

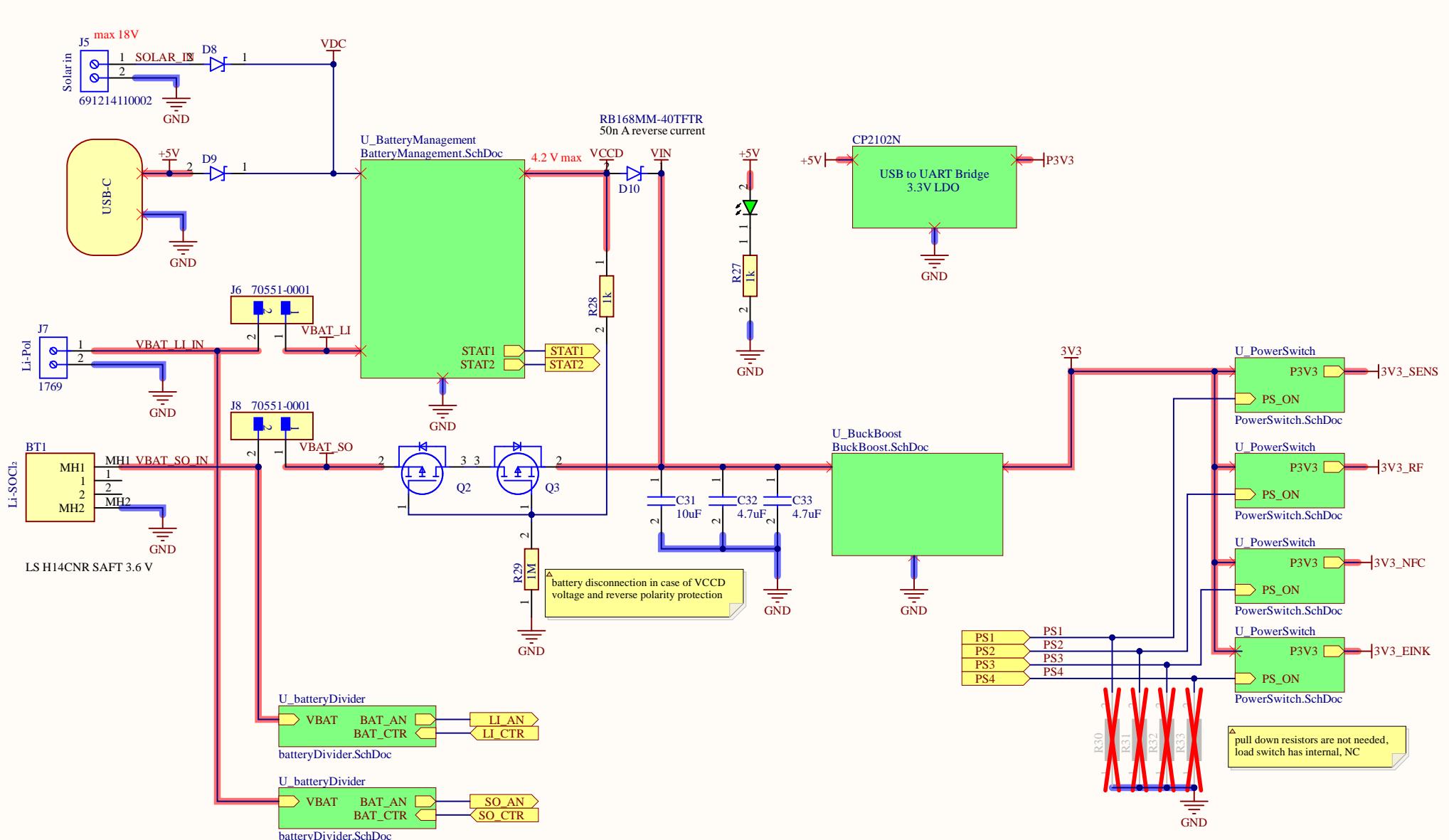
Title: main.SchDoc

Project: Environmental_unit.PrjPcb Variant: EnvUnit_assembly

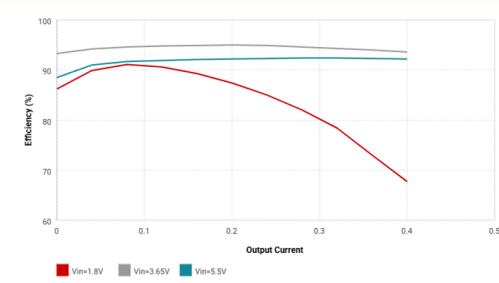
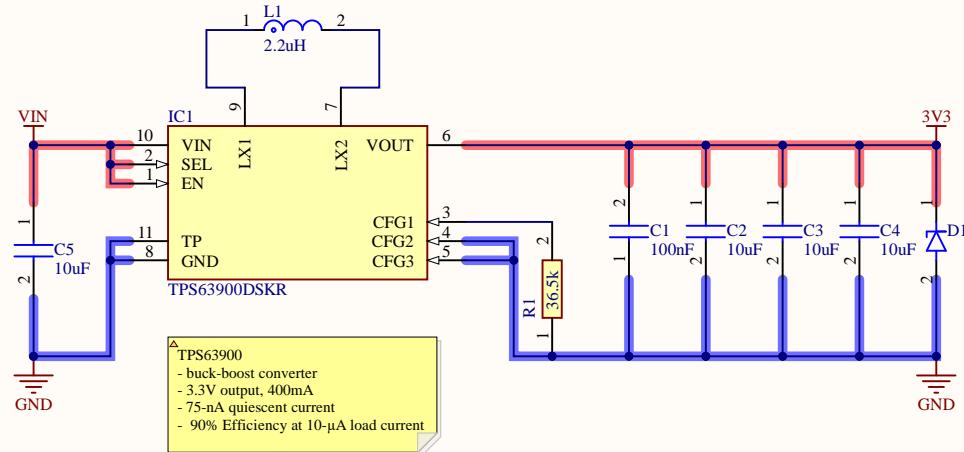
Date: 17.11.2025 Revision: 1.0

Author: Evžen Šteif Type: Schematic

Size: A4 Sheet 1 of 13



Title: Power.SchDoc			
Project: Environmental_unit.PrjPcb			Variant: EnvUnit_assembly
Date: 17.11.2025		Type: Schematic	Revision: 1.0
Author: Evžen Šteif	Size: A4		Sheet 2 of 13



Title: BuckBoost.SchDoc

Project: Environmental_unit.PrjPcb

Variant: EnvUnit_assembly

Date: 17.11.2025

Revision: 1.0

Author: Evžen Šteif

Size: A4

Type: Schematic

Sheet 3 of 13

A

A

B

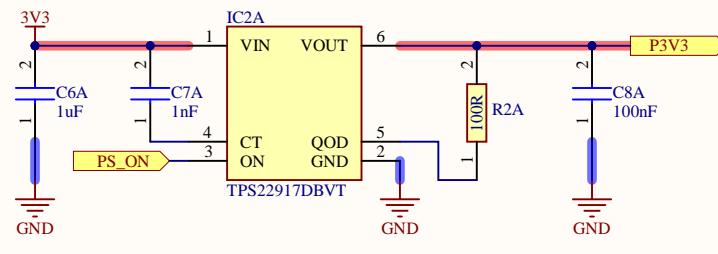
B

C

C

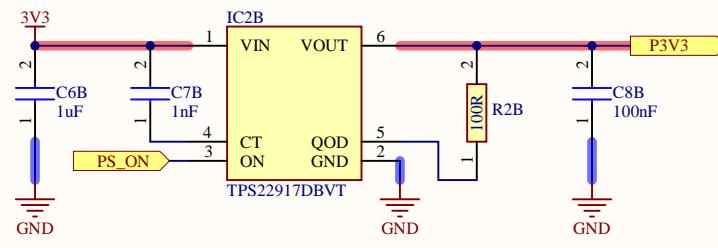
D

D



TPS229
 - load switch, 1 V to 5.5 V, 2A
 - ON state (IQ): 0.5 μ A (typical)
 - OFF state (ISD): 10 nA (typical)
