

Heartrate-DevKit-HW Fabrication Document

Layer Stack Legend

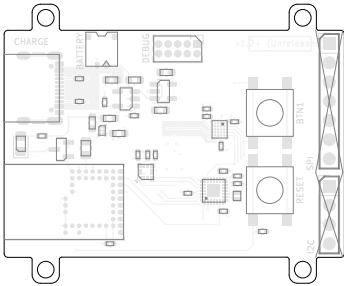
	Material	Layer	Thickness	Dielectric	Type	Gerber
		F,Paste			Paste Mask	
		F,Silkscreen			Legend	GBR
		F,Mask	0,01mm		Solder Mask	GBR
	Copper	F,Cu	0,035mm (1oz)		Signal	GBR
	Core		0,196mm	FR4	Dielectric	
	Copper	Inner1	0,035mm (1oz)		Plane	GBR
	Prepreg		0,43mm	FR4	Dielectric	
	Copper	Inner2	0,035mm (1oz)		Plane	GBR
	Core		0,196mm	FR4	Dielectric	
	Copper	B,Cu	0,035mm (1oz)		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)

- 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 SIZE45.000 x 36.900 mm

BOARD THICKNESS0.982 mm

TRACE WIDTH0.150 mm

TRACE TO TRACE0.100 mm

MIN. HOLE (PTH)0.150 mm

MIN. HOLE (NPTH)0.650 mm

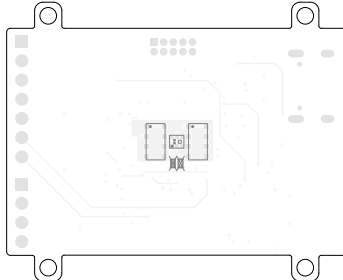
ANNULAR RING0.100 mm

COPPER TO HOLE0.100 mm

COPPER TO EDGE0.100 mm

HOLE TO HOLE0.100 mm

	<div>Comments:</div> <div>ZSWatch</div>	<div>Company:</div> <div>ZSWatch</div>		<div>Variant:</div> <div>CHECKED</div>	<div>Git Hash:</div> <div>b5177ec</div>
		<div>Board Name:</div> <div>Heartrate-DevKit-HW</div>		<div>Project Name:</div> <div>ZSWatch Heartrate-DevKit</div>	
	<div>Sheet Title:</div> <div>Top Fabrication (Scale 1:1)</div>	<div>File Name:</div> <div>ZSWatch-HeartRate.kicad_pcb</div>	<div>Designer:</div> <div>Daniel Kampert</div>	<div>Date:</div> <div>2025-07-13</div>	<div>Revision:</div> <div>v1.2+ (Unreleased)</div>
	<div>Sheet Path:</div>		<div>Reviewer:</div>	<div>Size:</div> <div>A3</div>	<div>Sheet:</div> <div>1 of 10</div>

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A	<h1>Heartrate-DevKit-HW Fabrication Document</h1>							A
B	<h2>Bottom Fabrication (Scale 1:1)</h2>							B
C								C
D								D
E								E
F		Comments:		Company:		Variant:	Git Hash:	
		ZSWatch		ZSWatch		CHECKED	b5177ec	
				Board Name:		Project Name:		
				Heartrate-DevKit-HW		ZSWatch Heartrate-DevKit		
	Sheet Title:		File Name:		Designer:	Date:	Revision:	
	Bottom Fabrication (Scale 1:1)		ZSWatch-HeartRate.kicad_pcb		Daniel Kampert	2025-07-13	v1.2+ (Unreleased)	
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Heartrate-DevKit-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
○	4	0,60mm (23,62mils)	PTH	Slot	F,Cu - B,Cu	Pad
+	10	0,65mm (25,59mils)	PTH	Round	F,Cu - B,Cu	Pad
□	11	1,00mm (39,37mils)	PTH	Round	F,Cu - B,Cu	Pad
	Total 113					

The drill drawing shows a rectangular PCB footprint with four mounting holes at the corners. It features a central circular pad with eight radial slots. Numerous small vias are distributed across the board, particularly around the perimeter and along the edges. Specific symbols from the drill table are placed near certain groups of holes: two circles (○) on the left edge, six crosses (×) in the top right area, and one square (□) on the right edge.

