

Watch-DevKit-HW Fabrication Document

A

Layer Stack Legend

Material	Layer	Thickness	Dielectric	Type	Gerber
	F.Paste			Paste Mask	
	F.Silkscreen			Legend	GBR
	F.Mask	0.01mm		Solder Mask	GBR
Copper	F.Cu	0.035mm (1.00oz)		Signal	GBR
Core		0.196mm	FR4	Dielectric	
Copper	Inner1 (GND)	0.035mm (1.00oz)		Plane	GBR
Prepreg		1.03mm	FR4	Dielectric	
Copper	Inner2	0.035mm (1.00oz)		Plane	GBR
Core		0.196mm	FR4	Dielectric	
Copper	B.Cu	0.035mm (1.00oz)		Signal	GBR
B.Mask		0.01mm		Solder Mask	GBR
B.Silkscreen				Legend	GBR
B.Paste				Paste Mask	

Total thickness: 1.582mm
Notes: external layer thicknesses are specified after plating

Top Fabrication (Scale 1:1)

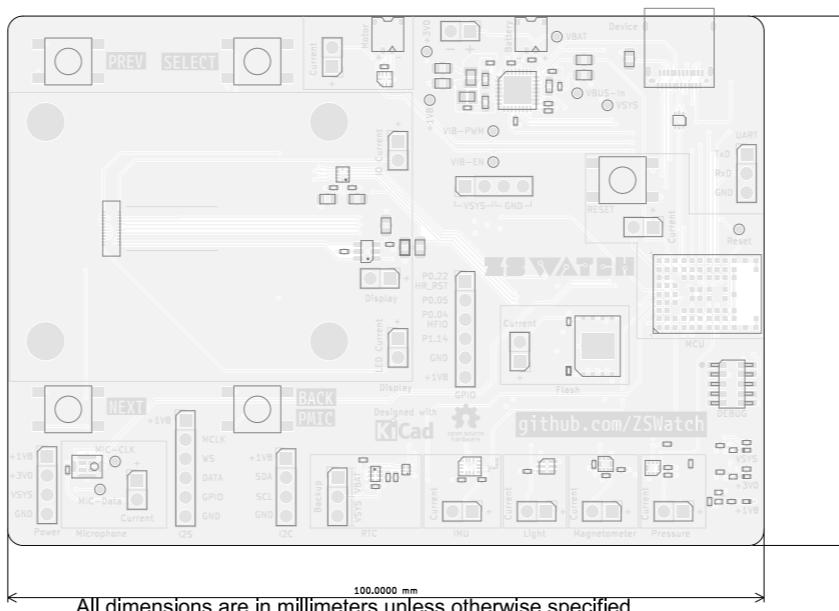
FABRICATION NOTES (UNLESS OTHERWISE SPECIFIED)

- 1) FABRICATE PER IPC-6012A CLASS 2.
- 2) OUTLINE DEFINED IN SEPARATE GERBER FILE WITH "Edge_Cuts.GBR" SUFFIX.
- 3) SEE SEPARATE DRILL FILES WITH ".DRL" SUFFIX FOR HOLE LOCATIONS.
- 4) SURFACE FINISH: HAL LEAD-FREE
- 5) SOLDERMASK ON BOTH SIDES OF THE BOARD SHALL BE LPI, COLOR WHITE.
- 6) SILK SCREEN LEGEND TO BE APPLIED PER LAYER STACKUP USING BLACK 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 150 °C OR EQUIVALENT.

10) DESIGN GEOMETRY MINIMUM FEATURE SIZES:

BOARD SIZE	100.000 x 70.000 mm
BOARD THICKNESS	0.158 mm
TRACE WIDTH	0.127 mm
TRACE TO TRACE	0.125 mm
MIN. HOLE (PTH)	0.250 mm
MIN. HOLE (NPTH)	0.650 mm
ANNULAR RING	0.100 mm
COPPER TO HOLE	0.125 mm
COPPER TO EDGE	0.125 mm
HOLE TO HOLE	0.250 mm



B

Impedance Table

Transmission Line	Impedance [ohms]	Tolerance [%]	Layer	Trace Width [mm]	Gap [mm]	Ref. Layers