 -Smart ON pin pulldown

Title: PowerSwitch.SchDoc			
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly	
Date: 17.11.2025		Revision: 1.0	
Author: Evžen Šteif	Size: A4	Type: Schematic	Sheet 4 of 13



TPS229
 - load switch, 1 V to 5.5 V, 2A
 - ON state (IQ): 0.5 μ A (typical)
 - OFF state (ISD): 10 nA (typical)
 -Smart ON pin pulldown

Title: PowerSwitch.SchDoc		
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly
Date: 17.11.2025	Type: Schematic	Revision: 1.0
Author: Evzen Šteif	Size: A4	Sheet 4 of 13

A

A

B

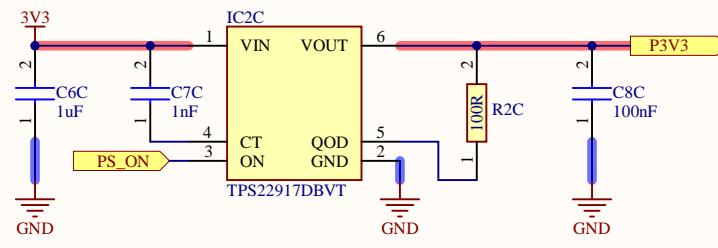
B

C

C

D

D



TPS229
 - load switch, 1 V to 5.5 V, 2A
 - ON state (IQ): 0.5 μ A (typical)
 - OFF state (ISD): 10 nA (typical)
 -Smart ON pin pulldown

Title: PowerSwitch.SchDoc			
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly	
Date: 17.11.2025		Revision: 1.0	
Author: Evžen Šteif	Size: A4	Type: Schematic	Sheet 4 of 13