	Comments: ZSWatch	Company: ZSWatch		Variant: CHECKED	Git Hash: b5177ec
		Board Name: Heartrate-DevKit-HW		Project Name: ZSWatch Heartrate-DevKit	
	Sheet Title: Drill Drawing (L1 - L4)	File Name: ZSWatch-HeartRate.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13	Revision: v1.2+ (Unreleased)
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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	88	0,15mm (5,91mils)	PTH	Round	F,Cu - B,Cu	Via
O	4	0,60mm (23,62mils)	PTH	Slot	F,Cu - B,Cu	Pad
+	10	0,65mm (25,59mils)	PTH	Round	F,Cu - B,Cu	Pad
□	11	1,00mm (39,37mils)	PTH	Round	F,Cu - B,Cu	Pad
	Total 113					

Comments:
ZSWatch

Company:
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Variant:
CHECKED

Git Hash:
b5177ec

Board Name:
Heartrate-DevKit-HW

Project Name:
ZSWatch Heartrate-DevKit

Sheet Title:
Drill Drawing (L1 - L4)

File Name:
ZSWatch-HeartRate.kicad_pcb

Designer:
Daniel Kampert

Date:
2025-07-13

Revision:
v1.2+ (Unreleased)

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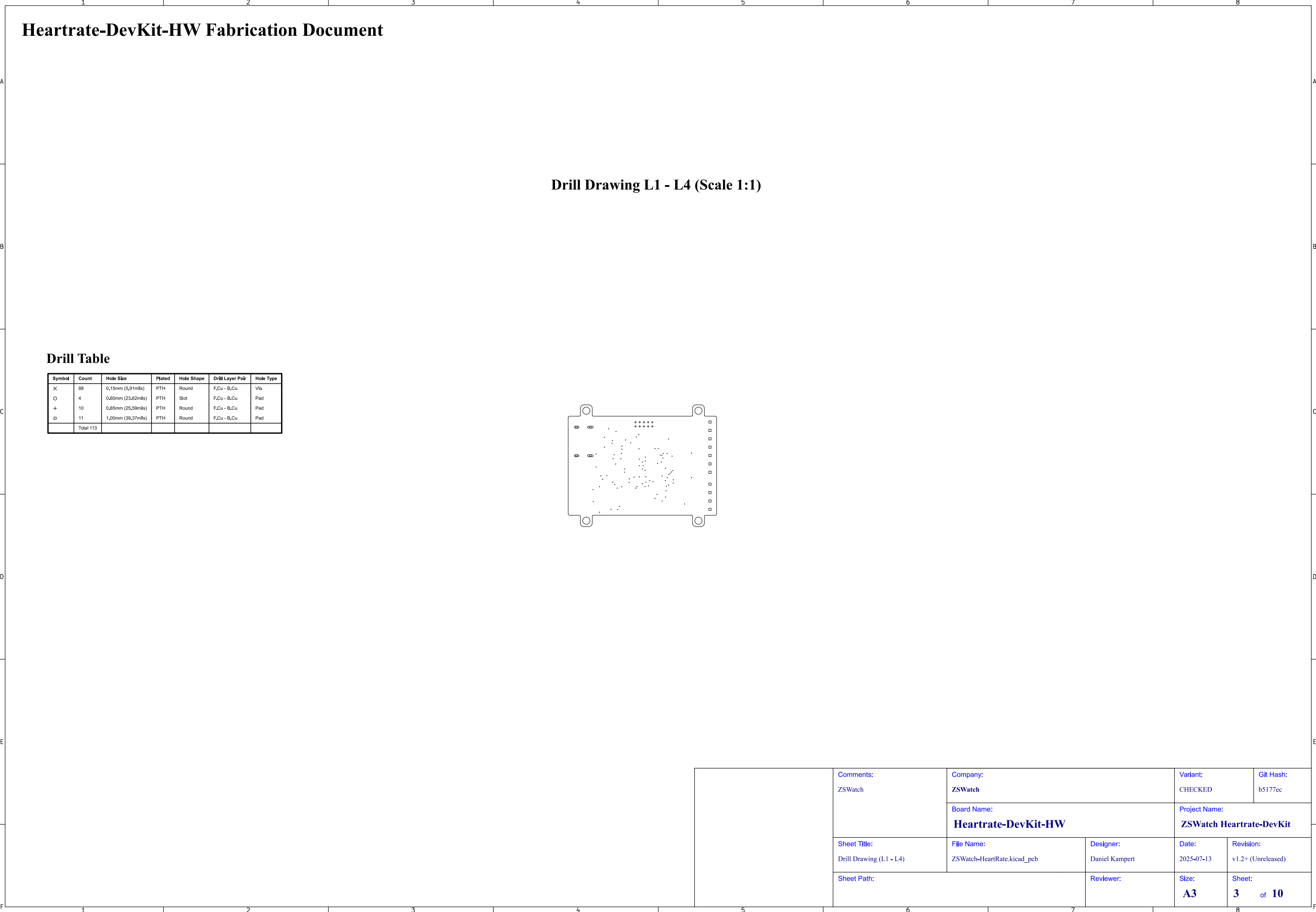
Heartrate-DevKit-HW Fabrication Document

