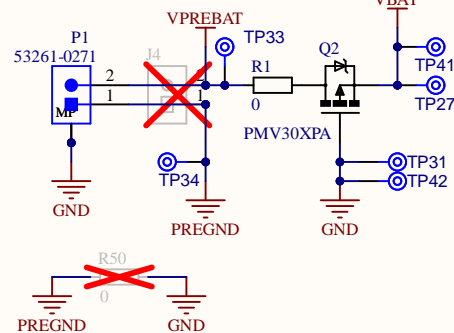
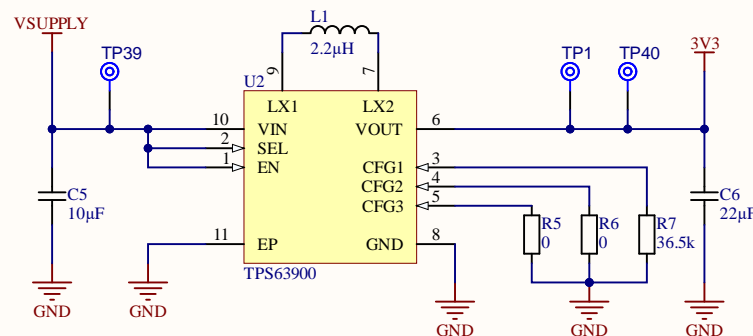