A

A

B

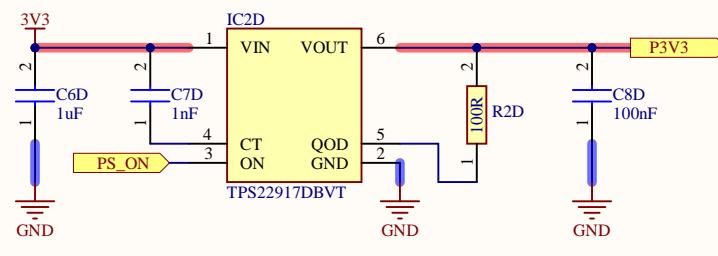
B

C

C

D

D



Title: PowerSwitch.SchDoc		
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly
Date: 17.11.2025	Type: Schematic	Revision: 1.0
Author: Evžen Šteif	Size: A4	Sheet 4 of 13

A

A

B

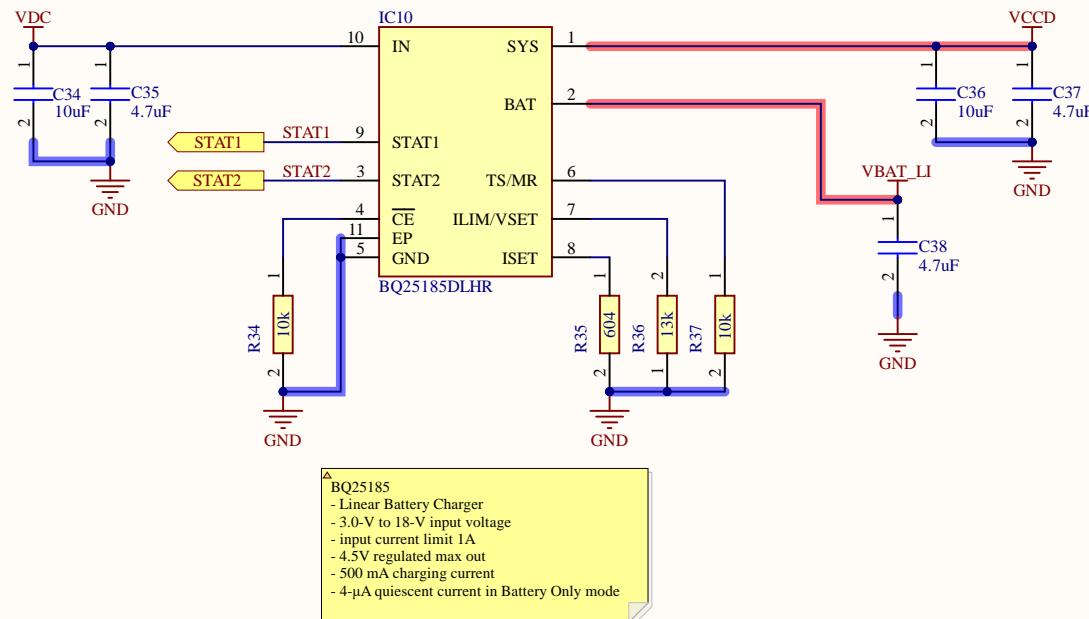
B

C

C

D

D

Title: **BatteryManagement.SchDoc**Project: **Environmental_unit.PsjPcb**Variant: **EnvUnit_assembly**Date: **17.11.2025**Revision: **1.0**Author: **Evžen Šteif**Size: **A4**Type: **Schematic**Sheet **5** of **13**

A

A

B

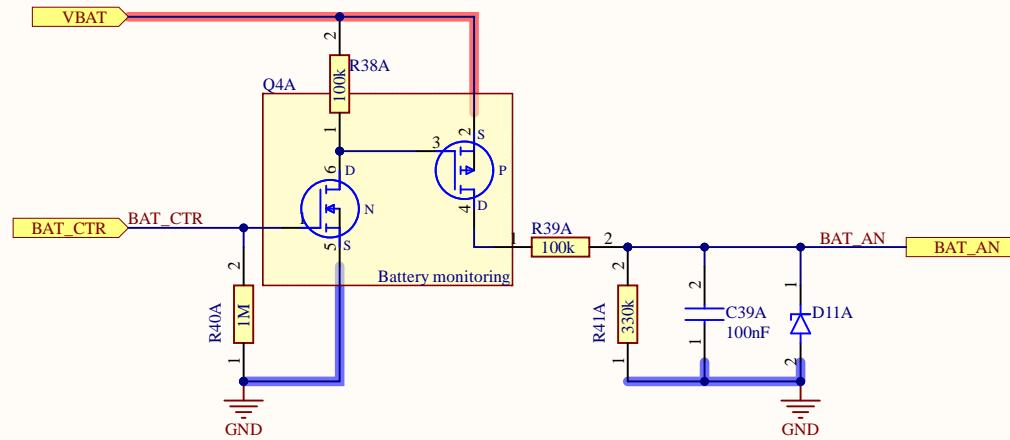
B

C

C

D

D



Title: batteryDivider.SchDoc		
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly
Date: 17.11.2025	Type: Schematic	Revision: 1.0
Author: Evžen Šteif	Size: A4	Sheet 6 of 13

