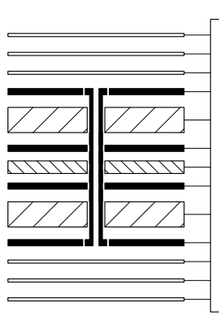
Heartrate-HW Fabrication Document

Layer Stack Legend



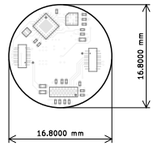
Material	Layer	Thickness	Dielectric	Type	Gerber
	F.Paste			Paste Mask	
	F.Silkscreen			Legend	GBR
	F.Mask	0.01mm		Solder Mask	GBR
Copper	**F.Cu**	**0.035mm (1.00oz)**		**Signal**	**GBR**
Core		0.196mm	FR4	Dielectric	
Copper	**Supply**	**0.035mm (1.00oz)**		**Plane**	**GBR**
Prepreg		0.43mm	FR4	Dielectric	
Copper	**GND**	**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: 0.982mm
Note: external layer thicknesses are specified after plating

Impedance Table

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

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.

   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: 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 UL94V-0 REQUIREMENTS.
   B. Tg 150 C OR EQUIVALENT.
   C. EQUIVALENT MATERIAL SHALL BE RoHS COMPLIANT, HALOGEN FREE AND APPROVED BY ZSWATCH.

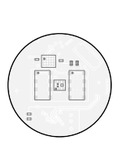
10) DESIGN GEOMETRY MINIMUM FEATURE SIZES:

BOARD SIZE	16.800 × 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

Comments: ZSWatch	Company: **ZSWatch**		Variant: CHECKED	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**

Heartrate-HW Fabrication Document

Bottom Fabrication (Scale 1:1)



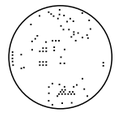
Comments: ZSWatch	Company: **ZSWatch**		Variant: CHECKED	Git Hash: 6736584
	Board Name: **Heartrate-HW**		Project Name: **ZSWatch Heartrate**	
Sheet Title: Bottom Fabrication (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13	Revision: + (Unreleased)
Sheet Path:		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
×	88	0,15mm (5,91mils)	PTH	Round	F.Cu - B.Cu	Via
	Total 88					



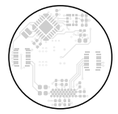
	Comments: ZSWatch	Company: **ZSWatch**		Variant: CHECKED	Git Hash: 6736584
		Board Name: **Heartrate-HW**		Project Name: **ZSWatch Heartrate**	
	Sheet Title: Drill Drawing (L1 - L4)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13	Revision: + (Unreleased)
	Sheet Path: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

Heartrate-HW Fabrication Document

Top Test Points (Scale 1:1)

Ref.	Net	X [mm]	Y [mm]

Ref.	Net	X [mm]	Y [mm]



Comments: ZSWatch	Company: **ZSWatch**		Variant: CHECKED	Git Hash: 6736584
	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	Revision: + (Unreleased)
Sheet Path:		Reviewer:	Size: **A3**	Sheet: **4** of **9**

Heartrate-HW Fabrication Document

Bottom Test Points (Scale 1:1)

Comments: ZSWatch	Company: **ZSWatch**		Variant: CHECKED	Git Hash: 6736584
	Board Name: **Heartrate-HW**		Project Name: **ZSWatch Heartrate**	
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**

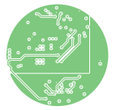
Heartrate-HW Fabrication Document

F.Cu (Scale 1:1)

Comments: ZSWatch	Company: **ZSWatch**		Variant: CHECKED	Git Hash: 6736584
	Board Name: **Heartrate-HW**		Project Name: **ZSWatch Heartrate**	
Sheet Title: F.Cu (Scale 1:1)	File Name: ZSWatch-Extension.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13	Revision: + (Unreleased)
Sheet Path:		Reviewer:	Size: **A3**	Sheet: **6** of **9**

Heartrate-HW Fabrication Document

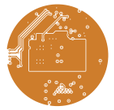
Supply (Scale 1:1)



Comments: ZSWatch	Company: **ZSWatch**		Variant: CHECKED	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

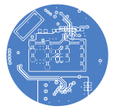
GND (Scale 1:1)



Comments: ZSWatch	Company: **ZSWatch**		Variant: CHECKED	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: CHECKED	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)
Sheet Path:		Reviewer:	Size: **A3**	Sheet: **9** of **9**