List of Variants

Main: Normal mounting

Variant: -01

Revision History

Rev	Changed by	Date	Change description	Reviewed By	Approved By
PA1	BAR	2023-11-09	Created placeholder files for sharing.		
RA1	BAR	2023-12-14	Ready for release.		
RA2	BAR	2023-12-19	ESD protection updated.		
RA3	BAR	2024-05-13	Updated I2C pullups for MCU (S6 added, R124 and R125 altered). Added pulldowns for control of power switches (R2-R6 added).		
RA4	BAR	2024-08-30	Added UART connector with isolation circuit. Changed power connection for LED:s. Replaced R1 with a jumper.		
RA5	BAR	2024-09-06	Updated based on review comments. Boost added for driving LED:s.		
RA6	BAR	2024-09-10	Changed pin out for 32-pin PMIC (pin 2, 10 and 13 affected). Changed Arduino headers on top side to variant with support pin.		
RA8	KUJ	2025-02-19	C105 changed. JP14, JP15, JP16. JLP1,...,JLP4, JHP. Added TPA101,...,TPA118.		
RA9	KUJ	2025-02-21	Updated TP components to latest revision for silkscreen changes		

Project Template: 42-xxxx-yy-zz Project.PrjPcb-RA3
Schematic Template: Svep Schematic Template A3.SchDot-RA6
PCB Template: 44-xxxx-yy-zz Layout 4L.PcbDoc-RA4
OutJob Template: 44-xxxx-yy-zz Layout 4L.PcbDoc-RA4

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Customer	Drawn by	Revision
Nanopower	KUJ	RA9

Project	Document number	Release date
EVB	1924-01-01	2025-02-21

Module	Variant	Sheet name	Sheet
Evaluation board	-01	Cover sheet	1 of 5

Evaluation board

Power sources
- Banana/pinheader connectors
- USB-C connector
- Coin cell battery

Internal IO signals
- Interupts
- Analog input
- Reset

Pin header

I2C, SPI and UART debug interfaces
- Beagle bone
- Aardvark
- FTDI

Box/pin header

Arduino connectors
- STM32L053C8U6 shield board
- STM32 Nucleo-64 board
- Nordic nrf52 or nrf53 evaluation board

28 pin I-PMIC

32 pin I-PMIC

Testpoints (top side)
-VDDD, VDD1V2, SW_HP
-EX_RES, TEST
-AMOBUF, AMO
-XO_IBIAS, CLK_OUT

