

# Heartrate-HW Fabrication Document

## Layer Stack Legend

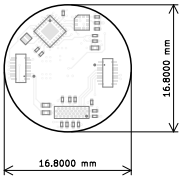
	Material	Layer	Thickness	Dielectric	Type	Gerber
		F.Paste			Paste Mask	
		F.Silkscreen			Legend	GBR
		F.Mask	0,01mm		Solder Mask	GBR
	Copper	F.Cu	0,035mm (1,00oz)		Signal	GBR
	Core		0,196mm	FR4	Dielectric	
	Copper	Supply	0,035mm (1,00oz)		Plane	GBR
	Prepreg		0,43mm	FR4	Dielectric	
	Copper	GND	0,035mm (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
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## Top Fabrication (Scale 1:1)



### FABRICATION NOTES (UNLESS OTHERWISE SPECIFIED)

- FABRICATE PER IPC-6012A CLASS 2.
- OUTLINE DEFINED IN SEPARATE GERBER FILE WITH "Edge\_Cuts.GBR" SUFFIX.  
  
DIMENSIONS OF CIRCUMSIZED RECTANGLE SHOWN ON THIS DRAWING FOR REFERENCE ONLY.
- SEE SEPARATE DRILL FILES WITH ".DRL" SUFFIX FOR HOLE LOCATIONS.  
  
SELECTED HOLE LOCATIONS SHOWN ON THIS DRAWING FOR REFERENCE ONLY.
- SURFACE FINISH: HAL SNPB
- SOLDERMASK ON BOTH SIDES OF THE BOARD SHALL BE LPI, COLOR GREEN.
- SILK SCREEN LEGEND TO BE APPLIED PER LAYER STACKUP USING BLACK NON-CONDUCTIVE EPOXY INK.

- ALL VIAS ARE TENTED ON BOTH SIDES UNLESS SOLDERMASK OPENED IN GERBER.
- VENDOR SHOULD FOLLOW ROHS COMPLIANT PROCESS AND Pb FREE FOR MANUFACTURING
- PCB MATERIAL REQUIREMENTS:

- FLAMMABILITY RATING MUST MEET OR EXCEED UL94V-0 REQUIREMENTS.
- T<sub>g</sub> 150 C OR EQUIVALENT.
- 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

