

LTE Cat M1 Asset Tracker

Revision B

Property of Profero Technology, LLC

2/3/2021

Design Notes

- Removed OLED Display
- Removed inline RF connection
- Disconnected GPS IO15
- VDD_USB --> 3.3V

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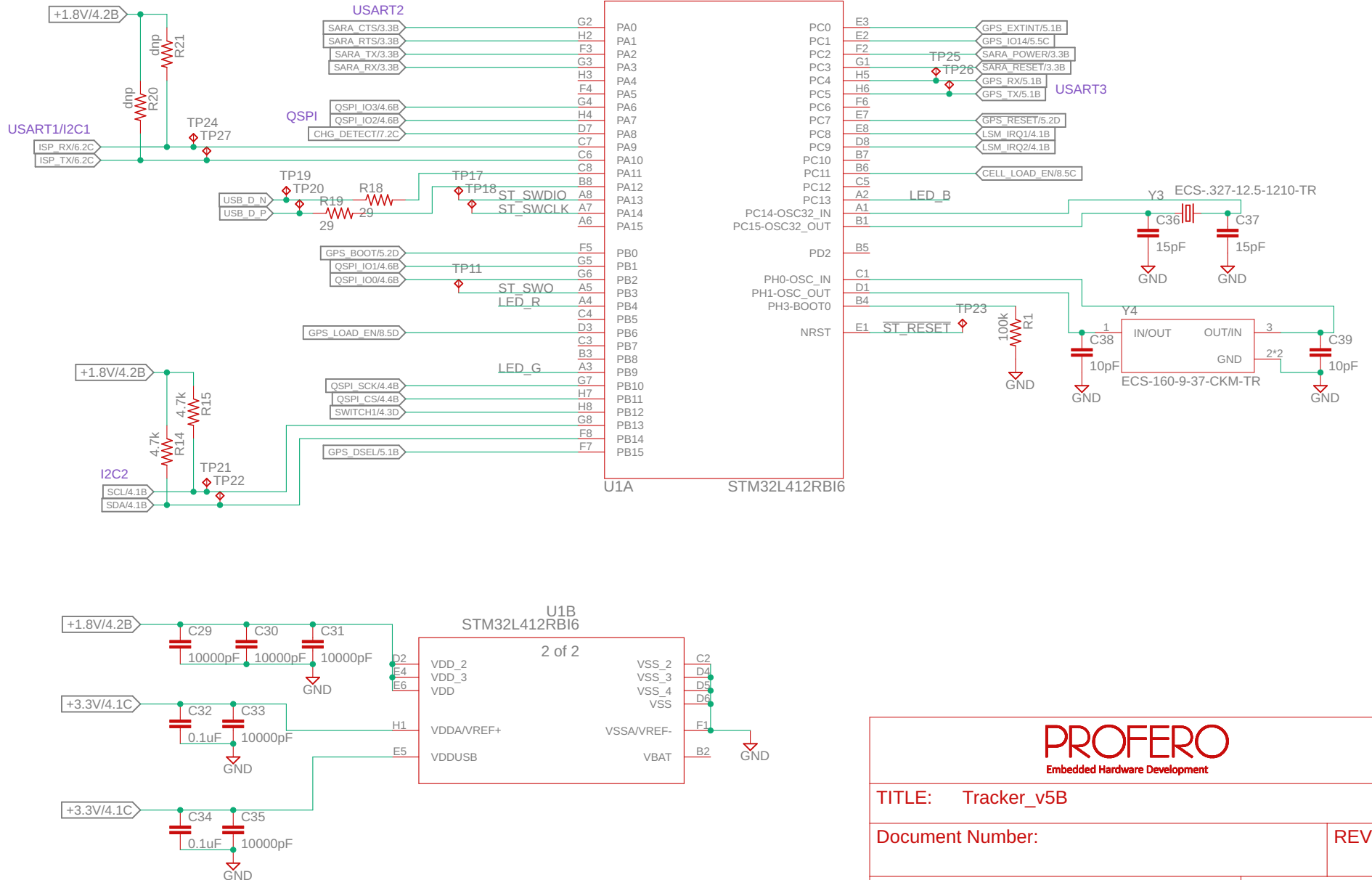
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STM32L4 MCU