Analog pins

I2C+SPI+SW+INT pins

I2C+SPI+SW+INT pins

I2C+SPI+SW+INT pins

I2C+(SPI)+SW+INT pins

PMOD

PMOD

PMOD

PMOD

Generic

Sensor board 1, SPI

Sensor board 2, I2C

Sensor board 3, SPI
- SPI accelerometer sensor

Sensor board 4, I2C
- I2C temperature sensor

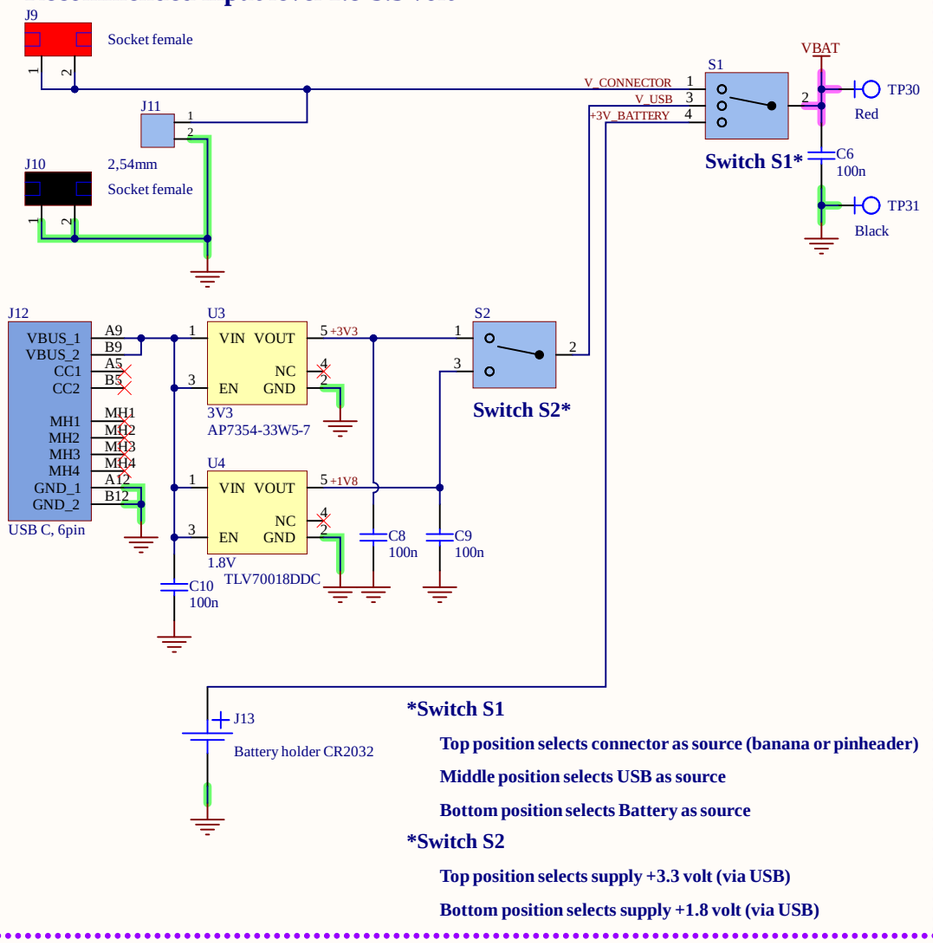
Sensor connector
- Analog sensor

Customer: Nanopower		Drawn by: KUJ	Revision: RA9
Project: EVB	Document number: 1924-01-01	Release date: 2025-02-21	svep
Module: Evaluation board	Variant: -01	Sheet name: Block diagram	Sheet: 2 of 5

Project Template: 42-xxxx-yy-zz Project.PrjPcb-RA3
Schematic Template: Svep Schematic Template A3.SchDot-RA6
PCB Template: 44-xxxx-yy-zz Layout 4L.PcbDoc-RA4
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Recommended input level 1.8-3.3 volt



***Switch S1**

Top position selects connector as source (banana or pinheader)

Middle position selects USB as source

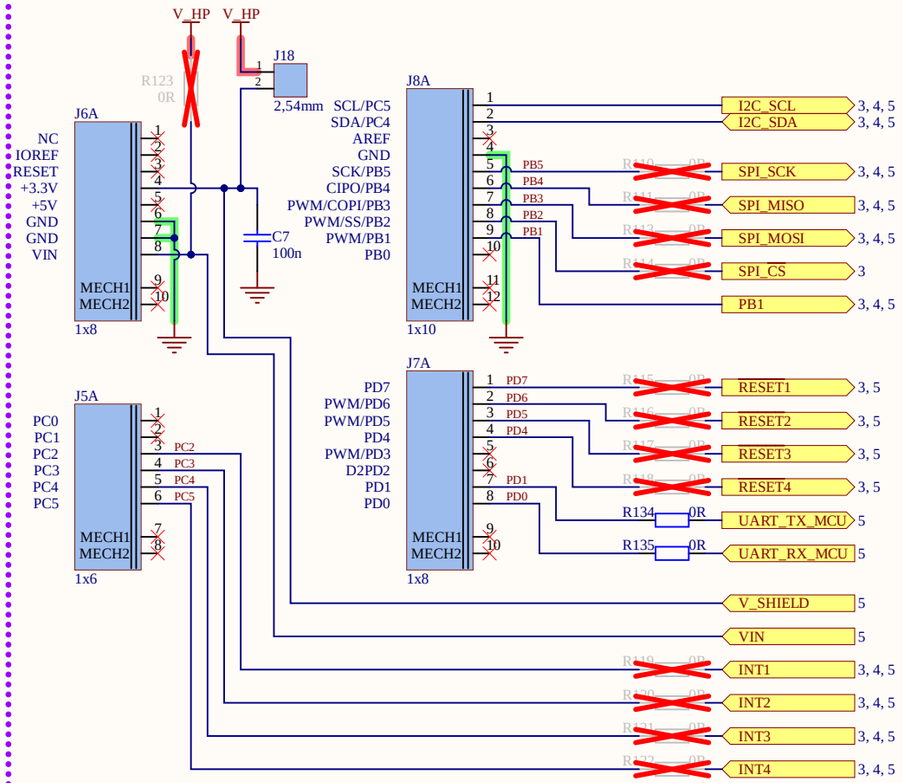
Bottom position selects Battery as source

