

# Heartrate-DevKit-HW

2025-09-07

Variant: **CHECKED**

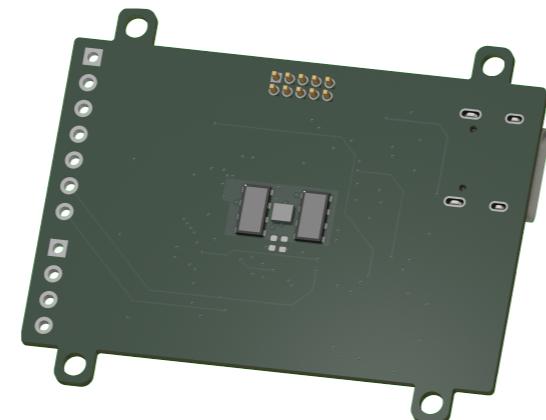
**Rev + (Unreleased)**

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## TOP VIEW



## BOTTOM VIEW



## NOTES

Comment

Not fitted components are marked as

DRAFT - Very early stage of schematic, ignore details.

PRELIMINARY - Close to final schematic.

CHECKED - There shouldn't be any mistakes. Contact the engineer if you find any.

RELEASED - A board with this schematic has been sent to production.

Date: 07-Sep-2025

## DESIGN CONSIDERATIONS

DESIGN NOTE:  
Example text for informational design notes.

DESIGN NOTE:  
Example text for debug notes.

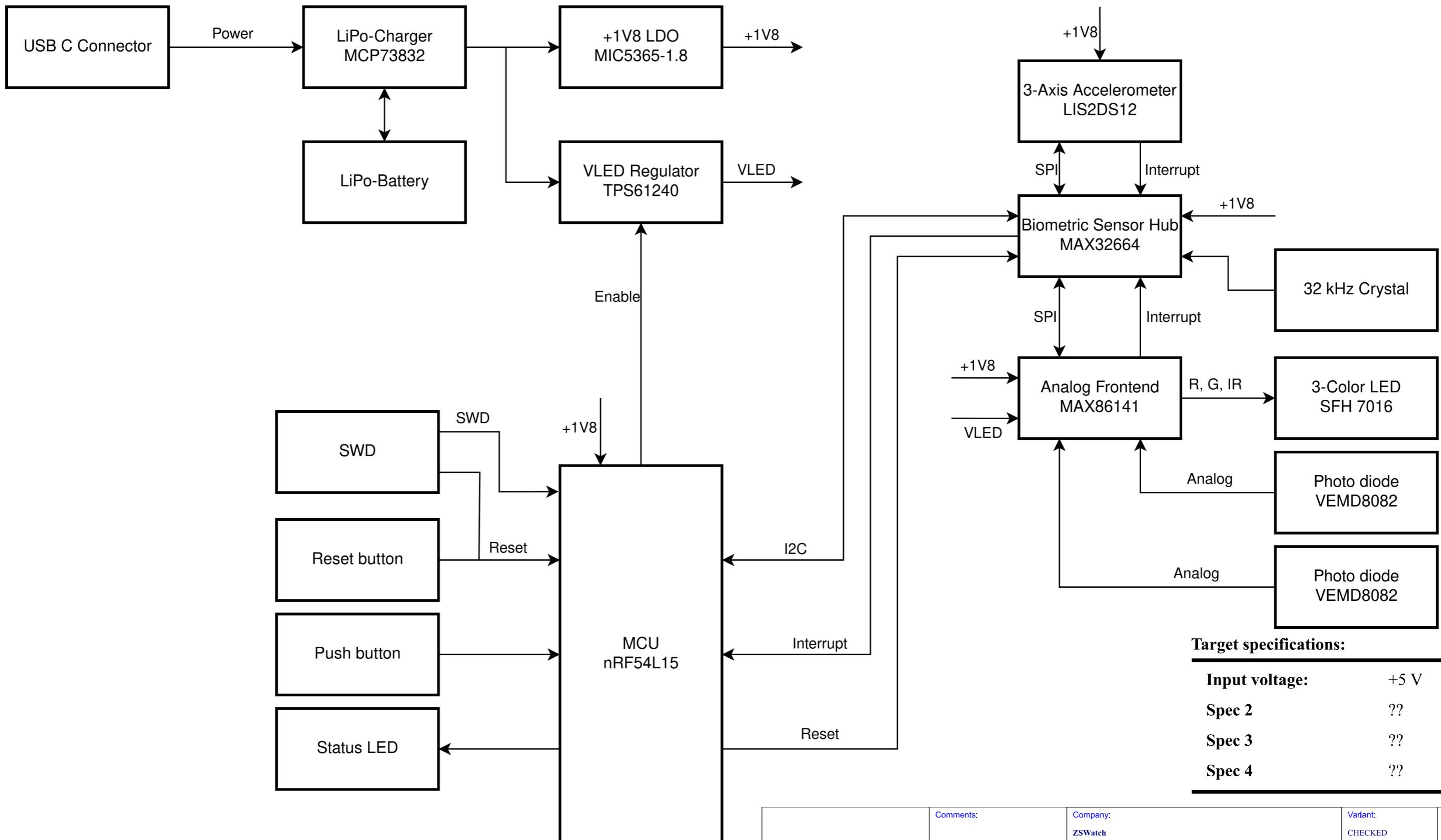
DESIGN NOTE:  
Example text for cautionary design notes.

