIMINARY	Git Hash: d5db5df
	Board Name: <b>0</b>	Project Name: <b>Test KDT</b>		
	Sheet Title: Bottom Fabrication (Scale 1:1)	File Name: KDT_Hierarchical_KiBot.kicad_pcb	Designer: SET	Date: 2024-04-13 Revision: + (Unreleased)
	Sheet Path:		Reviewer:	Size: <b>A4</b> Sheet: <b>2</b> of <b>12</b>

# 0 Fabrication Document

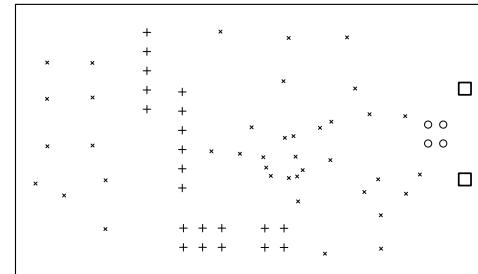
A

A

## Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
X	40	0.40mm (15.75mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Via
O	4	0.95mm (37.40mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
+	21	1.00mm (39.37mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
□	2	2.30mm (90.55mils)	PTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Pad
Total 67						

## Drill Drawing L1 - L6 (Scale 1:1)



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	Sheet Title: Drill Drawing (L1 - L6)	File Name: KDT_Hierarchical_KiBot.kicad_pcb	Designer: SET	Date: 2024-04-13 Revision: + (Unreleased)
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## Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
X	1	1.50mm (59.06mils)	NPTH	Slot	L1 (Sig, PWR) - L6 (Sig, PWR)	Mechanical
O	1	2.00mm (78.74mils)	NPTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Mechanical
+	4	2.70mm (106.30mils)	NPTH	Round	L1 (Sig, PWR) - L6 (Sig, PWR)	Mechanical
Total 6						

## Drill Drawing L1 - L6 (Scale 1:1)



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	Comments:  INTI	Company:  INTI	Variant:  PRELIMINARY	Git Hash:  d5db5df
	Board Name:  0	Project Name:  Test KDT		
	Sheet Title:  Drill Drawing (L1 - L6)	File Name:  KDT_Hierarchical_KiBot.kicad_pcb	Designer:  SET	Date:  2024-04-13 Revision:  + (Unreleased)
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# 0 Fabrication Document

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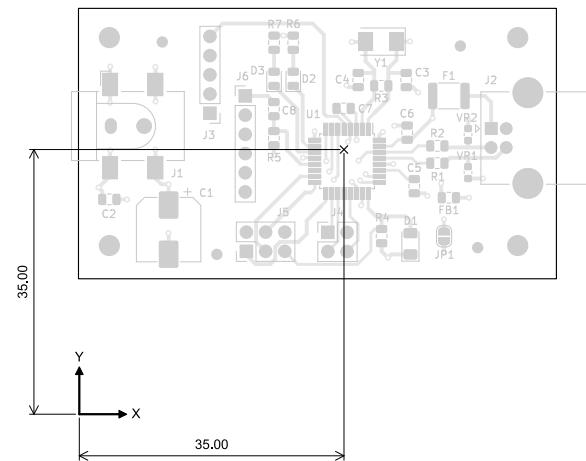
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## Top Test Points (Scale 1:1)

Ref.	Net	X [mm]	Y [mm]

Ref.	Net	X [mm]	Y [mm]



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	Board Name: <b>0</b>		Project Name: <b>Test KDT</b>	
	Sheet Title: Top Test Points (Scale 1:1)	File Name: KDT_Hierarchical_KiBot.kicad_pcb	Designer: SET	Date: 2024-04-13 Revision: + (Unreleased)
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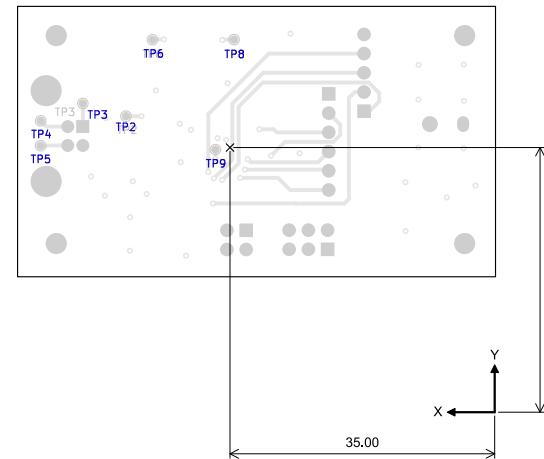
# 0 Fabrication Document