A

A

B

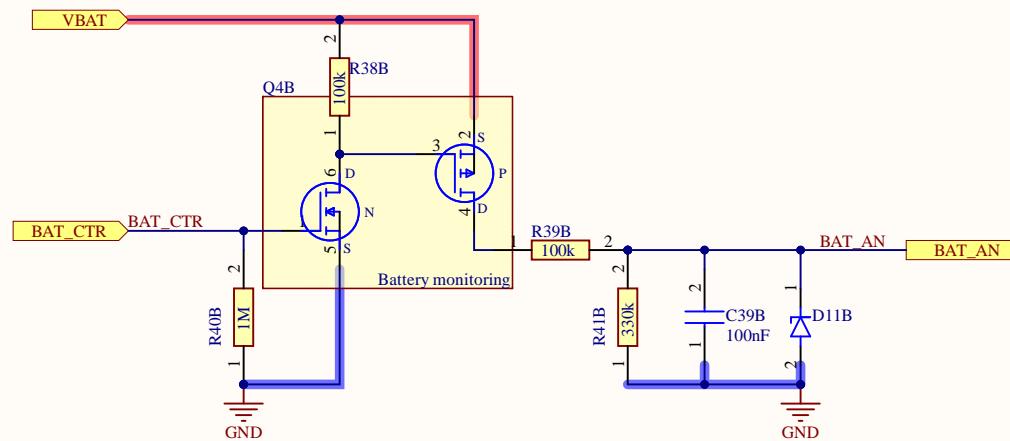
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C

C

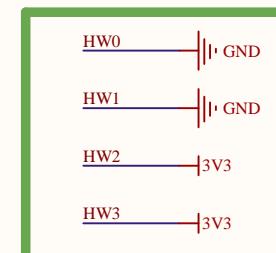