Peripheral Configuration Notes

QSPI (AF10) CS - PB11 SCK - PB10 IO0 - PB2 IO1 - PB1 IO2 - PA7 IO3 - PA6	USART2 (AF7) CTS - PA0 RTS - PA1 TX - PA2 RX - PA3	I2C2 (AF4) SDA - PB14 SCL - PB13	USART3 (AF7) GPS RX - PC4 GPS TX - PC5
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SARA-R4 LTE CAT M1 Module

Key components and connections:

- Power Supply:** +CELL_POWER/8.6C connected to C19 (15pF), C20 (68pF), C21 (10000pF), C22 (0.1uF), C23 (10uF), and C24 (47uF TAJB476M010TNJ).
- ESIM Module (U12):** Hologram.io ESIM module connected to VCC, RST, CLK, I/O, EPAD, and GND. It includes capacitors C17 (0.1uF) and C18 (47pF).
- Antenna (ANT):** Connected to ANT and ANT_DET pins.
- GPIOs:** GPIO1 through GPIO6 are connected to various pins.
- I2S and SDIO:** I2S_WA/MOSI, I2S_TXD/CS, I2S_CLK/CLK, I2S_RXD/MISO, SDIO_CLK, SDIO_CMD, SDIO_D0, SDIO_D1, SDIO_D2, and SDIO_D3 are connected to their respective pins.
- GPS Module:** Optional connection to ZOE-M8 module via GPS_SCL/5.1B and GPS_SDA/5.1B pins, using resistors R10 and R11.

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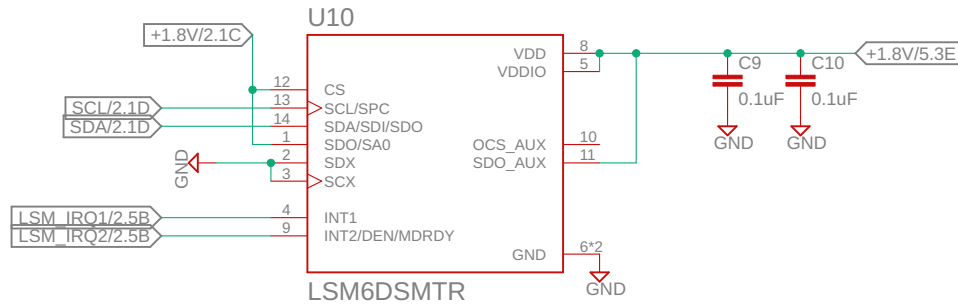
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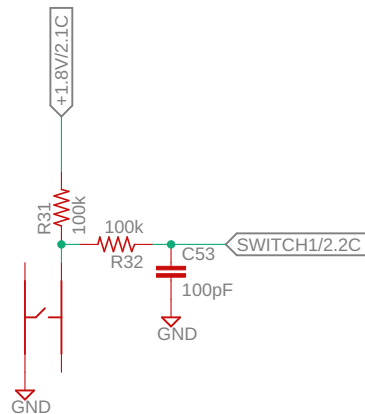
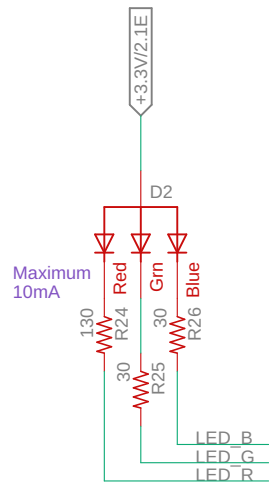
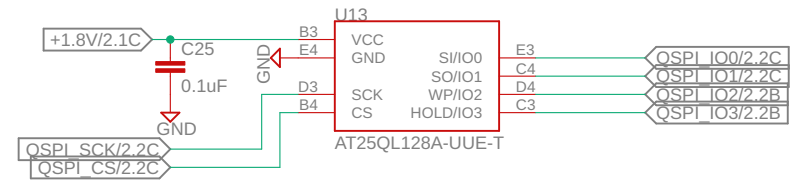
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Sensors & Peripherals