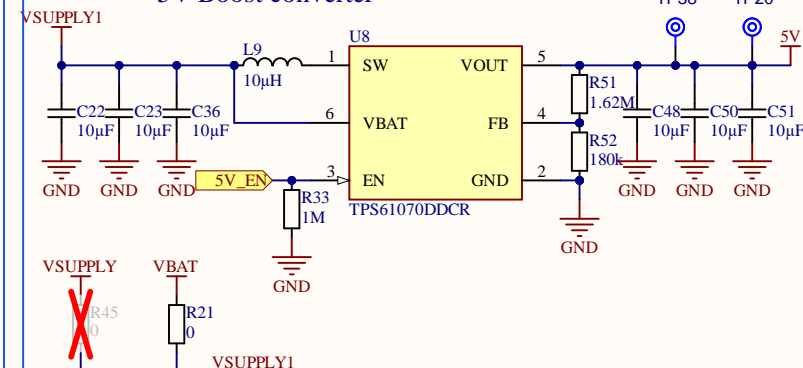
Battery connector



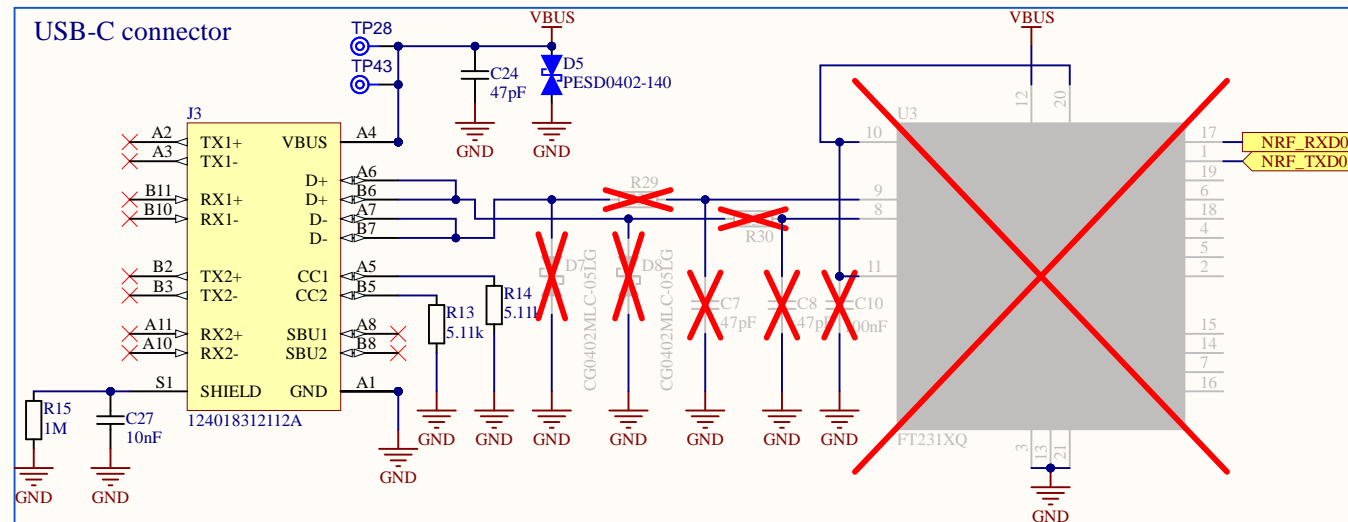
Buck-boost converter



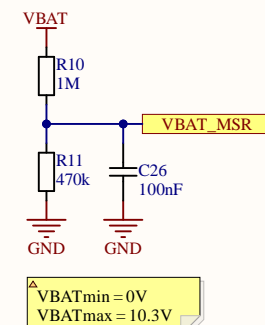
5V Boost converter



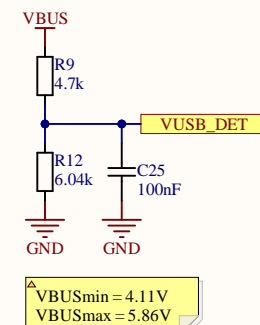
USB-C connector



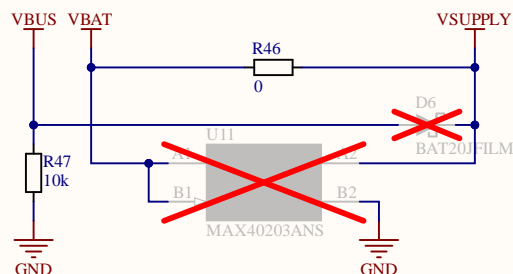
Battery monitor



USB detect



Supply switch