***Switch S2**

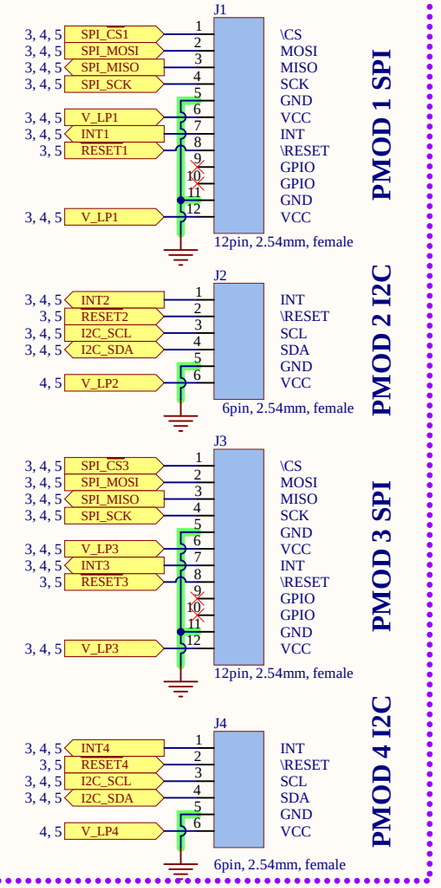
Top position selects supply +3.3 volt (via USB)

Bottom position selects supply +1.8 volt (via USB)