6DoF IMU



128Mbit QSPI Flash



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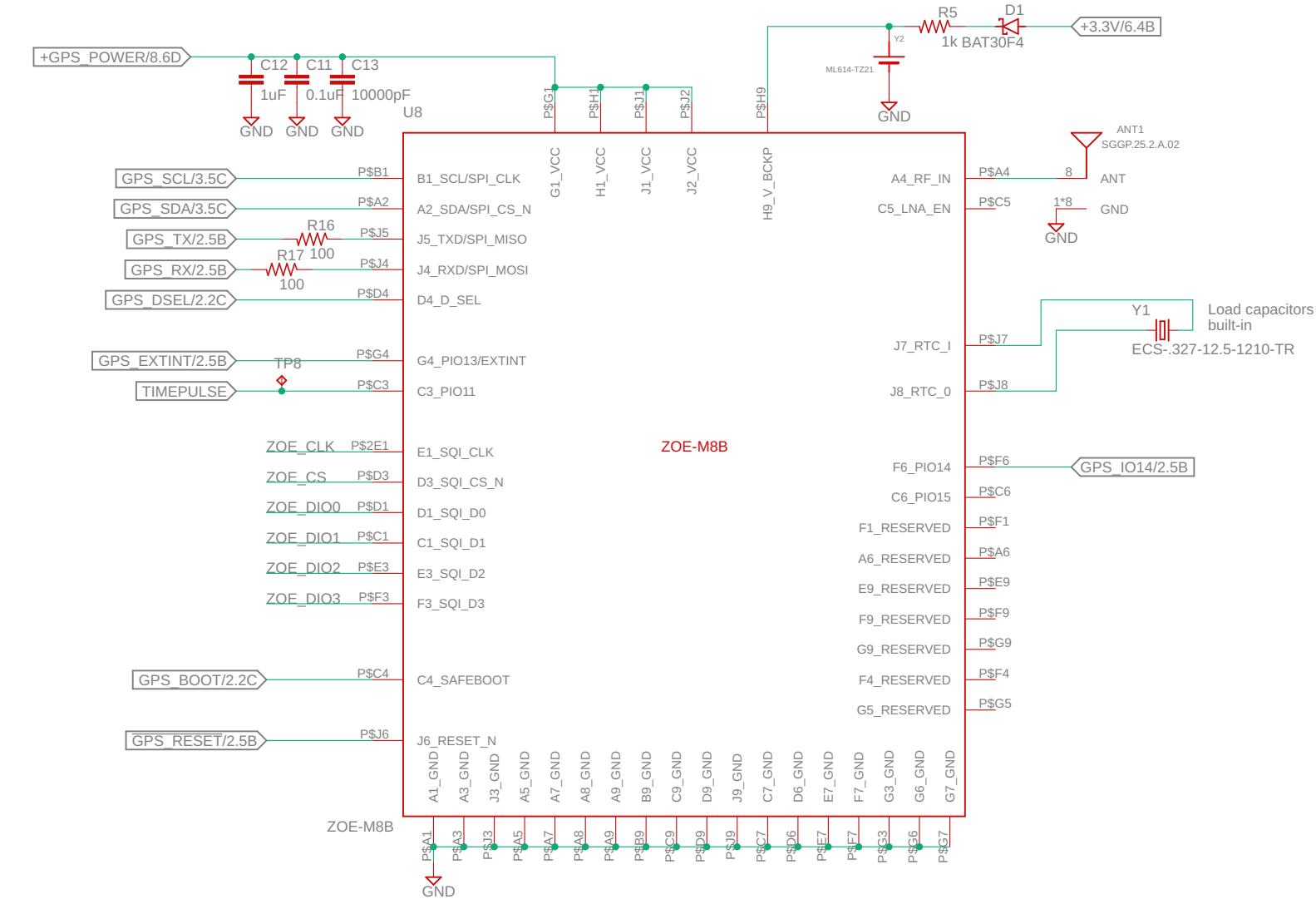
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GPS Receiver