Title: Power supply and USB

Size: A4

Number: 200028

Revision: 1.5

Date: 3-8-2023

Time: 15:11:10

Sheet 2 of 12

Made By: Julie Ann Guno

Reviewed by: Gregory Knauff

SODAQ
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A

B

C

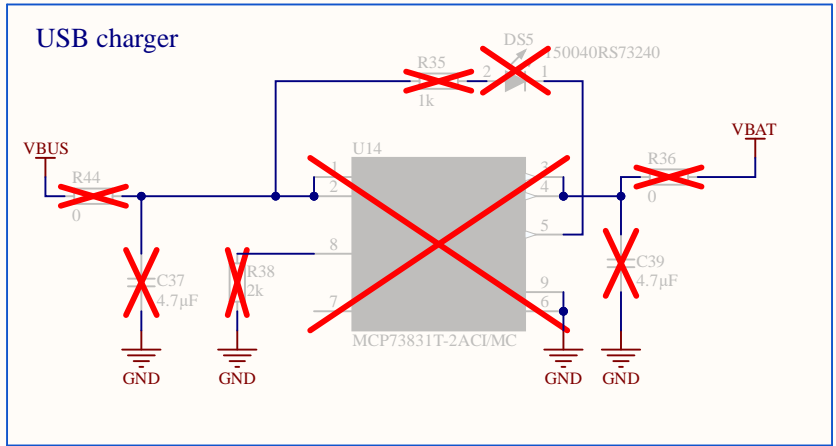
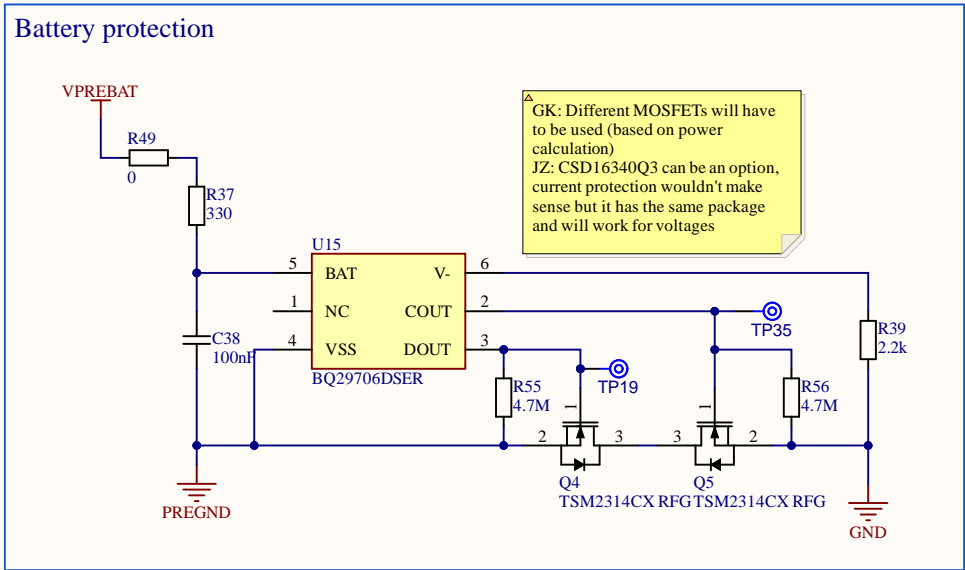
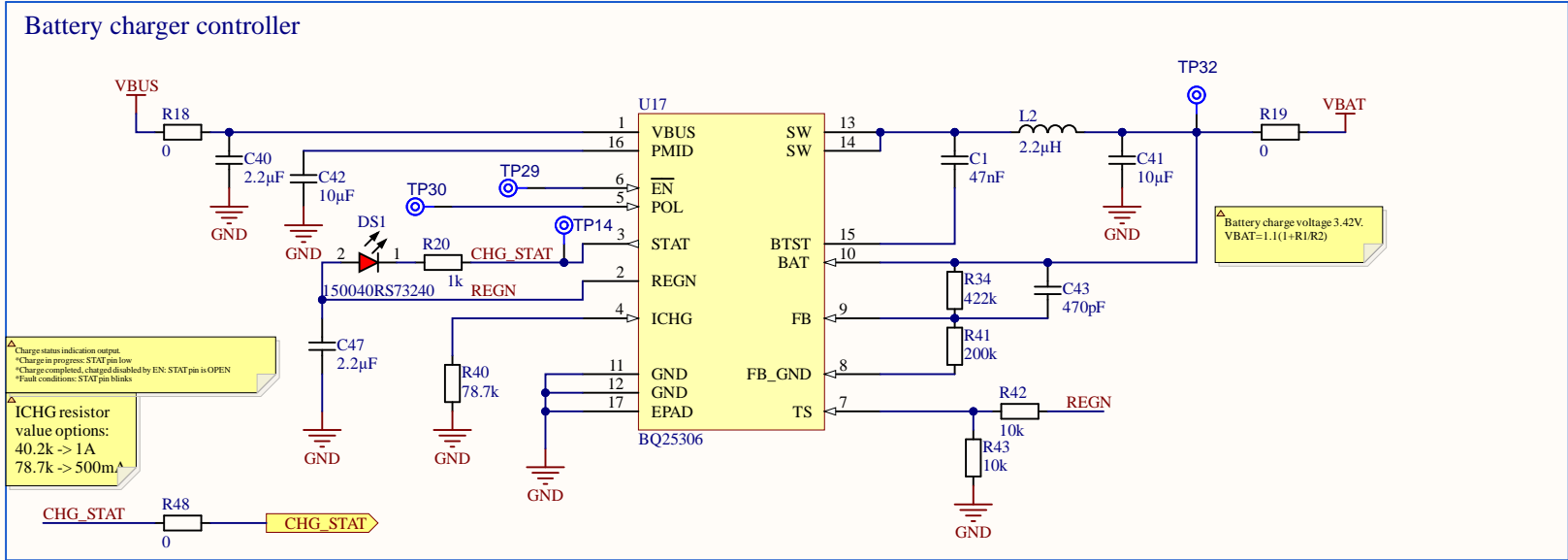
D