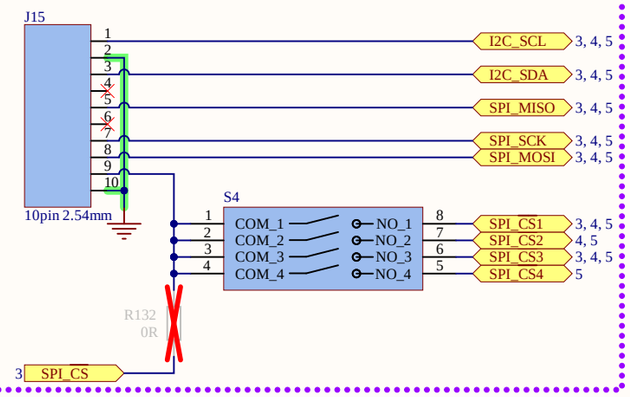
Arduino uno r3 top side interface



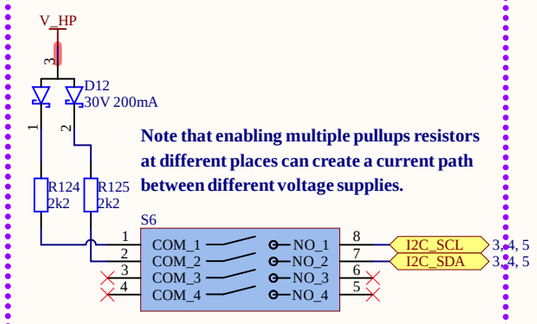
PMOD connectors for sensor modules



Debug connector for I2C and SPI

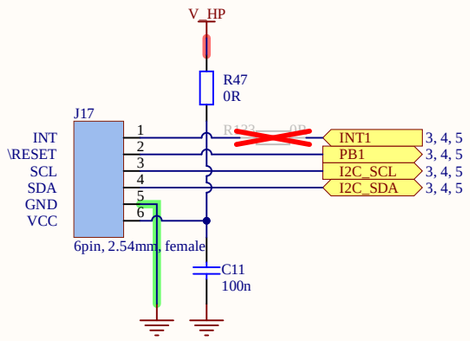


Pullup for I2C

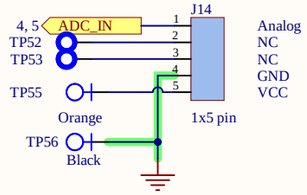


Note that enabling multiple pullups resistors at different places can create a current path between different voltage supplies.