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

A	1	2	3	4	5	6	7
B							
C							
D							
E							
F	1	2	3	4	5	6	7

# Heartrate-HW Fabrication Document

## Bottom Fabrication (Scale 1:1)

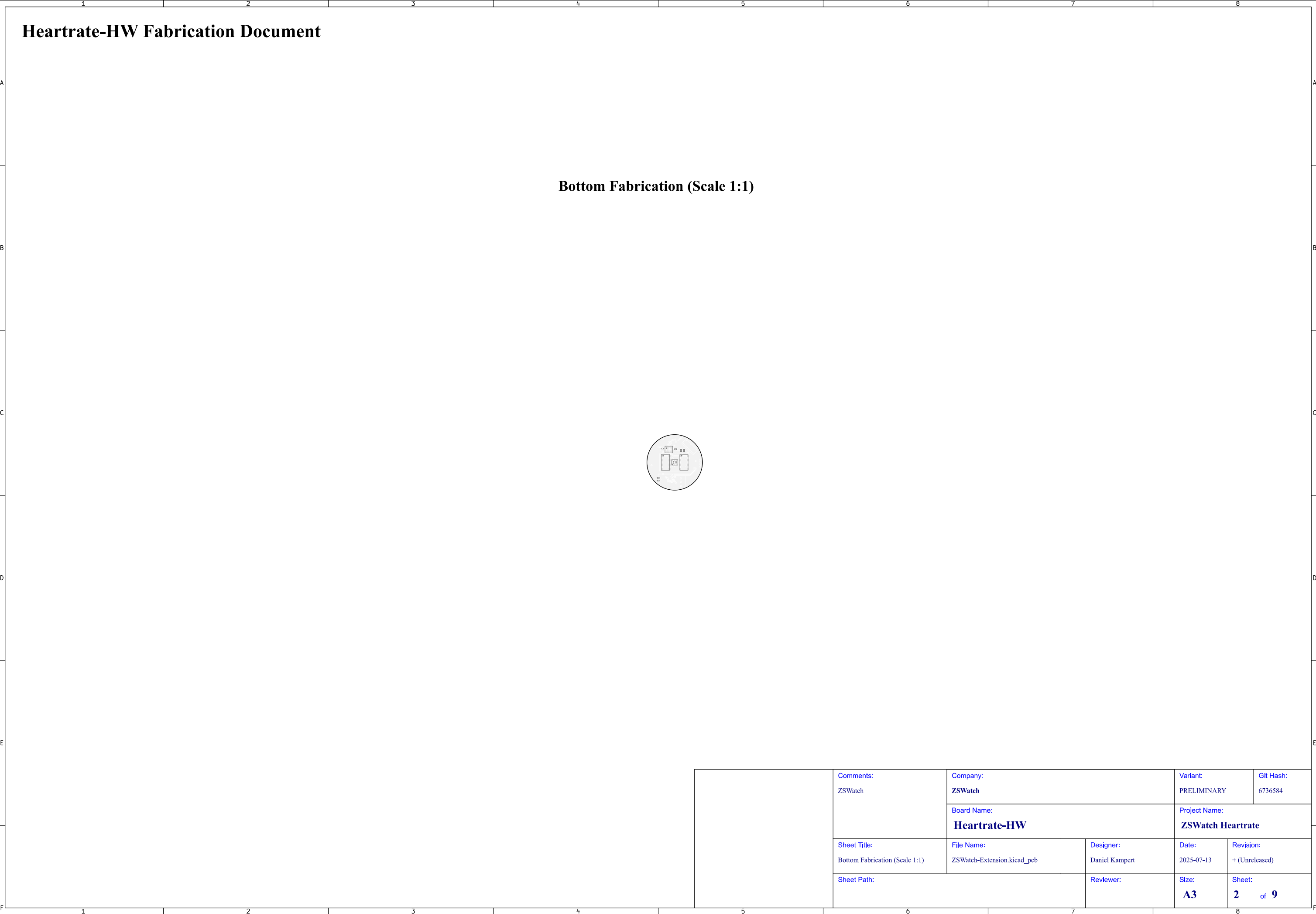
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		<b>Board Name:</b> Heartrate-HW		<b>Project Name:</b> ZSWatch Heartrate	
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	<b>Sheet Path:</b>		<b>Reviewer:</b>	<b>Size:</b> A3	<b>Sheet:</b> 2 of 9

A	1	2	3	4	5	6	7
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F	1	2	3	4	5	6	7

# Heartrate-HW Fabrication Document

## Bottom Fabrication (Scale 1:1)

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



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## Bottom Fabrication (Scale 1:1)

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



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# 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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	Comments:	Company:		Variant:	Git Hash:
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		Board Name:		Project Name:	
		Heartrate-HW		ZSWatch Heartrate	
Sheet Title:	File Name:	Designer:	Date:	Revision:	
Top Test Points (Scale 1:1)	ZSWatch-Extension.kicad_pcb	Daniel Kampert	2025-07-13	+ (Unreleased)	
Sheet Path:	Reviewer:		Size:	Sheet:	
			A3	4 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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		Heartrate-HW		ZSWatch Heartrate	
Sheet Title:	File Name:	Designer:	Date:	Revision:	
Top Test Points (Scale 1:1)	ZSWatch-Extension.kicad_pcb	Daniel Kampert	2025-07-13	+ (Unreleased)	
Sheet Path:	Reviewer:		Size:	Sheet:	
			A3	4 of 9	