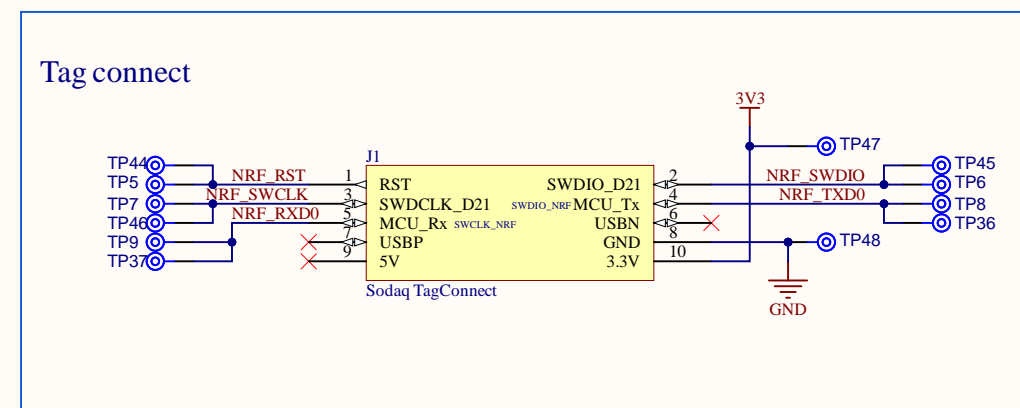
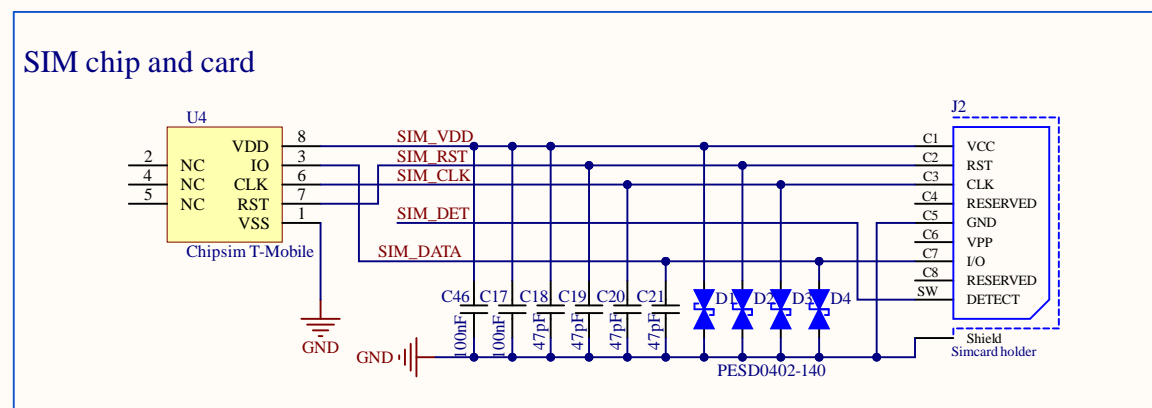