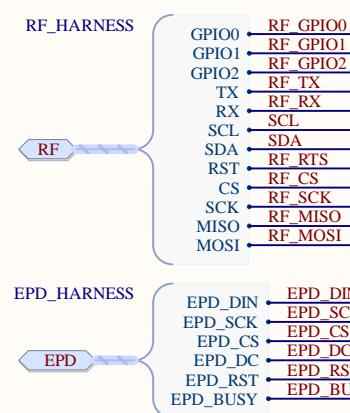
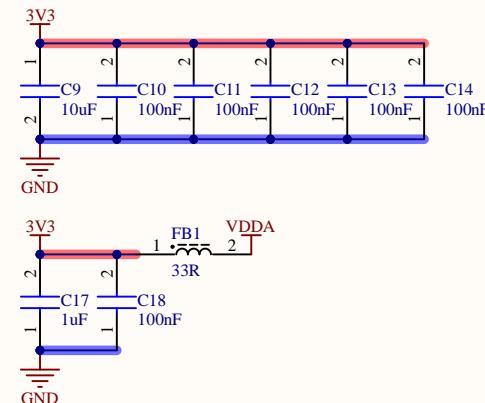
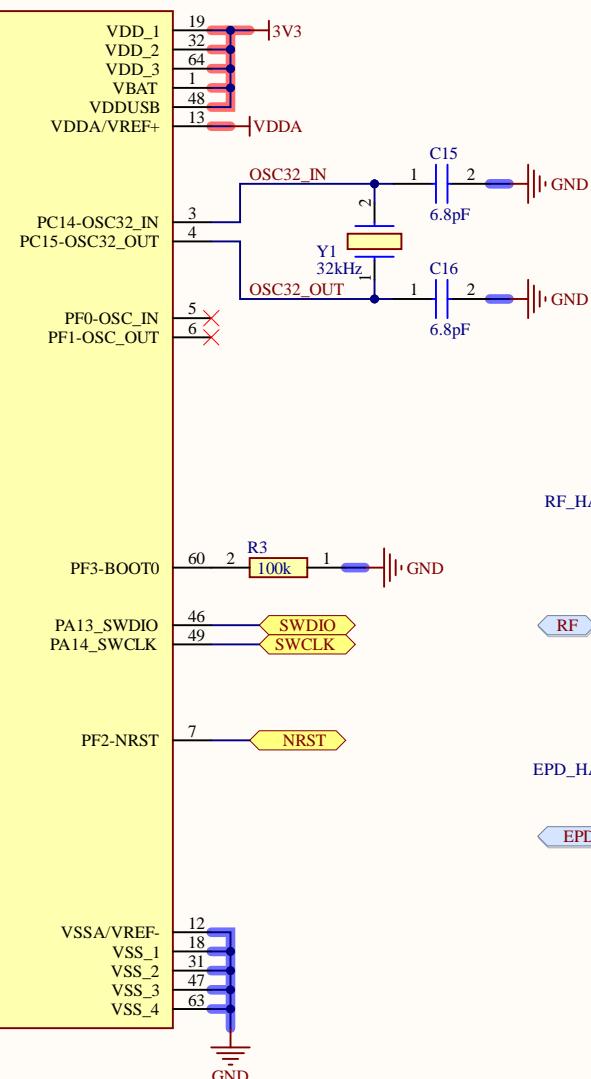
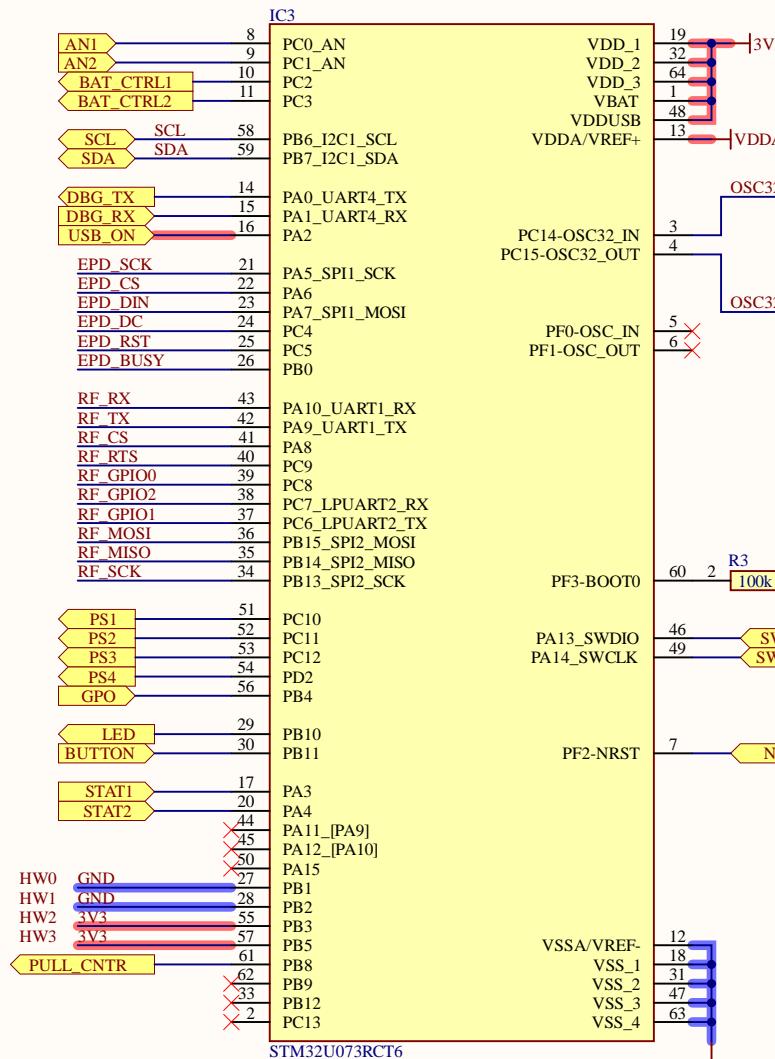
D