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## Bottom Test Points (Scale 1:1)

Ref.	Net	X [mm]	Y [mm]
TP2	VBUS	98.27	20.14
TP3	Net(J2-VBUS)	103.96	21.82
TP4	Earth	109.54	19.53
TP5	Net(J2-D+)	109.54	16.23
TP6	Net(U1-XTAL1)	94.76	30.25
TP8	Net-(U1-PC0/XTAL2)	83.97	30.28
TP9	Net-(U1-D-)	86.43	15.72

B



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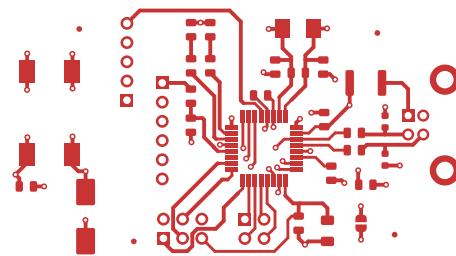
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	Comments:	Company: INTI	Variant: PRELIMINARY	Git Hash: d5db5df
	Board Name: <b>0</b>	Project Name: <b>Test KDT</b>		
	Sheet Title: Bottom Test Points (Scale 1:1)	File Name: KDT_Hierarchical_KiBot.kicad_pcb	Designer: SET	Date: 2024-04-13
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# 0 Fabrication Document

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



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# 0 Fabrication Document

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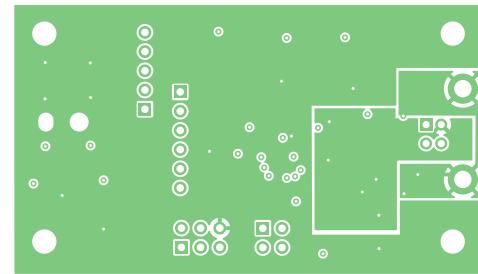
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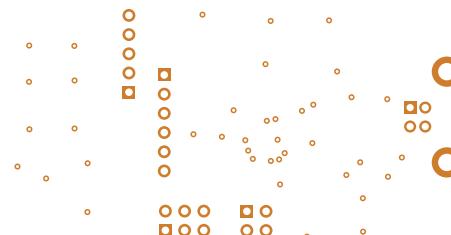
**L2 (GND) (Scale 1:1)**



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



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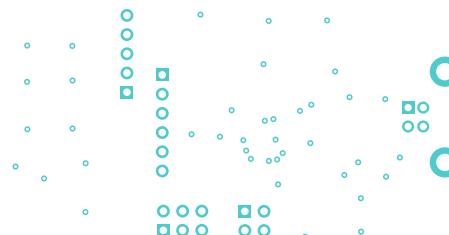
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L4 (Sig, PWR) (Scale 1:1)



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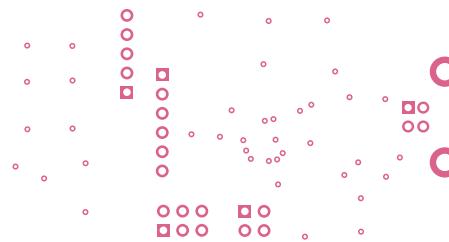
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L5 (GND) (Scale 1:1)



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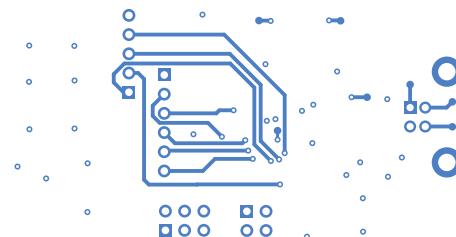
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L6 (Sig, PWR) (Scale 1:1)



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	Board Name: <b>0</b>	Project Name: <b>Test KDT</b>		
	Sheet Title: L6 (Sig, PWR) (Scale 1:1)	File Name: KDT_Hierarchical_KiBot.kicad_pcb	Designer: SET	Date: 2024-04-13 Revision: + (Unreleased)
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