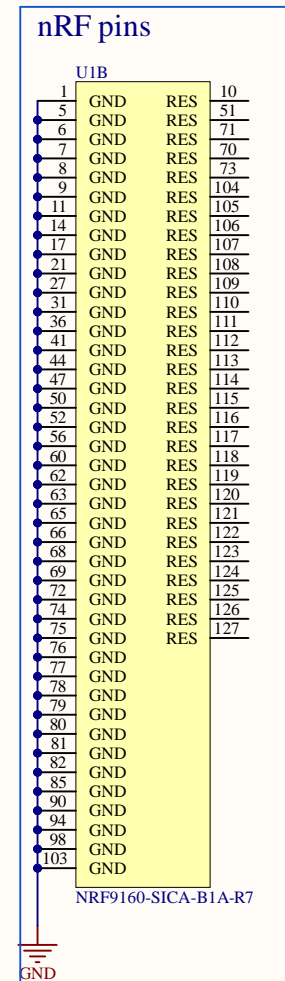
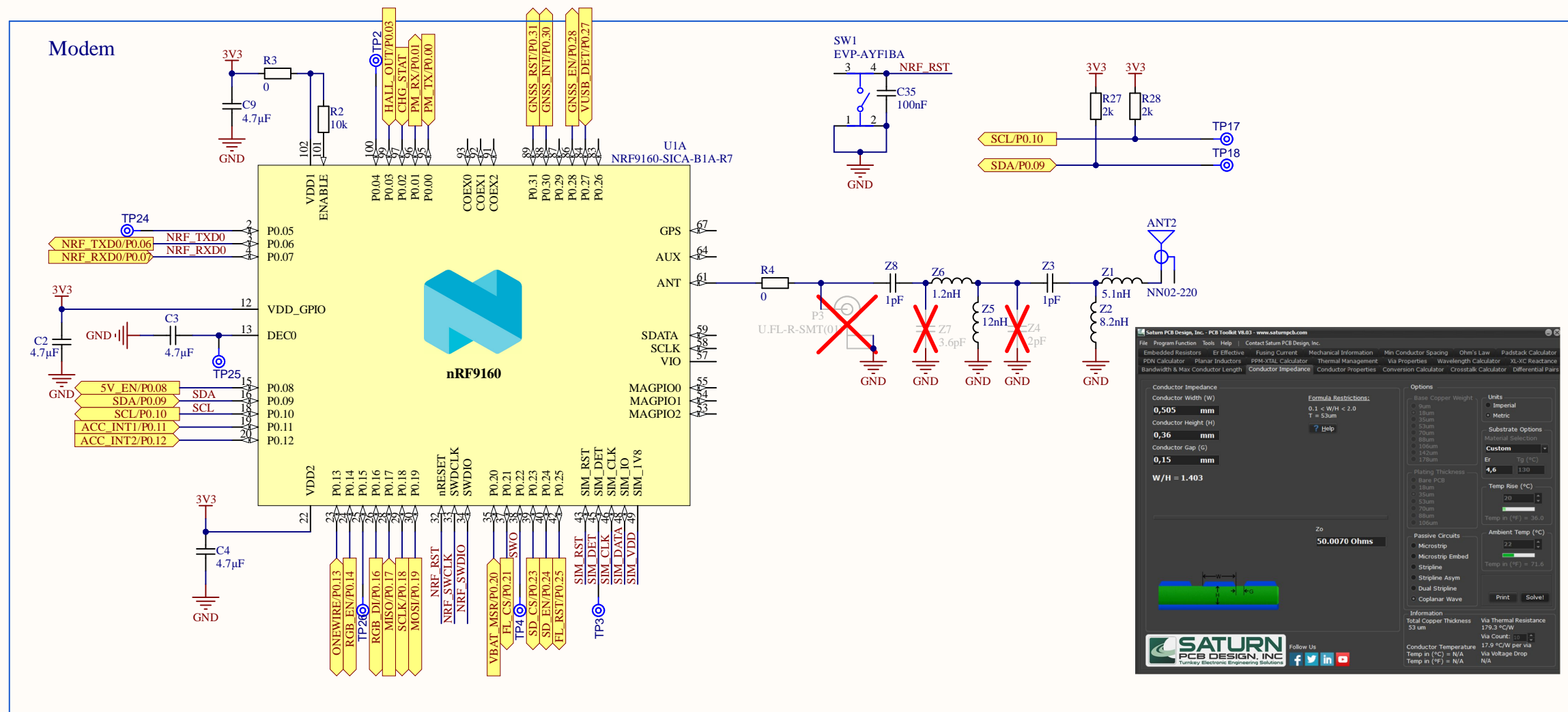
A