D



Title: batteryDivider.SchDoc		
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly
Date: 17.11.2025	Type: Schematic	Revision: 1.0
Author: Evžen Šteif	Size: A4	Sheet 6 of 13

A



NOTE: HW & FW Version hardcoded.

Title: **MCU.SchDoc**Project: **Environmental_unit.PrjPcb**Variant: **EnvUnit_assembly**Date: **17.11.2025**Revision: **1.0**Author: **Evžen Šteif**Size: **A4**Type: **Schematic**

A

A

B

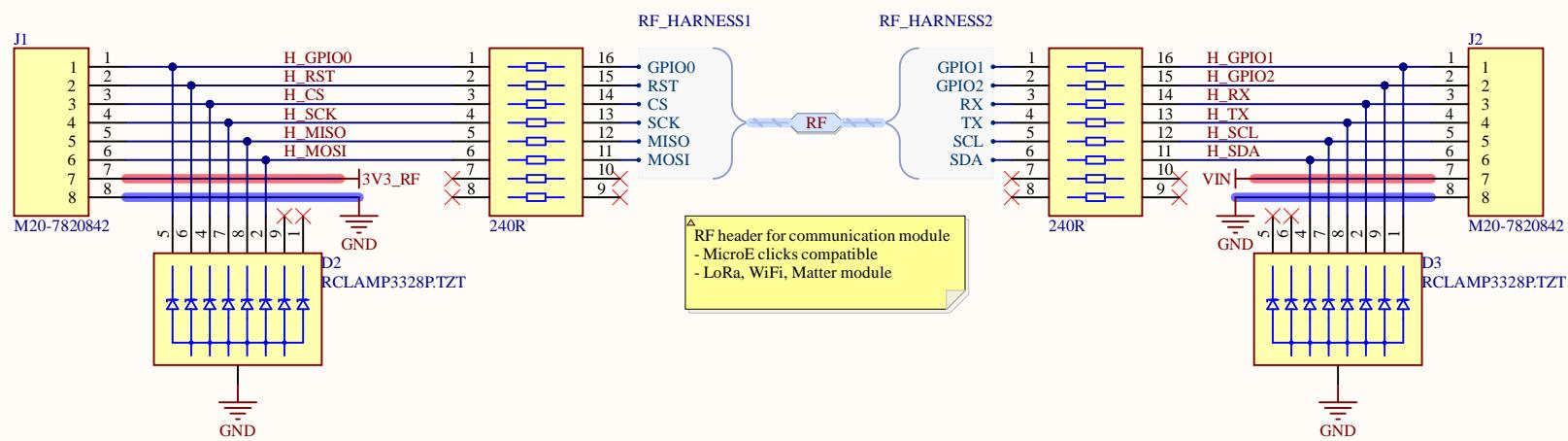
B

C

C

D

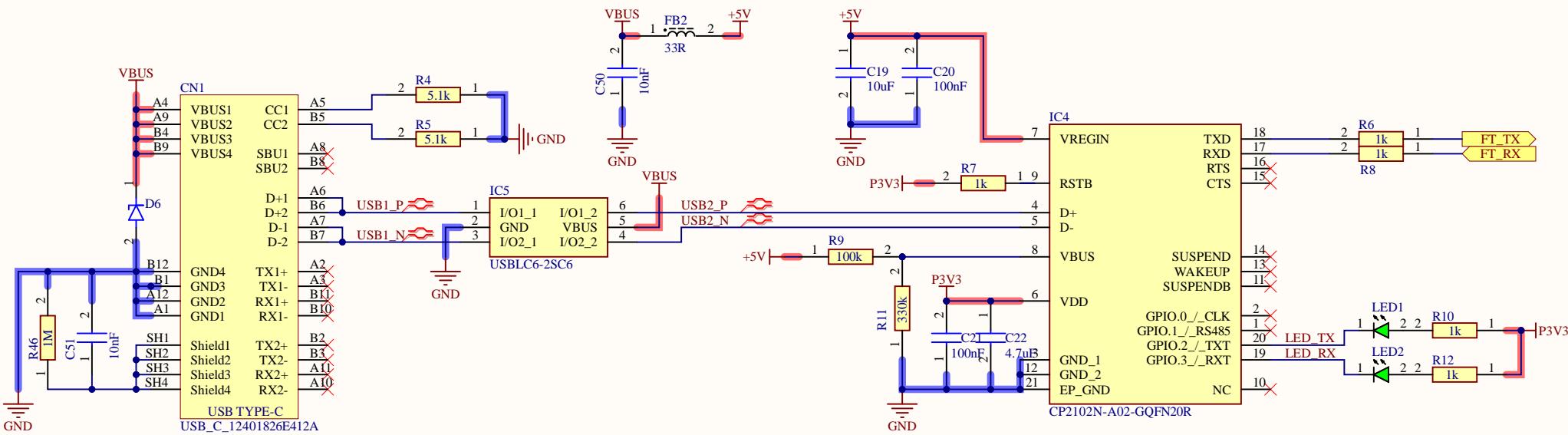
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Title: RFHeader.SchDoc			
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly	
Date: 17.11.2025		Type: Schematic	Revision: 1.0
Author: Evžen Šteif	Size: A4		Sheet 8 of 13

A

A

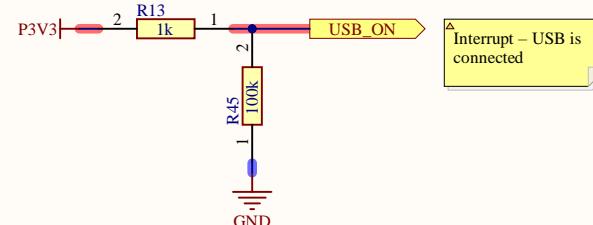


B

B

C

C



D

D

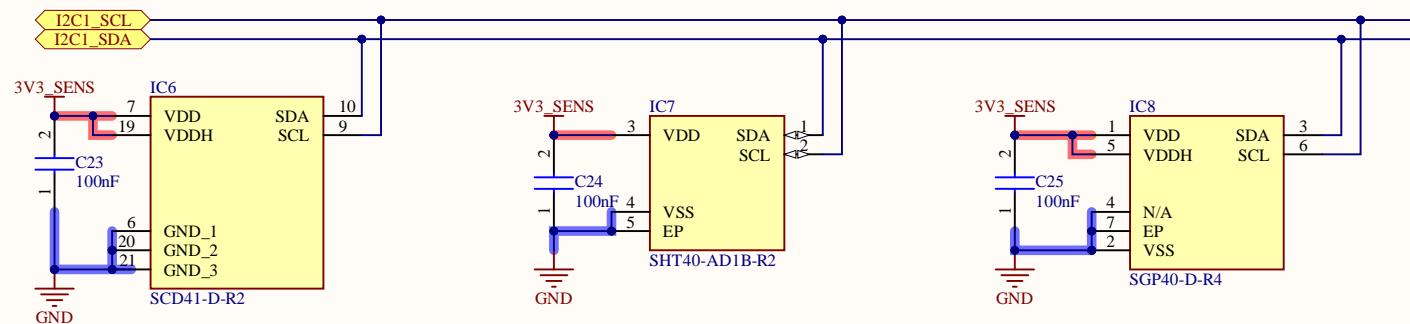
Title: USBtoUART.SchDoc		
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly
Date: 17.11.2025	Type: Schematic	Revision: 1.0
Author: Evžen Šteif	Size: A4	Sheet 9 of 13