C

D

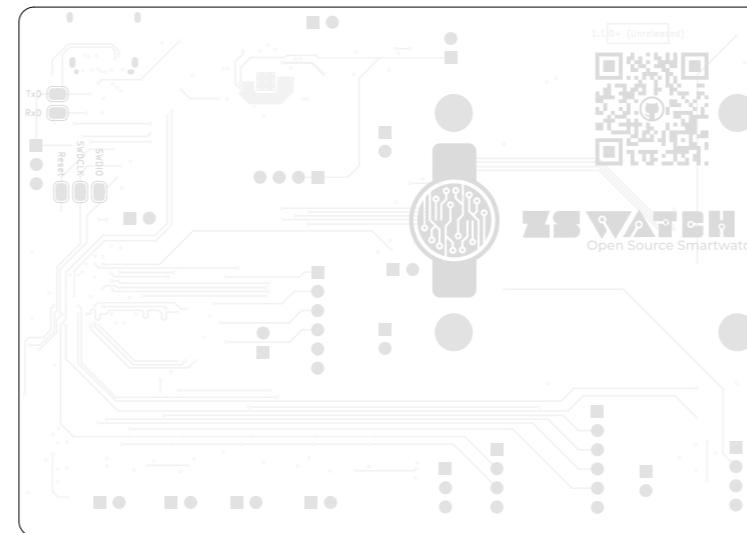
E

F

Comments: ZSWatch	Company: ZSWatch	Variant: PRELIMINARY	Git Hash: 15d213a
	Board Name: Watch-DevKit-HW	Project Name: ZSWatch Watch-DevKit	
Sheet Title: Top Fabrication (Scale 1:1)	File Name: ZSWatch-Watch-DevKit.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13
Sheet Path:	Reviewer:	Size: A3	Sheet: 1 of 10

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Bottom Fabrication (Scale 1:1)



All dimensions are in millimeters unless otherwise specified.

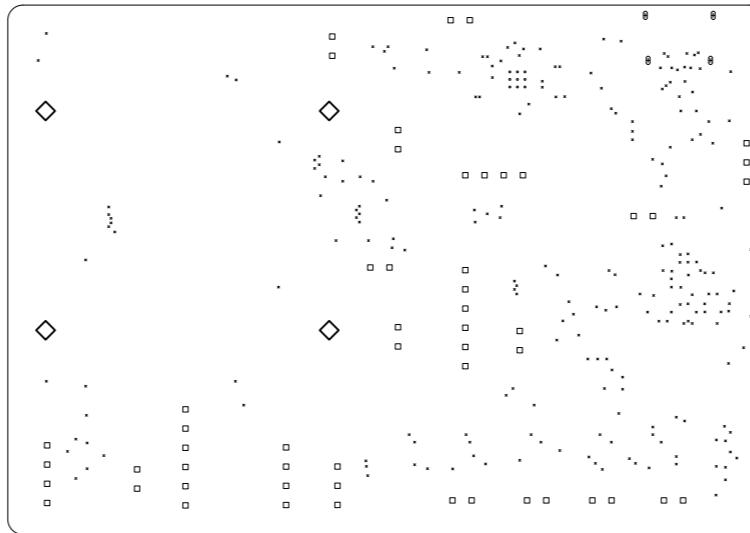
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	Board Name: Watch-DevKit-HW	Project Name: ZSWatch Watch-DevKit		
	Sheet Title: Bottom Fabrication (Scale 1:1)	File Name: ZSWatch-Watch-DevKit.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 Revision: 1.1.0+ (Unreleased)
	Sheet Path:		Reviewer:	Size: A3 Sheet: 2 of 10

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Drill Drawing L1 - L4 (Scale 1:1)

Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
×	232	0.25mm (9.84mils)	PTH	Round	F,Cu - B,Cu	Via
○	9	0.25mm (9.84mils)	PTH	Round	F,Cu - B,Cu	Pad
+	4	0.50mm (19.89mils)	PTH	Slot	F,Cu - B,Cu	Pad
□	54	1.00mm (39.37mils)	PTH	Round	F,Cu - B,Cu	Pad
◊	4	2.50mm (98.43mils)	PTH	Round	F,Cu - B,Cu	Pad
<hr/>						
Total 303						



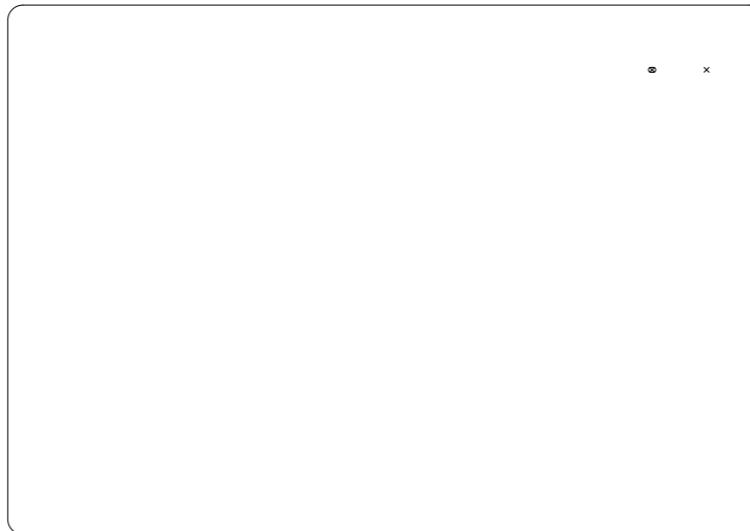
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	Board Name: Watch-DevKit-HW	Project Name: ZSWatch Watch-DevKit		
	Sheet Title: Drill Drawing (L1 - L4)	File Name: ZSWatch-Watch-DevKit.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13
	Sheet Path:		Reviewer:	Revision: 1.1.0+ (Unreleased)
				Size: A3
				Sheet: 3 of 10

