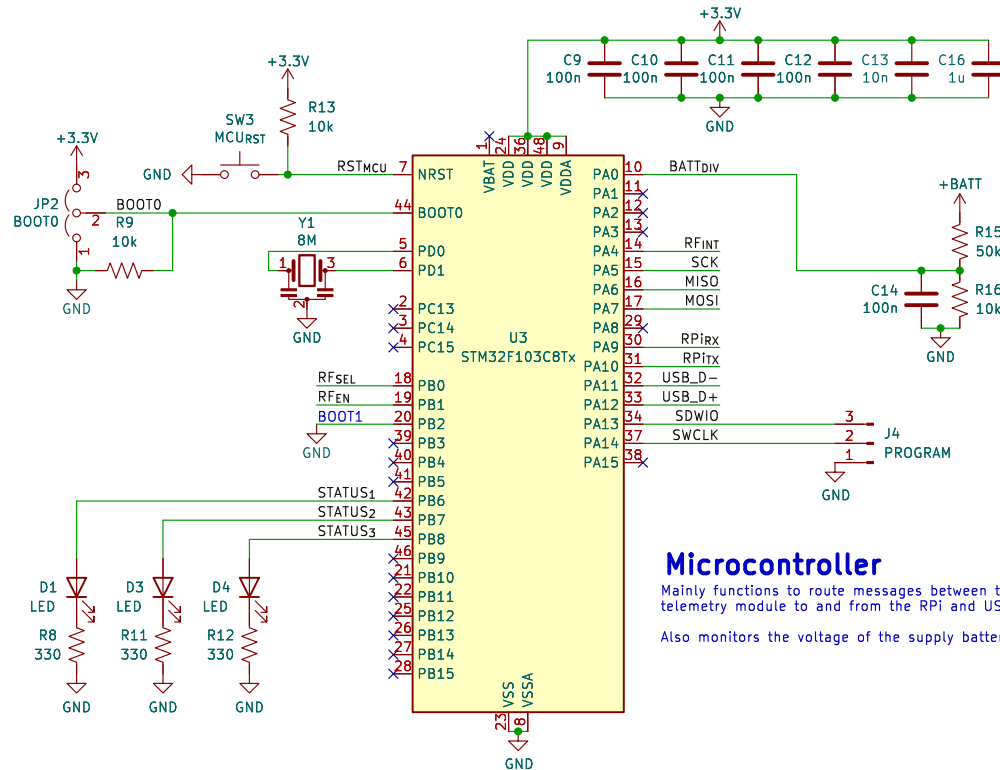
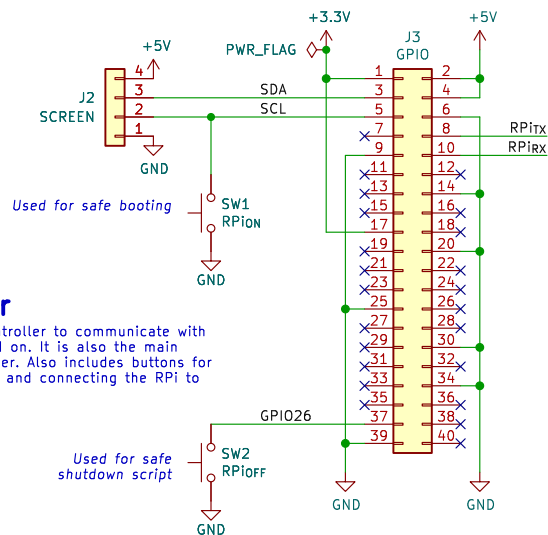


RPi Header

Allows the microcontroller to communicate with the RPi it is housed on. It is also the main supply for 3.3V power. Also includes buttons for safely powering RPi and connecting the RPi to the touchscreen.



Microcontroller

Mainly functions to route messages between the telemetry module to and from the RPi and USB port. Also monitors the voltage of the supply battery.

USB Connection

Allows the HAT to communicate with any USB host computer. Can be used with or without an RPi present.

NOTE: USB POWER MUST BE GENERALLY DISCONNECTED! It can only be connected when RPi is not present.

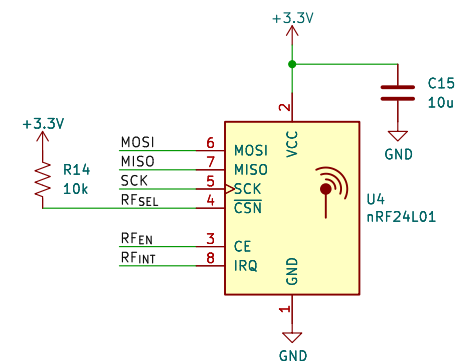
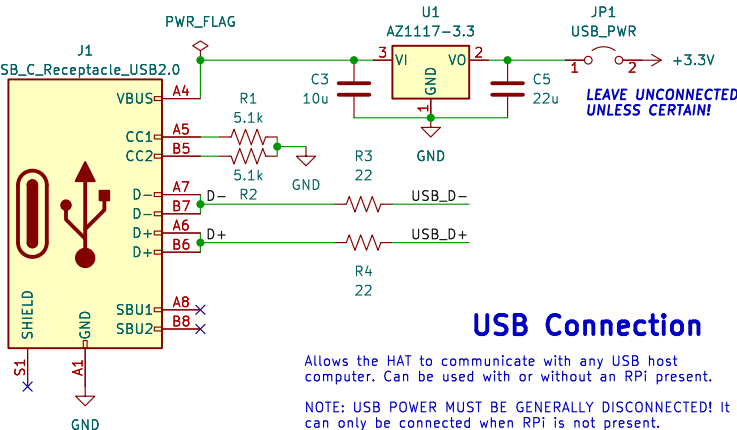
Telemetry Module

Star of the show, communicates with the team's vehicle.

The nRF24L01+LA+LNA modules have line of sight ranges exceeding several hundred metres! Data rate is generally 250 kbps but can be bumped up at shorter distances.

Power Regulator

Provides 5V to the RPi.



Can be used as a standalone USB device too
Designed to be an RPi hat with connections for the RPi touchscreen
Hosts a microcontroller and wireless module for computers to use
HPVDT

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File: downlink_board.kicad_sch

Title: Downlink Board

Size: USLetter Date: 2023-11-30

KiCad E.D.A. kicad 7.0.9-ubuntu22.04.1

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