A

A

B

B



SCD41
- NDIR CO₂ sensor
- specified range: 400 – 5'000 ppm
- accuracy $\pm(40 \text{ ppm} + 5\%)$
- single measurement mode
- peak supply current 175 mA
- 14.7 mA, 5000 ms single shot

SHT40/41
- Relative Humidity and Temperature Sensor
- 320µA meas. current, 10ms
- accuracy $\Delta RH = \pm 1.0\% \text{ RH}, \Delta T = \pm 0.1^\circ\text{C}$

SGP40
- MOX based gas sensor, VOC
- 0-500 VOC Index
- 2.6 mA, 30 ms

Title: Sensors.SchDoc

Project: Environmental_unit.PrjPcb

Variant: EnvUnit_assembly

Date: 17.11.2025

Revision: 1.0

Author: Evžen Šteif

Type: Schematic

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A

A

B

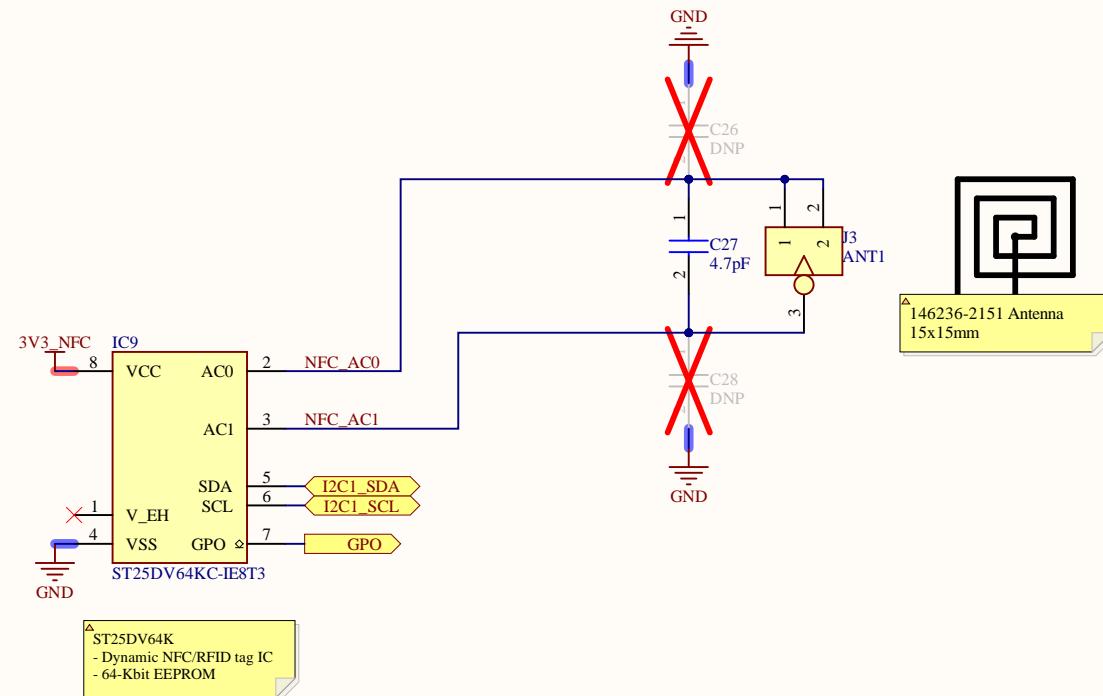
B

C

C

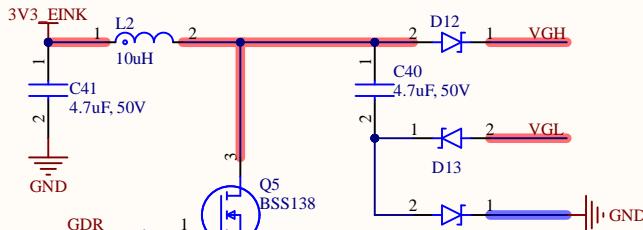
D

D

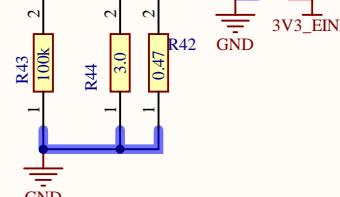


Title: NFC.SchDoc			
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly	
Date: 17.11.2025		Revision: 1.0	
Author: Evžen Šteif	Size: A4	Type: Schematic	Sheet 11 of 13