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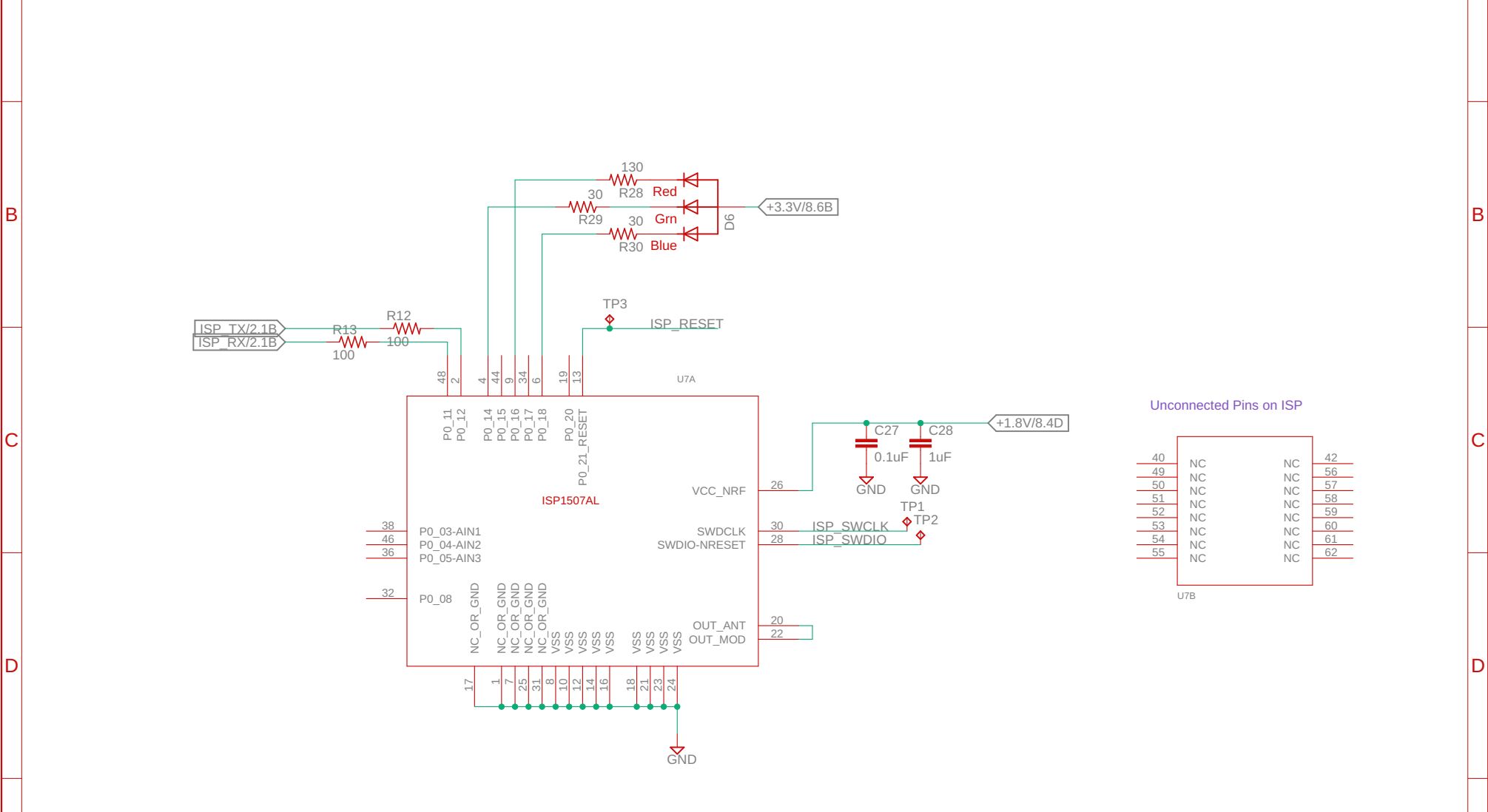
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Bluetooth 5.0