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Drill Drawing L1 - L4 (Scale 1:1)

Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
X	1 + 1	0,65mm (25,59mils)	NPTH	Round + Slot	F,Cu - B,Cu	Mechanical
	Total 2					



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	Sheet Path:	Reviewer:	Revision: 1.1.0+ (Unreleased)
Size: A3		Sheet: 4 of 10	

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Top Test Points (Scale 1:1)



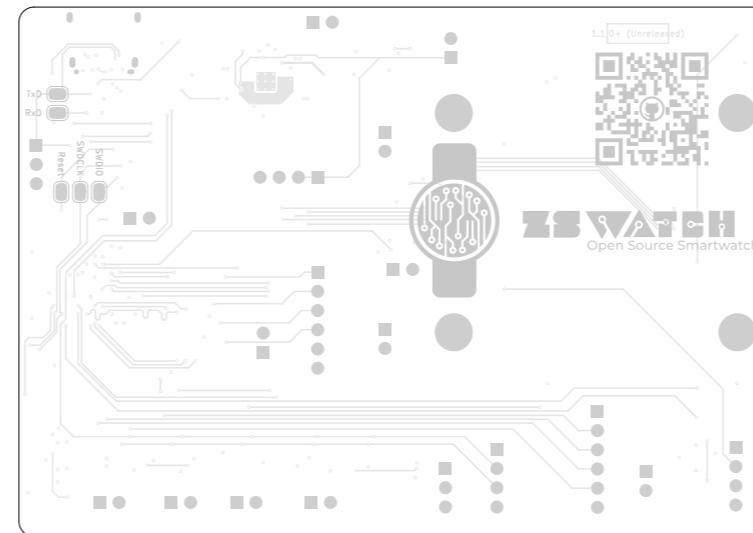
Ref.	Net	X [mm]	Y [mm]
TP401	VBUS-In	233.30	-124.20
TP402	VBAT	230.60	-116.72
TP403	VSYS	237.30	-125.80
TP404	+1V8	213.80	-125.10
TP405	+3V0	213.40	-118.70
TP501	MIC-CLK	172.20	-172.90
TP502	MIC-DATA	170.20	-176.60
TP503	VIB-EN	222.20	-133.30
TP504	VIB-PWM	222.20	-129.20
TP601	RESETn	254.70	-142.20

Ref.	Net	X [mm]	Y [mm]
TP601	RESETn	254.70	-142.20

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Sheet Path:		Reviewer:	Size: A3
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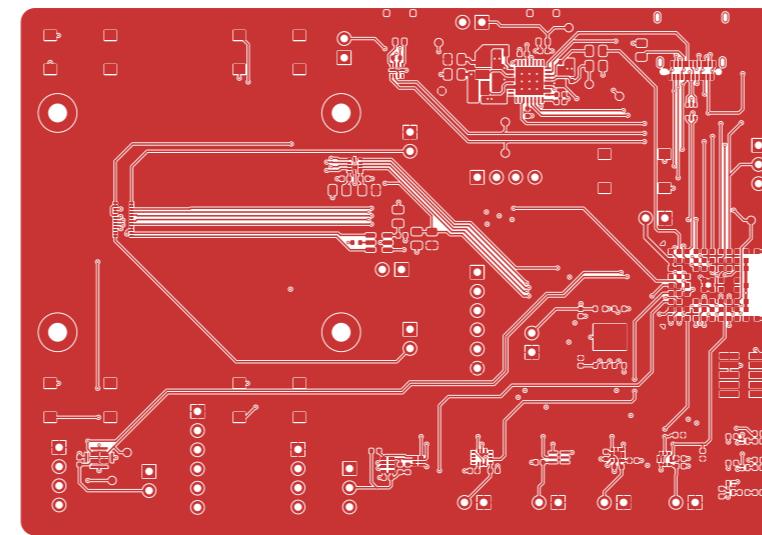
Bottom Test Points (Scale 1:1)



