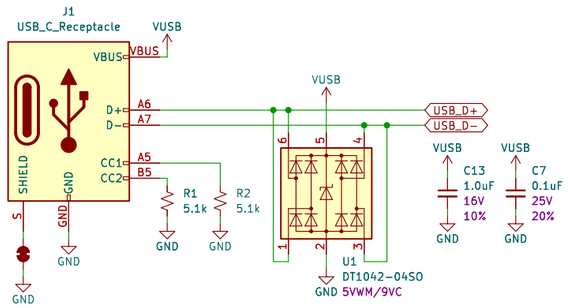
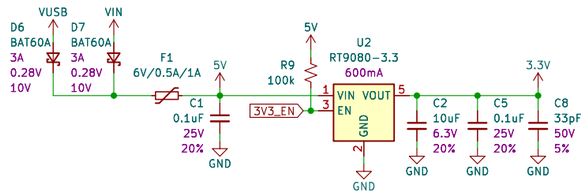
## USB

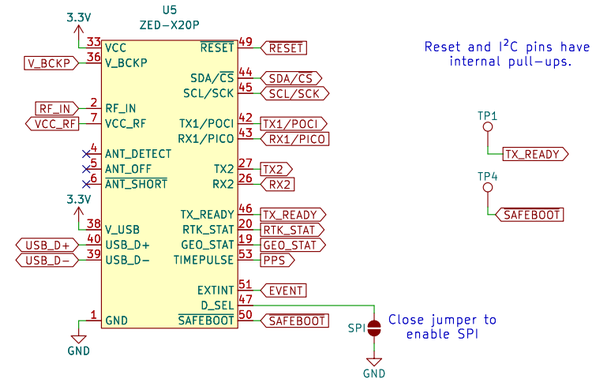



USB Track Impedance: Coplanar Differential Pair @ 90Ω
https://jlcpcb.com/pcb-impedance-calculator
Board Thickness: 1.6mm. Layers: 4. Er: 4.4 (7628 Prepreg)
Dielectric Thickness (Layer 1 to 2): 8.28mil/0.21mm (JLC7628)
Copper Thickness (1oz outer / 0.5oz inner): 1.38mil/0.035mm
Polygon Isolation: 7mil/0.1778mm
Trace Spacing: 8mil/0.2032mm
Trace Width: 10.3mil/0.2616mm

## Power



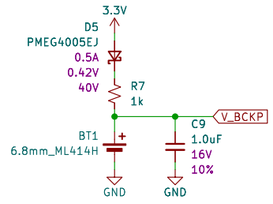

## ZED-X20P GNSS Receiver



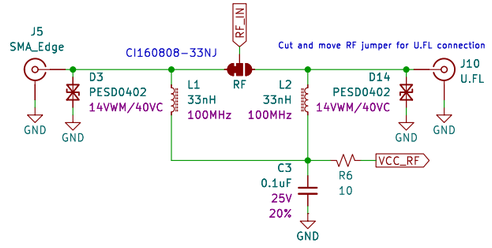

7-bit unshifted I²C address: 0x42

## I²C Connectors


## Battery Backup

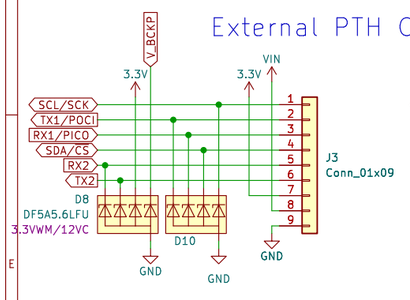



## Antenna Connector

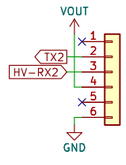



Microstrip (Coplanar Single Ended) 50Ω Calculation:
https://jlcpcb.com/pcb-impedance-calculator
Board thickness: 1.6mm. Layers: 4. Er: 4.4 (7628 Prepreg)
Dielectric Thickness (Layer 1 to 2): 8.28mil/0.2104mm (JLC7628)
Copper Thickness (1oz outer / 0.5oz inner): 1.38mil/0.035mm
Polygon Isolation: 7mil/0.1778mm
Trace Width: 11.1mil/0.2819mm

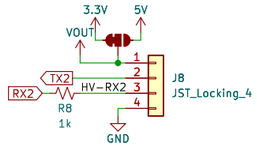
## External PTH Connectors

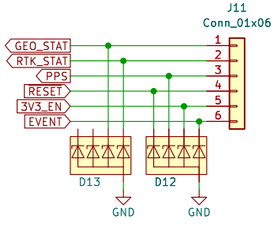


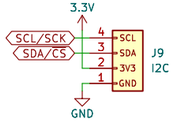

## BlueSMiRF




## Locking JST

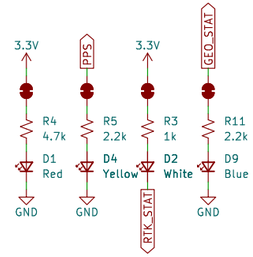



Generally speaking the ports are used as follows:
USB – Configure in and NMEA output
UART1 – Configure in and NMEA output to embedded system
UART2 – RTCM correction input and NMEA output over Bluetooth
But Configure/NMEA/RTCM can flow through any port

## LEDs




open source hardware

sparkfun

Designed by: N. Seidle
SparkFun Electronics
Sheet: /
File: SparkFun_GNSS_ZED-X20P.kicad_sch

**Title: ZED-X20P Allband GNSS Receiver Breakout**

| Size: USLedger | Date: 2025-04-01 | Rev: v10 |
|---|---|---|
| KiCad E.D.A. 9.0.0 | | Id: 1/1 |