DESIGN NOTE:  
Example text for critical design notes.

LAYOUT NOTE:  
Example text for critical layout guidelines.

|  |  |   |                                    |                                    |
|--|--|---|------------------------------------|------------------------------------|
|  | Comments:                                  | Company:<br><b>ZSWatch</b>                              | Variant:<br><b>CHECKED</b>         | Git Hash:<br><b>c7f6e1d</b>        |
|  | Board Name:<br><b>Heartrate-DevKit-HW</b>  | Project Name:<br><b>ZSWatch Heartrate-DevKit</b>        |                                    |                                    |
|  | Sheet Title:<br><b>Heartrate-DevKit-HW</b> | File Name:<br><b>ZSWatch-Heartrate-DevKit.kicad_sch</b> | Designer:<br><b>Daniel Kampert</b> | Date:<br><b>2025-07-13</b>         |
|  | Sheet Path:<br><b>/</b>                    | Reviewer:   | Size:<br><b>A3</b>                 | Revision:<br><b>+ (Unreleased)</b> |

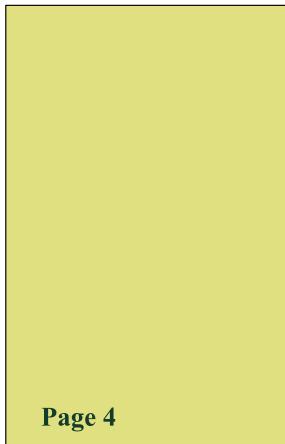
## [2] Block-Diagram



### Target specifications:

|                       |      |
|-----------------------|------|
| <b>Input voltage:</b> | +5 V |
| <b>Spec 2</b>         | ??   |
| <b>Spec 3</b>         | ??   |
| <b>Spec 4</b>         | ??   |

|   |  |                             |                                       |
|---|--|-----------------------------|---------------------------------------|
| Comments:                                 | Company:<br>ZSWatch                              | Variant:<br>CHECKED         | Git Hash:<br>e7f6c1d                  |
| Board Name:<br><b>Heartrate-DevKit-HW</b> | Project Name:<br><b>ZSWatch Heartrate-DevKit</b> |                             |                                       |
| Sheet Title:<br>Block-Diagram             | File Name:<br>Block Diagram.kicad_sch            | Designer:<br>Daniel Kampert | Date:<br>2025-07-13<br>+ (Unreleased) |
| Sheet Path:<br>/Block Diagram/            | Reviewer:  | Size:<br><b>A3</b>          | Sheet:<br><b>2 of 5</b>               |