Generic microcontroller connection



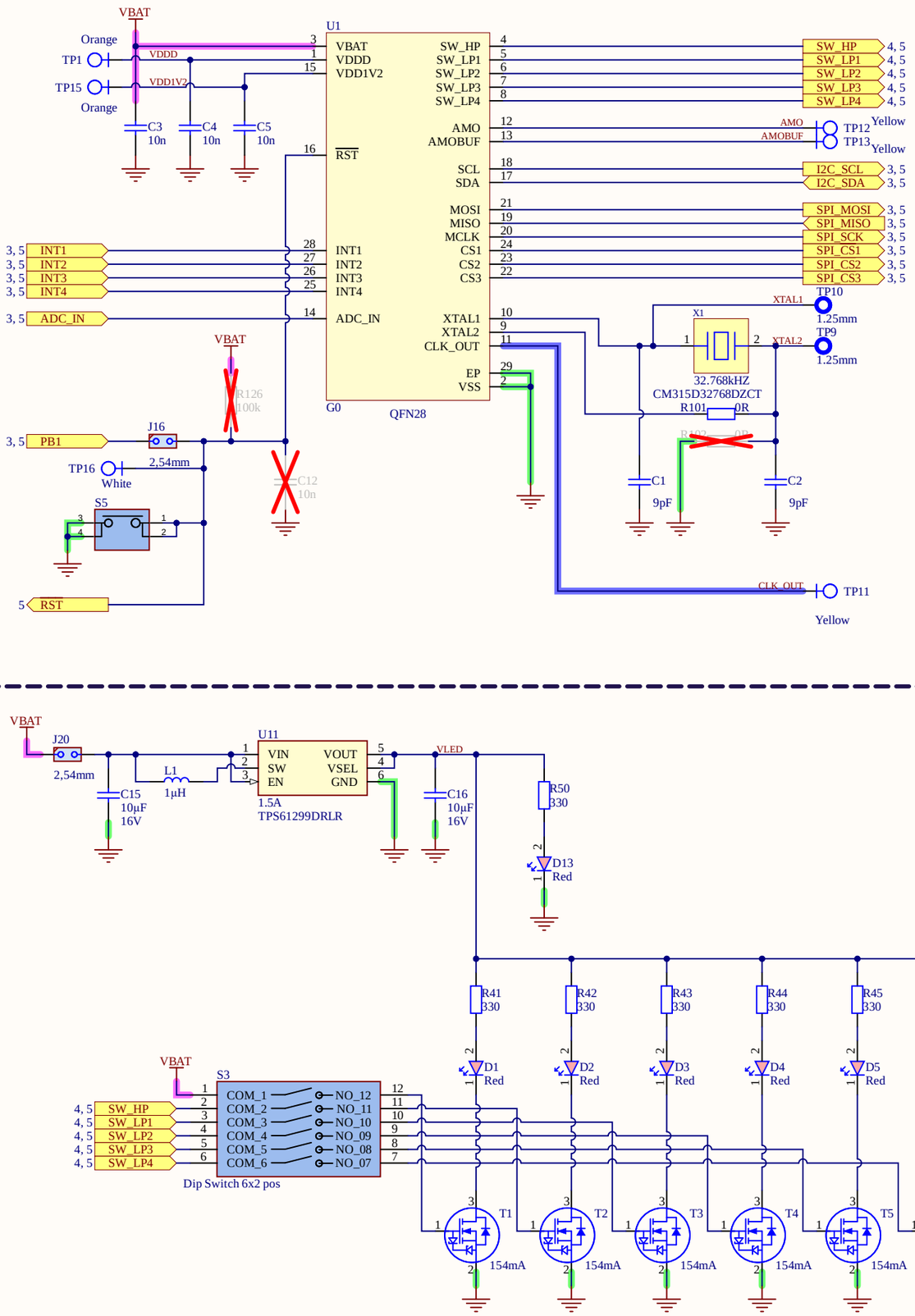
Generic analog sensor interface

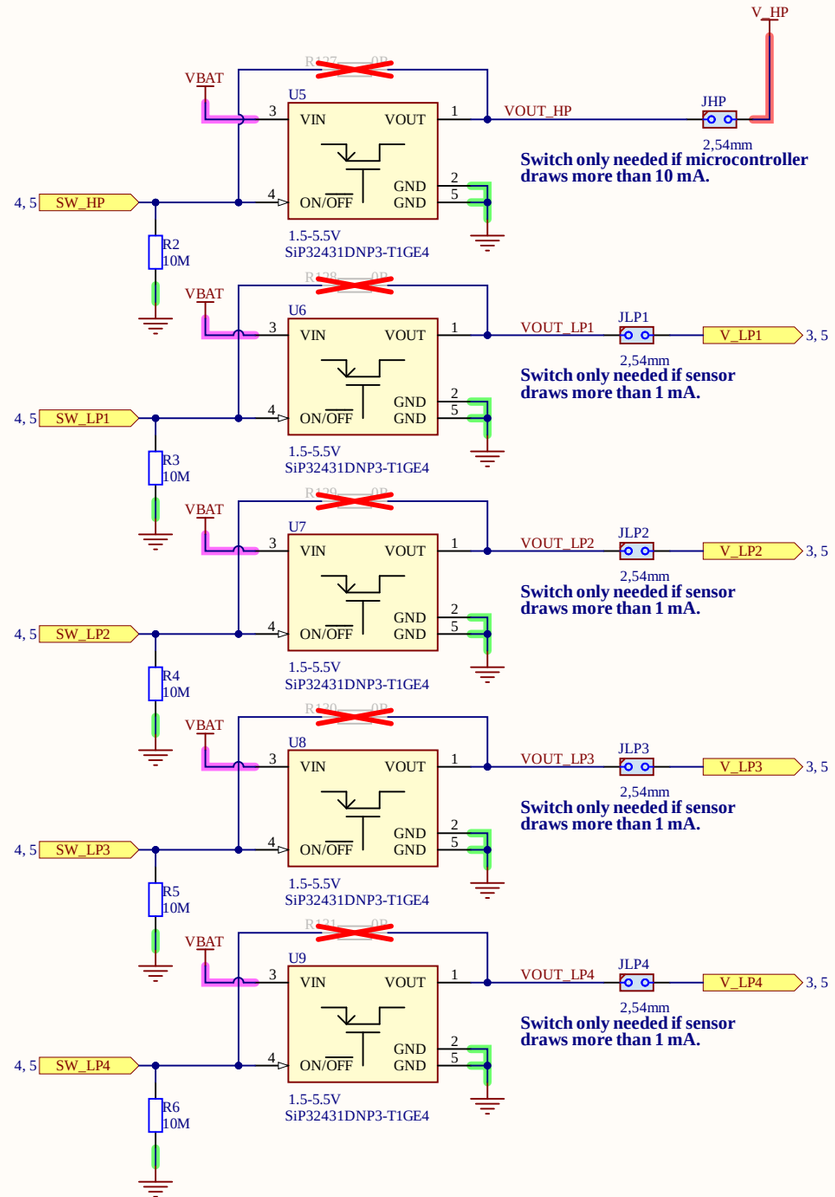


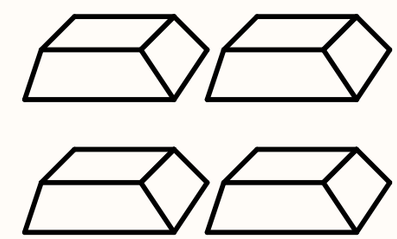
Customer: Nanopower		Drawn by: KUJ	Revision: RA9
Project: EVB	Document number: 1924-01-01		Release date: 2025-02-21
Module: Evaluation board	Variant: -01	Sheet name: Connections	Sheet: 3 of 5

Project Template: 42-xxxx-yy-zz Project.PrjPcb-RA3
Schematic Template: Svep Schematic Template A3.SchDot-RA6
PCB Template: 44-xxxx-yy-zz Layout 4L.PcbDoc-RA4
OutJob Template: 44-xxxx-yy-zz Layout 4L.PcbDoc-RA4