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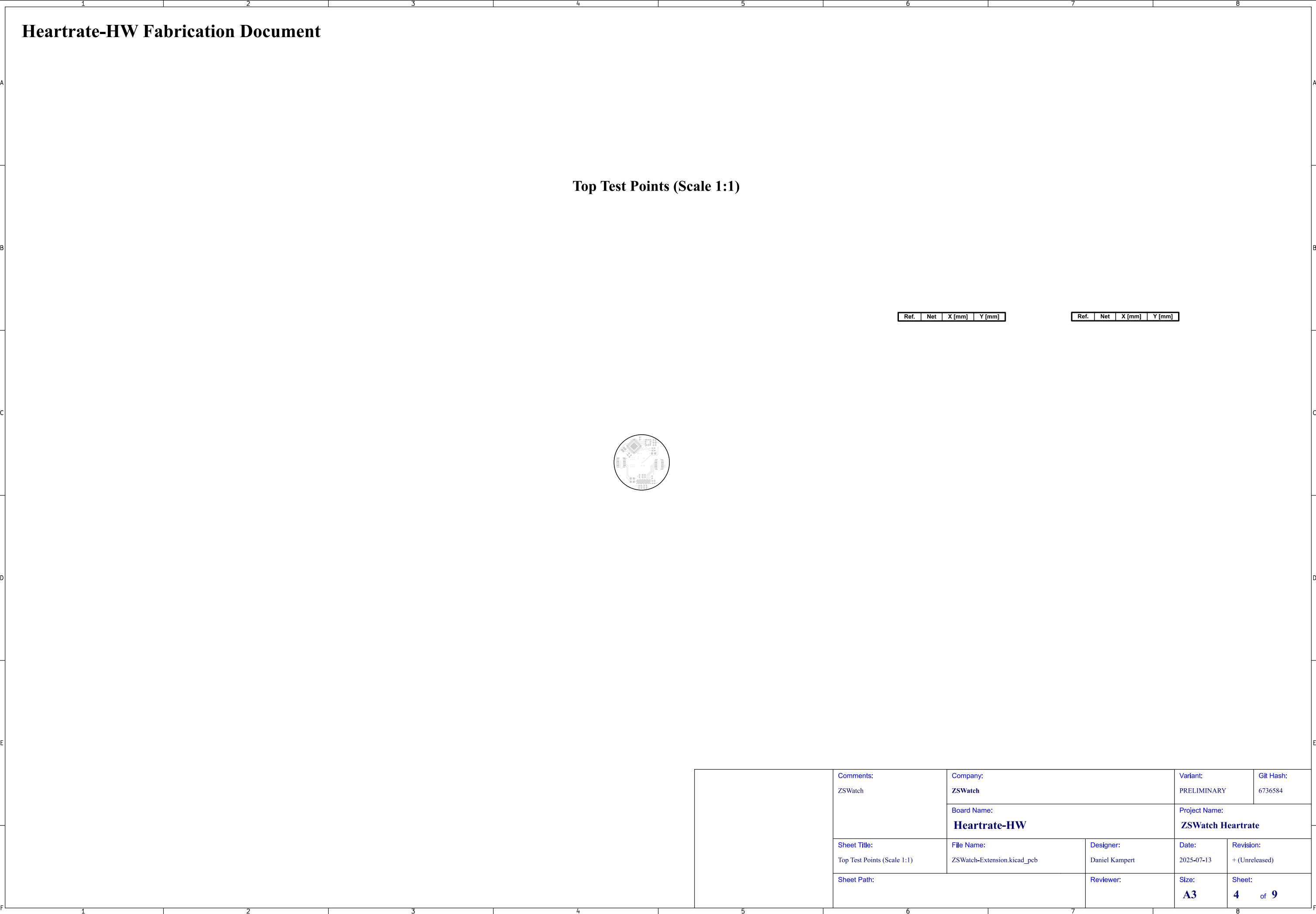
Heartrate-HW Fabrication Document

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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	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



A

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Heartrate-HW Fabrication Document

Top Test Points (Scale 1:1)

Ref.

Net

X [mm]

Y [mm]


Ref.

Net

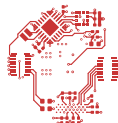
X [mm]

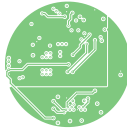
Y [mm]

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	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: <b>A3</b>	Sheet: <b>4     of    9</b>	

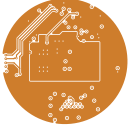
Heartrate-HW Fabrication Document										
Bottom Test Points (Scale 1:1)										
										
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	<b>Sheet Path:</b>		<b>Reviewer:</b>	<b>Size:</b> A3	<b>Sheet:</b> 5 of 9

Heartrate-HW Fabrication Document							
F.Cu (Scale 1:1)							
							
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				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)											
											
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							Board Name:		Project Name:		
							Heartrate-HW		ZSWatch Heartrate		
Sheet Title:		File Name:		Designer:	Date:	Revision:					
Supply (Scale 1:1)		ZSWatch-Extension.kicad_pcb		Daniel Kampert	2025-07-13	+ (Unreleased)					
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						A3	7 of 9				

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	<b>Sheet Path:</b>		<b>Reviewer:</b>	<b>Size:</b> A3	<b>Sheet:</b> 7 of 9

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A	<div>Heartrate-HW Fabrication Document</div>								A
B	<div>GND (Scale 1:1)</div>								B
C									C
D									D
E									E
F	1	2	3	4	5	6	7	8	F

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	Sheet Path:		Reviewer:	Size:	Sheet:
				A3	8 of 9



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