1 2 3 4 5 6

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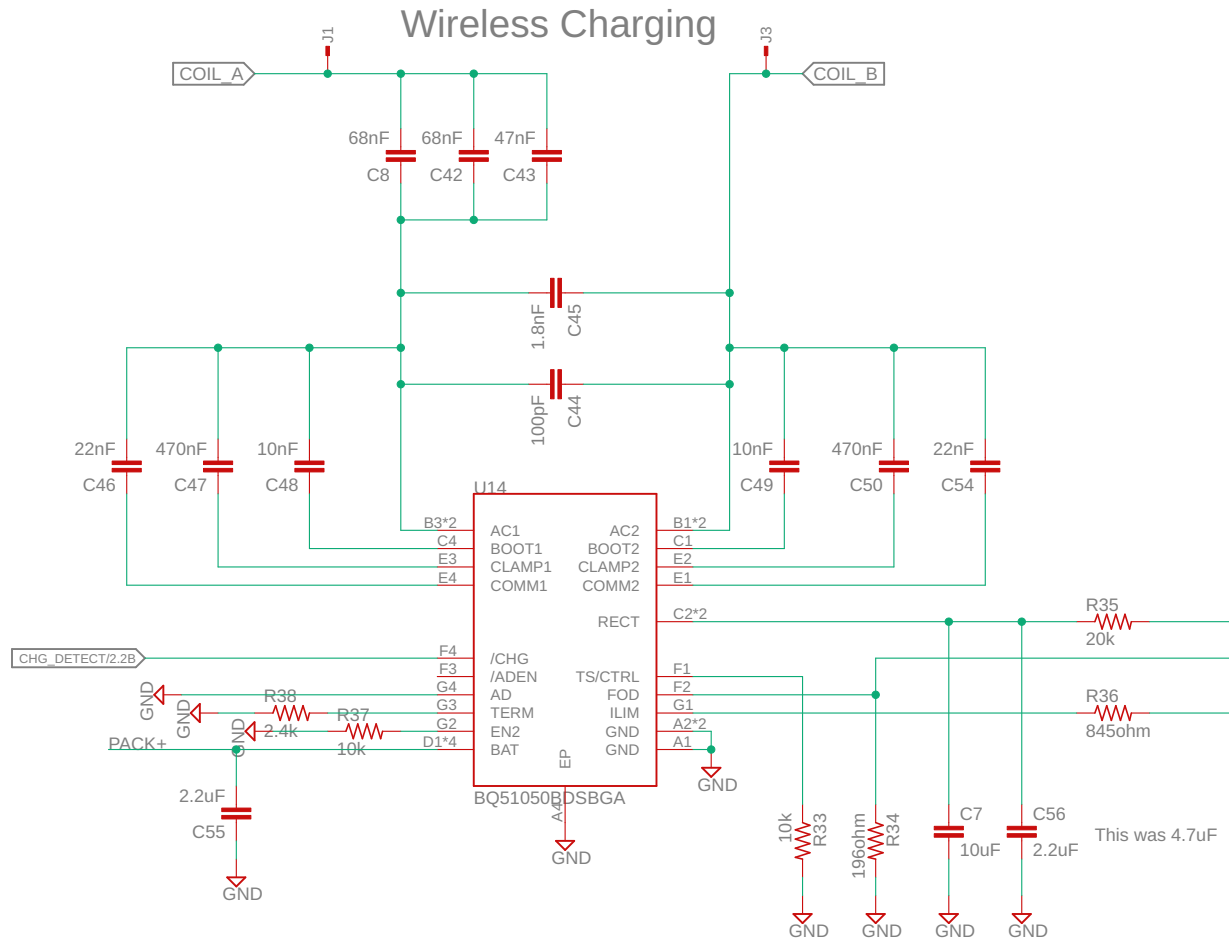
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Qi Compliant Wireless Charger



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