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Rubber Feet F-3599

FID1 1-2

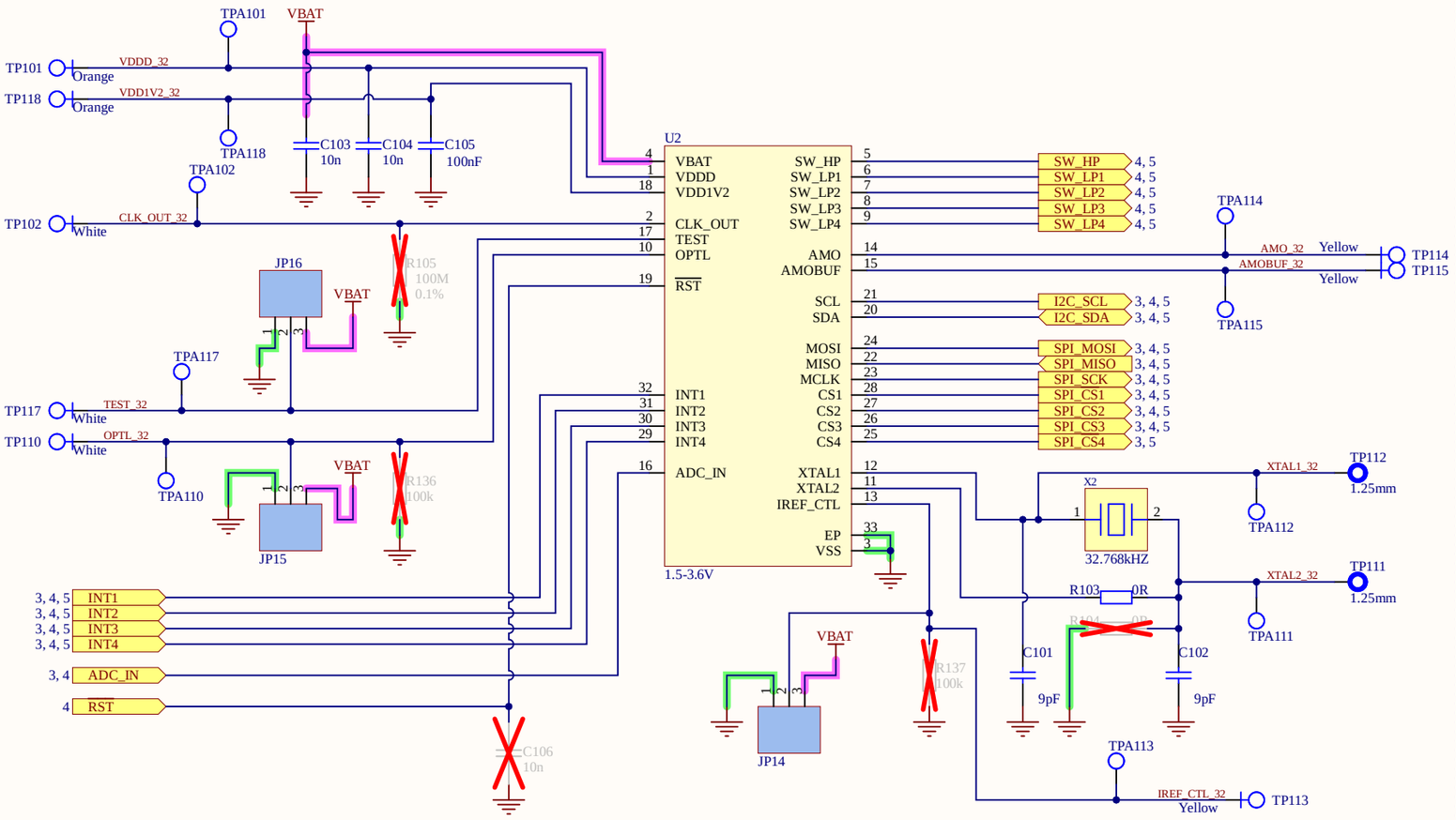
FID2 1-2

Project Template:	42-xxxx-yy-zz Project.PrjPcb-RA3
Schematic Template:	Svep Schematic Template A3.SchDot-RA6
PCB Template:	44-xxxx-yy-zz Layout 4L..PcbDoc-RA4
OutJob Template:	44-xxxx-yy-zz Layout 4L..PcbDoc-RA4

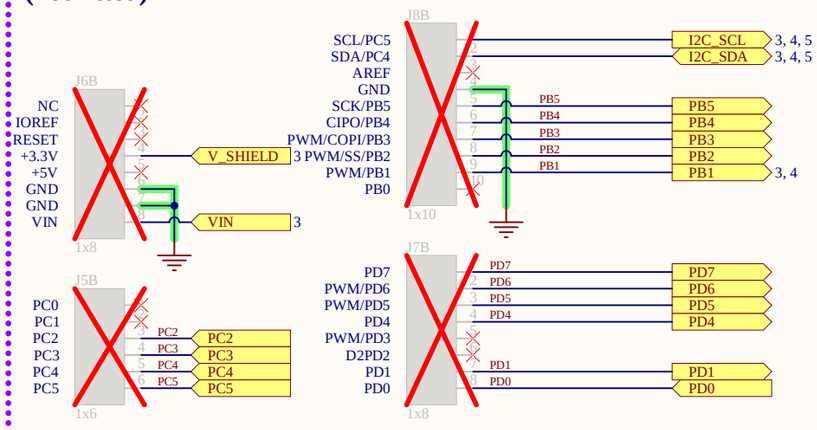
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Customer: Nanopower		Drawn by: KUJ	Revision: RA9
Project: EVB	Document number: 1924-01-01		Release date: 2025-02-21
Module: Evaluation board	Variant: -01	Sheet name: 28-pin IPMIC	Sheet: 4 of 5

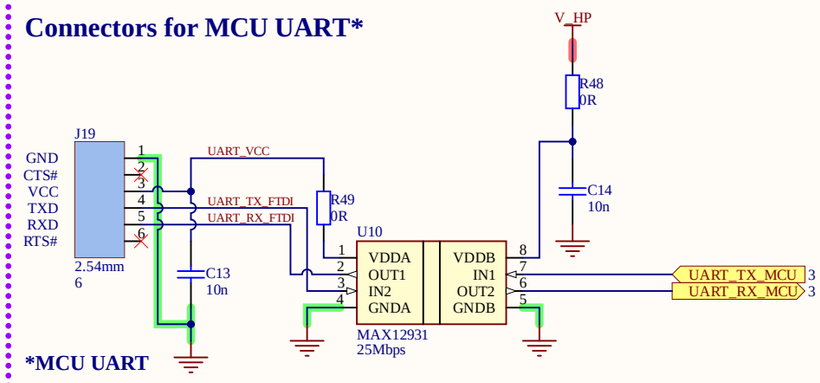
32-pin variant for early development and debugging (not fitted)