A



B



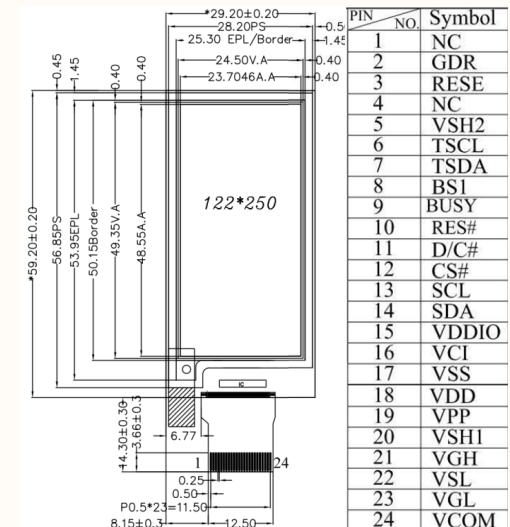
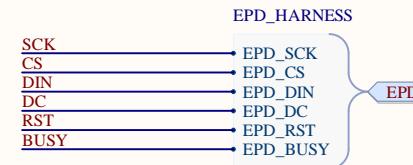
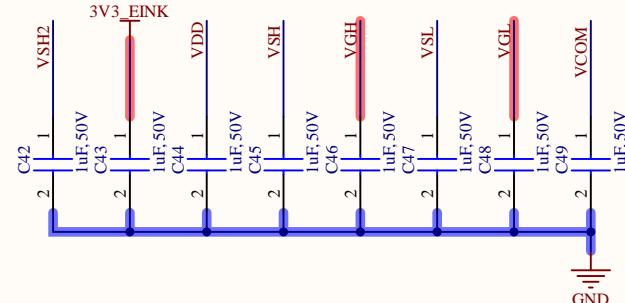
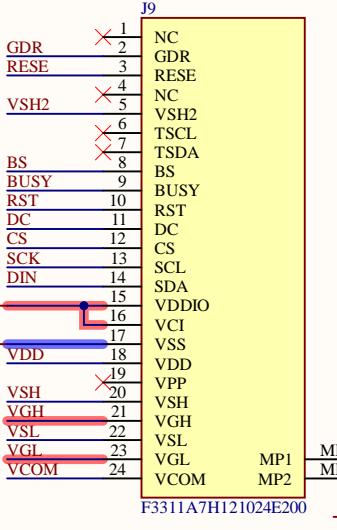
SB1 selection:

	Display
0.47R (B)	2.13inch e-Paper (D), 2.7inch e-Paper, 2.9inch e-Paper (D) 4.01inch e-Paper (F), 4.2inch e-Paper (C), 5.65inch e-Paper (F) 5.83inch e-Paper, 5.83inch e-Paper (B), 7.5inch e-Paper 7.5inch e-Paper (B)
3R (A)	1.54inch e-Paper, 1.54inch e-Paper(B), 2.13inch e-Paper 2.13inch e-Paper (B), 2.6inch e-Paper, 2.66inch e-Paper (B) 2.9inch e-Paper, 2.9inch e-Paper (B), 3.7inch e-Paper 4.2inch e-Paper, 4.2inch e-Paper (B), 13.3inch e-Paper (B) 13.3inch e-Paper

SB2 selection:

BS	VCC	GND
Interface	3-line SPI	4-line SPI

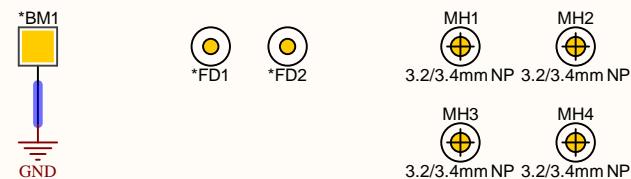
Compatible with waveshare e-ink displays
for example:
2.13 inch E-Ink display



PIN NO.	Symbol
1	NC
2	GDR
3	RESE
4	NC
5	VSH2
6	TSCL
7	TSDA
8	BS
9	BUSY
10	RST
11	DC
12	CS
13	SCL
14	SDA
15	VDDIO
16	VCI
17	VSS
18	VDD
19	VPP
20	VSH1
21	VGH
22	VSL
23	VGL
24	VCOM

Title: EInkHeader.SchDoc		
Project: Environmental_unit.PjPcb	Variant: EnvUnit_assembly	
Date: 17.11.2025	Type: Schematic	Revision: 1.0
Author: Evžen Šteif	Size: A4	Sheet 12 of 13

A



A

B

B

C

C

D

D

Title: Mechanical.SchDoc			
Project: Environmental_unit.PrjPcb		Variant: EnvUnit_assembly	
Date: 17.11.2025		Revision: 1.0	
Author: Evžen Šteif	Size: A4	Type: Schematic	Sheet 13 of 13