B

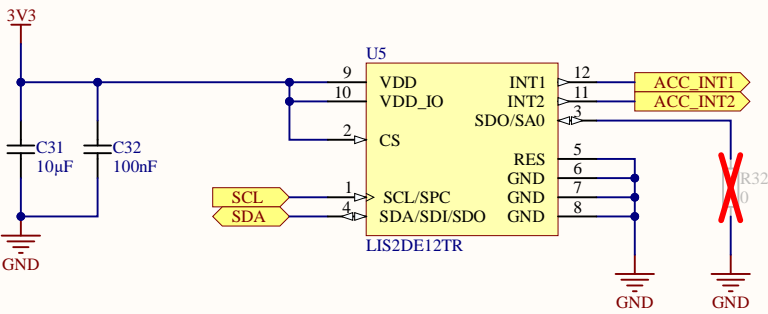
C

D

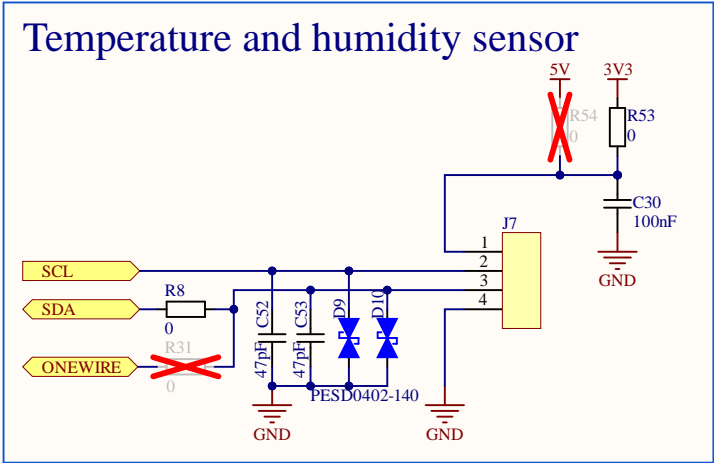





Accelerometer



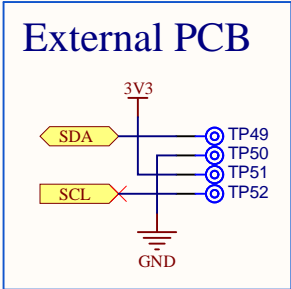
Temperature and humidity sensor




External PCB

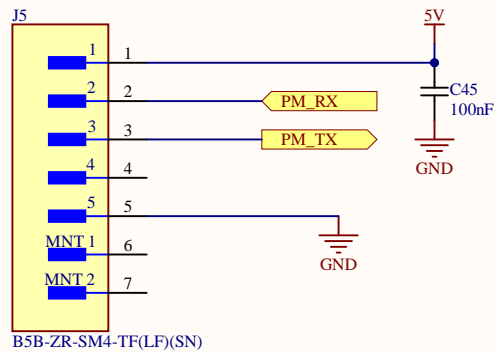


The diagram illustrates the external PCB connection for an I2C sensor. It shows a 3V3 supply and a GND connection. The SDA line is connected to TP49 and TP50, and the SCL line is connected to TP51 and TP52. A red 'X' is placed over the SCL label, indicating a problem or error.