Arduino uno r3 bottom side interface (not fitted)



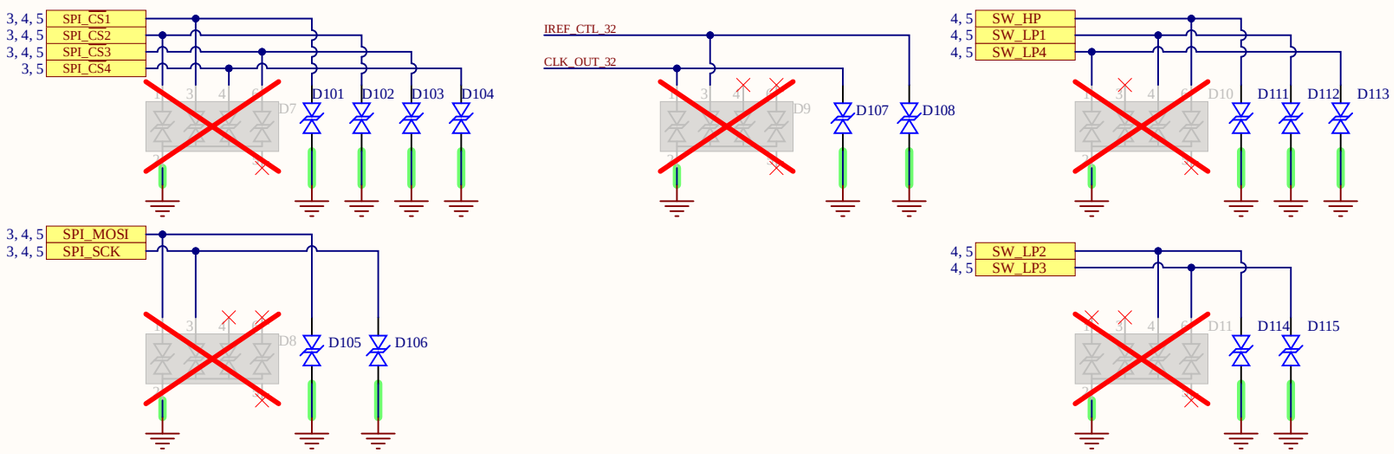
Connectors for MCU UART*



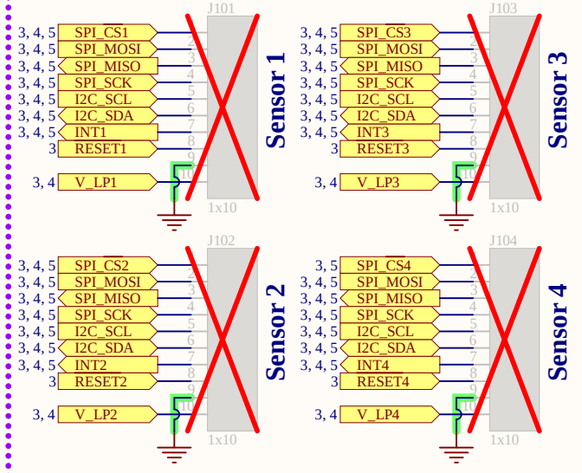
***MCU UART**

This circuit is intended to be used with FTDI TTL-232R-5V or FTDI TTL-232R-5V-WE

ESD-protection (to be evaluated)



Generic connectors for sensors (not fitted)



Customer: Nanopower		Drawn by: KUJ	Revision: RA9
Project: EVB	Document number: 1924-01-01	Release date: 2025-02-21	svep
Module: Evaluation board	Variant: -01	Sheet name: 32-pin IPMIC	Sheet: 5 of 5

Project Template: 42-xxxx-yy-zz Project.PrjPcb-RA3
Schematic Template: Svep Schematic Template A3.SchDot-RA6
PCB Template: 44-xxxx-yy-zz Layout 4L.PcbDoc-RA4
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