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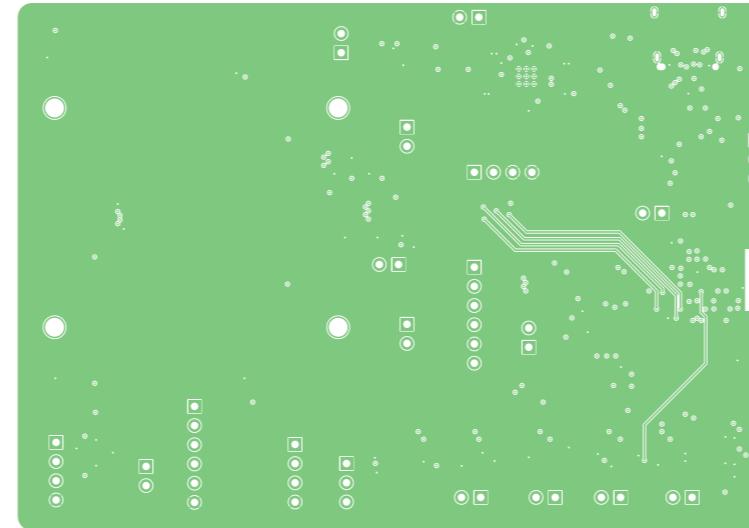
F.Cu (Scale 1:1)



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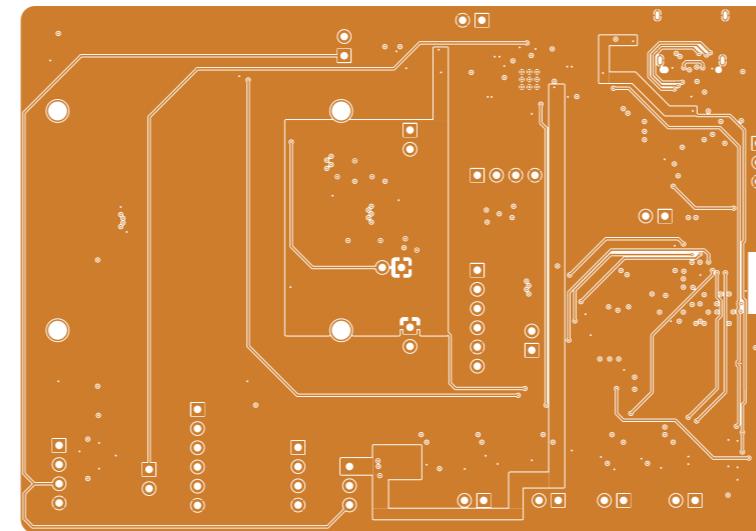
Inner1 (GND) (Scale 1:1)



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	Sheet Title: Inner1 (GND) (Scale 1:1)	File Name: ZSWatch-Watch-DevKit.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 Revision: 1.1.0+ (Unreleased)
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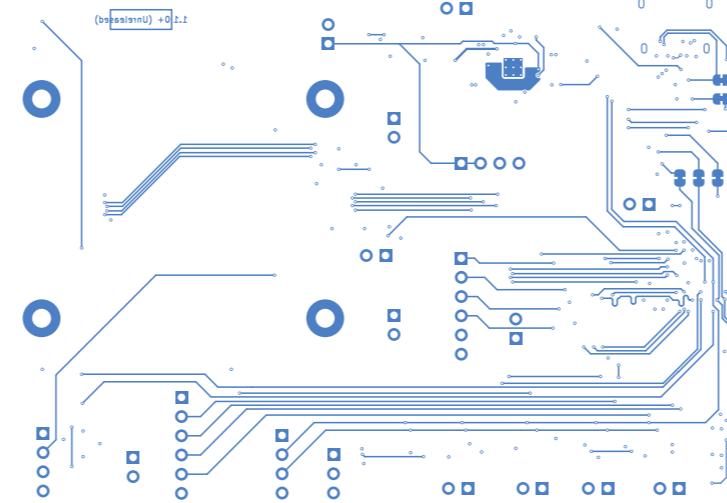
Inner2 (Scale 1:1)



Comments: ZSWatch	Company: ZSWatch	Variant: PRELIMINARY	Git Hash: 15d213a
Board Name: Watch-DevKit-HW	Project Name: ZSWatch Watch-DevKit		
Sheet Title: Inner2 (Scale 1:1)	File Name: ZSWatch-Watch-DevKit.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13
Sheet Path:	Reviewer:	Size: A3	Revision: 1.1.0+ (Unreleased)

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B.Cu (Scale 1:1)



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	Board Name: Watch-DevKit-HW	Project Name: ZSWatch Watch-DevKit		
	Sheet Title: B.Cu (Scale 1:1)	File Name: ZSWatch-Watch-DevKit.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13
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