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
○	4	0,60mm (23,62mils)	PTH	Slot	F,Cu - B,Cu	Pad
+	10	0,65mm (25,59mils)	PTH	Round	F,Cu - B,Cu	Pad
□	11	1,00mm (39,37mils)	PTH	Round	F,Cu - B,Cu	Pad
	Total 113					

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		Board Name:		Project Name:	
		Heartrate-DevKit-HW		ZSWatch Heartrate-DevKit	
Sheet Title:	File Name:	Designer:	Date:	Revision:	
Drill Drawing (L1 - L4)	ZSWatch-HeartRate.kicad_pcb	Daniel Kampert	2025-07-13	v1.2+ (Unreleased)	
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Drill Drawing L1 - L4 (Scale 1:1)

Drill Table

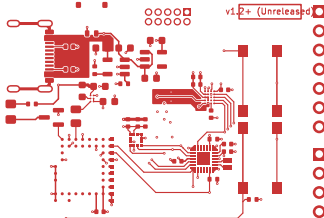
Symbol	Count	Hole Size	Plated	Hole Shape	Drill Layer Pair	Hole Type
X	88	0,15mm (5,91mils)	PTH	Round	F,Cu - B,Cu	Via
O	4	0,60mm (23,62mils)	PTH	Slot	F,Cu - B,Cu	Pad
+	10	0,85mm (25,59mils)	PTH	Round	F,Cu - B,Cu	Pad
□	11	1,00mm (39,37mils)	PTH	Round	F,Cu - B,Cu	Pad
	Total 113					

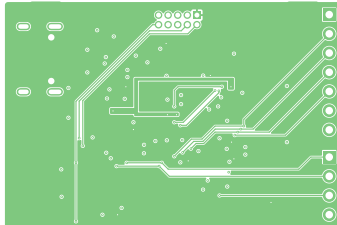
The drawing shows a rectangular circuit board with rounded corners. It has four circular mounting holes, one near each corner. Various smaller circles represent through-hole vias or microvias. There are also several small squares representing surface-mount pad locations. Some larger rectangles indicate slot locations.

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		Board Name: Heartrate-DevKit-HW		Project Name: ZSWatch Heartrate-DevKit	
	Sheet Title: Drill Drawing (L1 - L4)	File Name: ZSWatch-HeartRate.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13	Revision: v1.2+ (Unreleased)
	Sheet Path:		Reviewer:	Size: A3	Sheet: 3 of 10

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

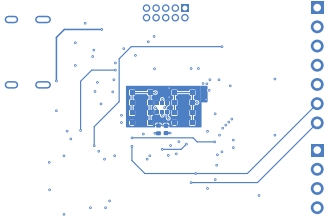
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		Board Name:		Project Name:	
		Heartrate-DevKit-HW		ZSWatch Heartrate-DevKit	
	Sheet Title:	File Name:	Designer:	Date:	Revision:
	Bottom Test Points (Scale 1:1)	ZSWatch-HeartRate.kicad_pcb	Daniel Kampert	2025-07-13	v1.2+ (Unreleased)
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F.Cu (Scale 1:1)										
										
	Comments: ZSWatch		Company: ZSWatch		Variant: CHECKED		Git Hash: b5177ec			
			Board Name: Heartrate-DevKit-HW		Project Name: ZSWatch Heartrate-DevKit					
	Sheet Title: F.Cu (Scale 1:1)		File Name: ZSWatch-HeartRate.kicad_pcb		Designer: Daniel Kampert		Date: 2025-07-13		Revision: v1.2+ (Unreleased)	
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Inner1 (Scale 1:1)							
							

	1	2	3	4	5	6	7	8	
A	<div>Heartrate-DevKit-HW Fabrication Document</div>								A
B	<div>Inner2 (Scale 1:1)</div>								B
C									C
D									D
E									E
F	1	2	3	4	5	6	7	8	F

	Comments: ZSWatch	Company: ZSWatch		Variant: CHECKED	Git Hash: b5177ec
		Board Name: Heartrate-DevKit-HW		Project Name: ZSWatch Heartrate-DevKit	
	Sheet Title: Inner2 (Scale 1:1)	File Name: ZSWatch-HeartRate.kicad_pcb	Designer: Daniel Kampert	Date: 2025-07-13	Revision: v1.2+ (Unreleased)
	Sheet Path:		Reviewer:	Size: A3	Sheet: 9 of 10

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B	<div>B.Cu (Scale 1:1)</div>							
C								
D								
E								
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