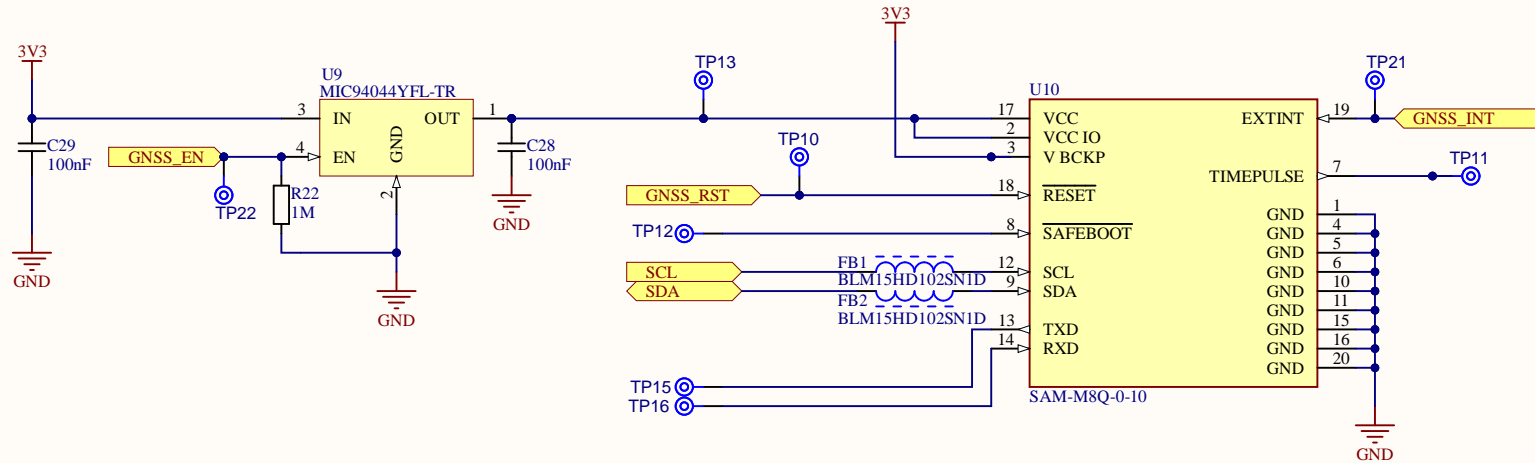


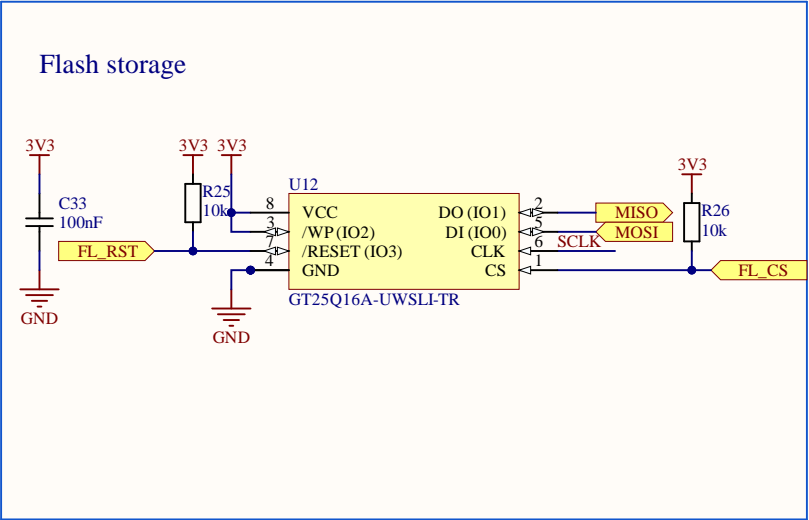
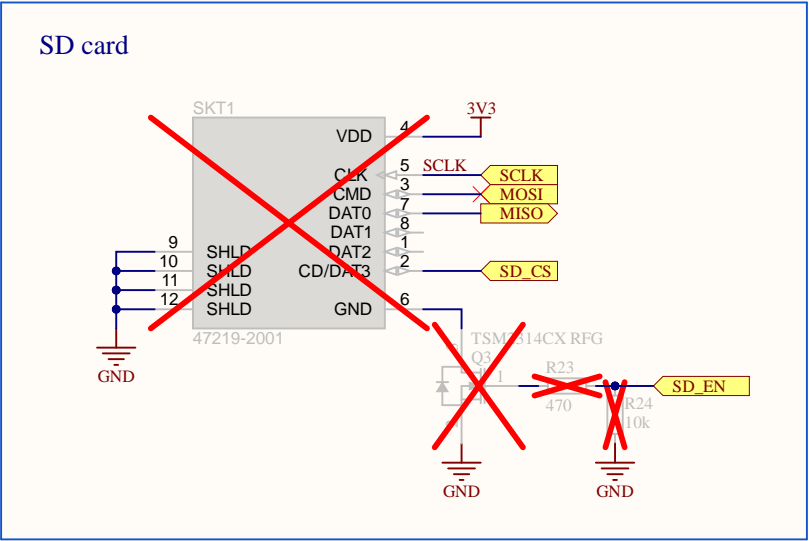
| | | | | | |
|---|----------------|---------------|---|--|---|
| Title: Temperature and Humidity sensor | | | SODAQ Bussummerstraat 34 1211 BL Hilversum The Netherlands | |  |
| Size: A4 | Number: 200028 | Revision: 1,5 | | | |
| Date: 3-8-2023 | Time: 15:11:11 | Sheet 6 of 12 | | | |
| Made By: Julie Ann Guno | | | Reviewed by: Gregory Knauff | | |