| 1   | 2  | 3  | 4                           | 5                   | 6                           |
|---|--|--|-----------------------------|---------------------|-----------------------------|
| A   |  |  |                             |                     | A                           |
| B   |  |  |                             |                     | B                           |
| C   |  |  |                             |                     | C                           |
| D   |  |  |                             |                     | D                           |
| <b>Main</b><br><br><b>Page 4</b><br><small>File: Main.kicad_sch</small> |  | Comments:  | Company:<br><b>ZSWatch</b>  | Variant:<br>CHECKED | Git Hash:<br><b>e7f6e1d</b> |
|   | Board Name:<br><b>Heartrate-DevKit-HW</b>    | Project Name:<br><b>ZSWatch Heartrate-DevKit</b> |                             |                     |                             |
|   | Sheet Title:<br>Power-Management             | File Name:<br>Project Architecture.kicad_sch     | Designer:<br>Daniel Kampert | Date:<br>2025-07-13 | Revision:<br>+ (Unreleased) |
|   | Sheet Path:<br><b>/Project Architecture/</b> |  | Reviewer:                   | Size:<br><b>A4</b>  | Sheet:<br><b>3 of 5</b>     |
| 1   | 2  | 3  | 4                           | 5                   | 6                           |

# [5] Revision-History

|   |                                   |  |   |   |   |
|---|-----------------------------------|--|---|---|---|
| A | <b>Version 1.3.0 - 2025-09-07</b> | <p><b>Release Title:</b> \${RELEASE_TITLE_...}<br/> <b>Release Body:</b> \${RELEASE_BODY_...}</p> <hr/> <p><b>Fixed</b></p> <ul style="list-style-type: none"> <li>- Fix wrong status LED (#2)</li> <li>- Fix wrong I2C pins (#5)</li> </ul> <hr/> <p><b>Added</b></p> <ul style="list-style-type: none"> <li>- Add MFIO signal to SPI header (#16)</li> <li>- New KiBot template</li> <li>- Add second photo diode (#4)</li> </ul> <hr/> <p><b>Changed</b></p> <ul style="list-style-type: none"> <li>- Replace VEMD8080 with VEMD8082 (#8)</li> <li>- Replace single LEDs with tripple color LED (#7)</li> <li>- Move SWD connector away from battery connector (#14)</li> </ul> | <p><b>Release Title:</b> \${RELEASE_TITLE_...}<br/> <b>Release Body:</b> \${RELEASE_BODY_...}</p> | <p><b>Release Title:</b> \${RELEASE_TITLE_...}<br/> <b>Release Body:</b> \${RELEASE_BODY_...}</p> | <p><b>Release Title:</b> \${RELEASE_TITLE_...}<br/> <b>Release Body:</b> \${RELEASE_BODY_...}</p> |
| B |                                   |  |   |   |   |
| C |                                   |  |   |   |   |
| D |                                   | <p><b>Comments:</b></p>  | <p><b>Company:</b><br/> <b>ZSWatch</b></p>  | <p><b>Variant:</b><br/> <b>CHECKED</b></p>  | <p><b>Git Hash:</b><br/> <b>e7f6e1d</b></p>   |
|   |                                   |  | <p><b>Board Name:</b><br/> <b>Heartrate-DevKit-HW</b></p>   | <p><b>Project Name:</b><br/> <b>ZSWatch Heartrate-DevKit</b></p>                                  |   |
|   |                                   | <p><b>Sheet Title:</b><br/> <b>Revision-History</b></p>  | <p><b>File Name:</b><br/> <b>Revision History.kicad_sch</b></p>                                   | <p><b>Designer:</b><br/> <b>Daniel Kampert</b></p>  | <p><b>Date:</b><br/> <b>2025-07-13</b></p>  |
|   |                                   | <p><b>Sheet Path:</b><br/> <b>/Revision History/</b></p>   |   | <p><b>Reviewer:</b></p>   | <p><b>Size:</b><br/> <b>A4</b></p>  |
|   |                                   |  |   |   | <p><b>Sheet:</b><br/> <b>5 of 5</b></p>   |

