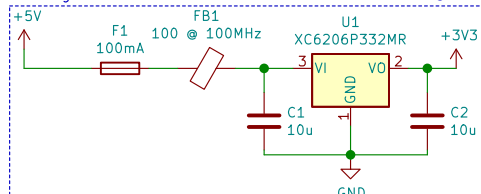


3V3 Regulator

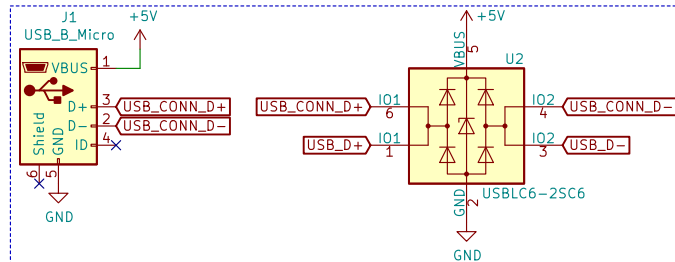


Limit USB host-side cap to $\leq 10\mu\text{F}$ to ensure we're not hitting maximum in-rush current when device is attached.
See: <http://www.ti.com/lit/an/slyt118/slyt118.pdf>

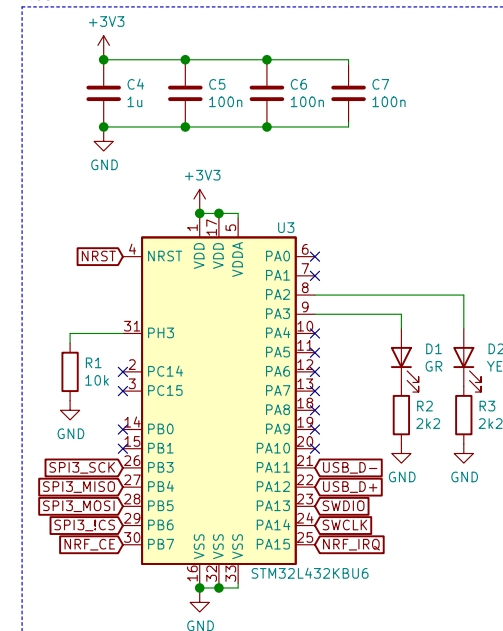
STM32 USB requires 3V3.

Not reverse polarity protected, however since only power source is via USB connector, we can hope that the polarity will be correct.

USB Connector and ESD Protection



MCU

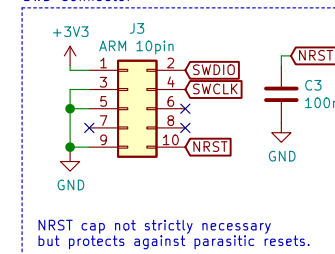


Differential pairs MUST be labelled with +/- as last characters for differential routing.

STM32L432KBU6 datasheet:
'No external termination series resistors are required on USB_DP (D+) and USB_DM (D-); the matching impedance is already included in the embedded driver.'

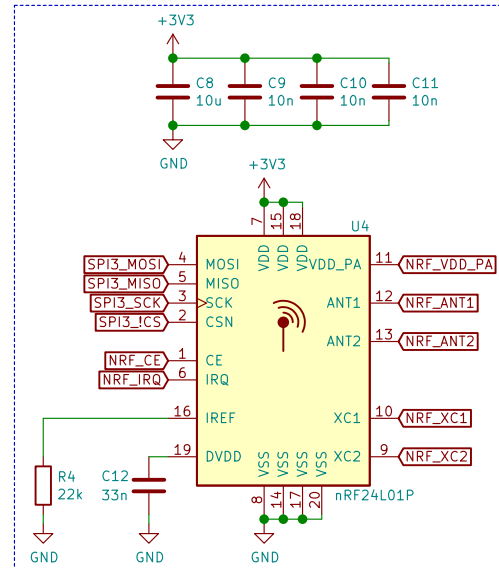
STM32 MCU has internal USB pull-up resistors. (AN4879)

SWD Connector

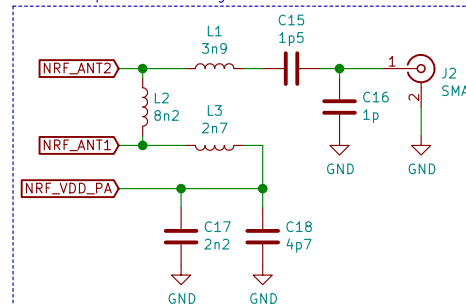


NRST cap not strictly necessary but protects against parasitic resets.

NRF24 Transceiver

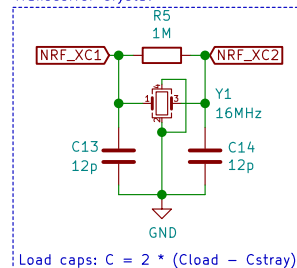


Antenna Impedance Matching and SMA Connector



Route as 50 Ohm controlled impedance traces. Follow datasheet regarding layout. Passive antenna.

Transceiver Crystal



Load caps: $C = 2 * (C_{load} - C_{stray})$

design clone

Intellivolt

Sheet: /

File: STRF.sch

Title: Rf link

Size: A4 Date: 2021-07-08

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