PM sensor connector

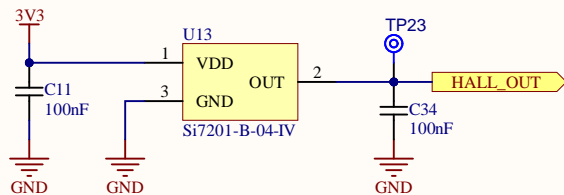


GNSS





Hall sensor switch



Title: **Hall sensor**

Size: A4

Number: 200028

Revision: 1.5

Date: 3-8-2023

Time: 15:11:12

Sheet 10 of 12

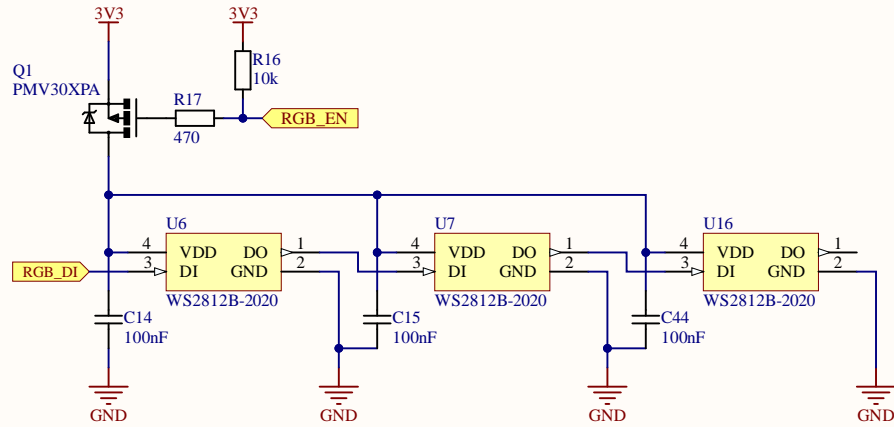
Made By: **Julie Ann Guno**


Reviewed by: **Gregory Knauff**

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RGB LEDs



| | | | | |
|---------------------------------------|------------------------------|--|--|---|
| Title: <i>User I/O</i> | | | SODAQ Bussumerstraat 34 1211 BL Hilversum The Netherlands |  |
| Size: A4 | Number: <i>200028</i> | Revision: <i>1.5</i> | | |
| Date: 3-8-2023 | Time: 15:11:12 | Sheet <i>11</i> of <i>12</i> | | |
| Made By: <i>Julie Ann Guno</i> | | Reviewed by: <i>Gregory Knauff</i> | | |

Changelog

V1.0 (JULGUN)

Initial

V1.1 (JORZOO)

- Changed the TPS63900 inductor (L1) with DFE252012F-2R2M=P2
- Put unneeded resistors/parts on DNP, R32, R50
- Replaced 5V boost converter for TPS61070DCCR
- Set mounting points Molex connector to GND instead of PREGND
- Replaced Q3 and Q4 with the PMV15UNEAR
- Added 2.2uF capacitor to BQ25306 REGN pin
- Added a testpad on BQ25306 BAT pin
- Added outline for seal
- Removed SHT31
- Increased U6 hole size 0.4->0.6
- Updated modem tuning network
- Added fiducials
- Replaced switch by IP67 rated switch and moved to back side of pcb
- Set FTDI to DNP
- Added connector for i2c/onewire sensor
- Updated revision number

V1.2 (MARHAR)

- Changed TPS621070 design to comply with Webench
- Replaced supply switch MOSFETs with ideal diode
- Changed default supply boost converter to VBAT
- Added silk screen outline for sticker
- Updated to new nRF9160 generation
- Added test pads on top side
- Lowered impedance of battery voltage divider
- Changed divider ratio USB detect
- Changed MOSFETs of BMS
- Removed feet from tag connect and moved it more to the border
- Added ESD protection to I2C line
- Replaced I2C THTs with SMD pads
- Changed tuning components to Z-designators
- Made the circuits of the FTDI and LiPo charger DNP
- Colored every DNP parameter red
- Changed MPN of C14, C15, C38, C44
- Updated MPN ANT2 to NN02-220

V1.3 (MARHAR)


- Moved trace from underneath MAX40203
- Enlarged copper and SM keepout around fiducials
- Removed some thermal reliefs to prevent tombstoning
- Bypassed supply switch
- Changed the MPN of Q3, Q4, and Q5 N-FETs
- Added a resistor between gate and source on BMS MOSFETs
- Updated LTE-M tuning network values

V1.4 (MARHAR)

- Enlarged Q3, Q4, and Q5 pad sizes
- Replaced DNP parameters with 'not-fitted' in variant
- Removed "Supplied by SODAQ" parameter from U1 and U10

V1.5 (JORZOO)

- Enlarged Q1, Q2, and U13 pad sizes
- Replaced footprint of U4 with footprint of U12
- Placed BQC recommended GT25Q16A-UWSLI-TR instead of the old 2MB flash

| | | | | |
|--------------------------------|-----------------------|------------------------------|--|---|
| Title: Changelog | | | SODAQ Bussumerstraat 34 1211 BL Hilversum The Netherlands |  |
| Size: A4 | Number: 200028 | Revision: 1.5 | | |
| Date: 3-8-2023 | Time: 15:11:13 | Sheet 12 of 12 | | |
| Made By: Julie Ann Guno | | | Reviewed by: Gregory Knauff | |