

Heartrate-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)	FR4	Signal	GBR
Core		0.196mm		Dielectric	
Copper	Supply	0.035mm (1.00oz)	FR4	Plane	GBR
Prepreg		0.43mm		Dielectric	
Copper	GND	0.035mm (1.00oz)	FR4	Plane	GBR
Core		0.196mm		Dielectric	
Copper	B.Cu	0.035mm (1.00oz)	FR4	Signal	GBR
	B.Mask	0.01mm		Solder Mask	GBR
	B.Silkscreen			Legend	GBR
	B.Paste			Paste Mask	

Total thickness: 0.982mm
Note: external layer thicknesses are specified after plating

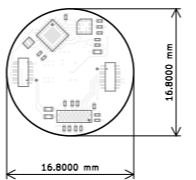
Top Fabrication (Scale 1:1)

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 SNPB
- 5) SOLDERMASK ON BOTH SIDES OF THE BOARD SHALL BE LPI, COLOR GREEN.
- 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 UL94-V0 REQUIREMENTS.
 - B. Tg 150 C OR EQUIVALENT.
 - C. EQUIVALENT MATERIAL SHALL BE RoHS COMPLIANT, HALOGEN FREE AND APPROVED BY ZSWATCH.

10) DESIGN GEOMETRY MINIMUM FEATURE SIZES:

BOARD SIZE	16.800 x 16.800 mm
BOARD THICKNESS	0.982 mm
TRACE WIDTH	0.150 mm
TRACE TO TRACE	0.100 mm
MIN. HOLE (PTH)	0.150 mm
MIN. HOLE (NPTH)	N/A mm
ANNULAR RING	0.076 mm
COPPER TO HOLE	0.100 mm
COPPER TO EDGE	0.100 mm
HOLE TO HOLE	0.100 mm



C

Impedance Table

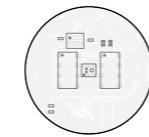
Transmission Line	Impedance [ohms]	Tolerance [%]	Layer	Trace Width [mm]	Gap [mm]	Ref. Layers

D

E

Comments: ZSWatch	Company: ZSWatch	Variant: PRELIMINARY	Git Hash: 6736584
Board Name: Heartrate-HW		Project Name: ZSWatch Heartrate	
Sheet Title: Top Fabrication (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 Revision: + (Unreleased)
Sheet Path:	Reviewer:	Size: A3	Sheet: 1 of 9

F

Heartrate-HW Fabrication Document**Bottom Fabrication (Scale 1:1)**

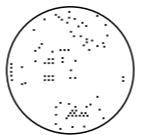
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	Board Name: Heartrate-HW	Project Name: ZSWatch Heartrate		
	Sheet Title: Bottom Fabrication (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 Revision: + (Unreleased)
	Sheet Path:		Reviewer:	Size: A3 Sheet: 2 of 9

Heartrate-HW Fabrication Document

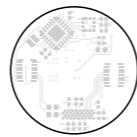
Drill Drawing L1 - L4 (Scale 1:1)

Drill Table

Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
X	88	0,15mm (5,91mils)	PTH	Round	F,Cu - B,Cu	Via
	Total 88					



Comments: ZSWatch	Company: ZSWatch	Variant: PRELIMINARY	Git Hash: 6736584
	Board Name: Heartrate-HW	Project Name: ZSWatch Heartrate	
Sheet Title: Drill Drawing (L1 - L4)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 + (Unreleased)
	Sheet Path:	Reviewer:	Size: A3
			Sheet: 3 of 9

Heartrate-HW Fabrication Document**Top Test Points (Scale 1:1)**

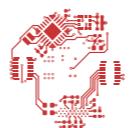
Ref.	Net	X [mm]	Y [mm]
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Ref.	Net	X [mm]	Y [mm]
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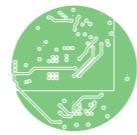
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	Board Name: Heartrate-HW	Project Name: ZSWatch Heartrate		
	Sheet Title: Top Test Points (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 + (Unreleased)
	Sheet Path:		Reviewer:	Size: A3 Sheet: 4 of 9

Heartrate-HW Fabrication Document**Bottom Test Points (Scale 1:1)**

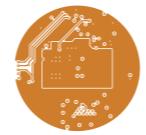
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	Sheet Title: Bottom Test Points (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 Revision: + (Unreleased)
	Sheet Path:		Reviewer:	Size: A3 Sheet: 5 of 9

Heartrate-HW Fabrication Document**F.Cu (Scale 1:1)**

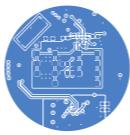
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	Sheet Path:	Reviewer:		Size: A3 Sheet: 6 of 9

Heartrate-HW Fabrication Document**Supply (Scale 1:1)**

	Comments: ZSWatch	Company: ZSWatch	Variant: PRELIMINARY	Git Hash: 6736584
	Board Name: Heartrate-HW	Project Name: ZSWatch Heartrate		
	Sheet Title: Supply (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 Revision: + (Unreleased)
	Sheet Path:		Reviewer:	Size: A3 Sheet: 7 of 9

Heartrate-HW Fabrication Document**GND (Scale 1:1)**

	Comments: ZSWatch	Company: ZSWatch	Variant: PRELIMINARY	Git Hash: 6736584
	Board Name: Heartrate-HW	Project Name: ZSWatch Heartrate		
	Sheet Title: GND (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 Revision: + (Unreleased)
	Sheet Path:		Reviewer:	Size: A3 Sheet: 8 of 9

Heartrate-HW Fabrication Document**B.Cu (Scale 1:1)**

	Comments: ZSWatch	Company: ZSWatch	Variant: PRELIMINARY	Git Hash: 6736584
	Board Name: Heartrate-HW	Project Name: ZSWatch Heartrate		
	Sheet Title: B.Cu (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13 Revision: + (Unreleased)
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