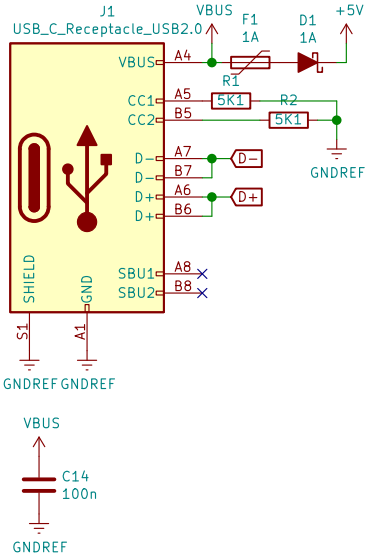
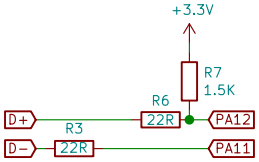
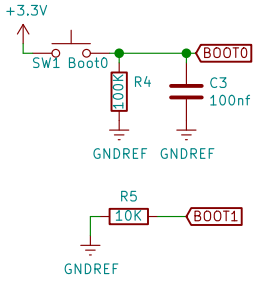
USB type C to USB 2.0



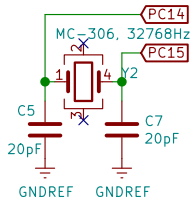
USB to serial (VCP)



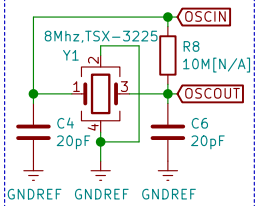
Boot Selector



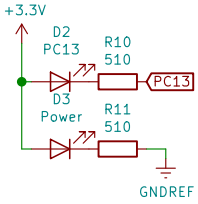
LSE Oscilator



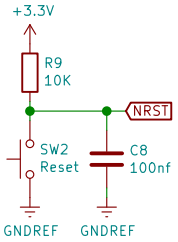
HSE Oscilator



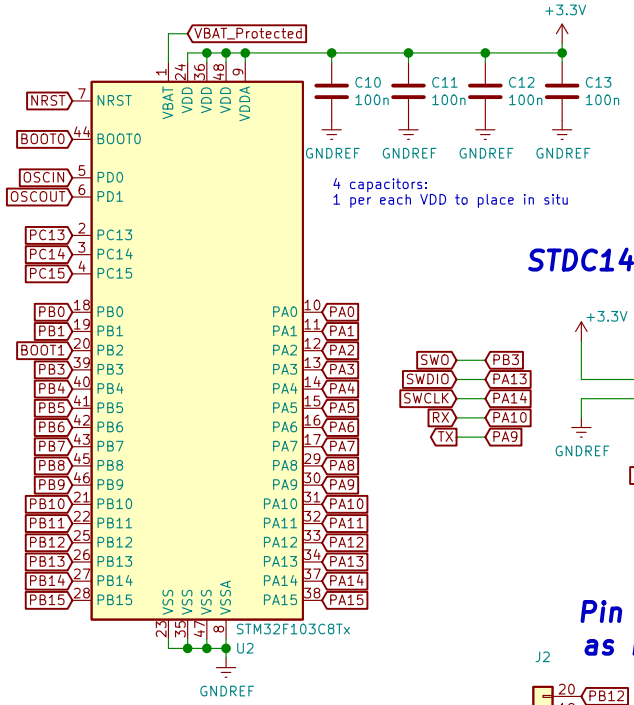
Build-in LEDs



Reset Circuit

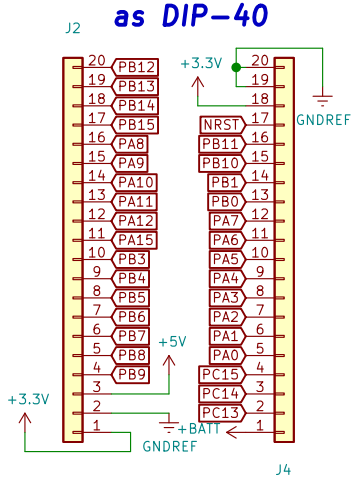


Microcontroller core

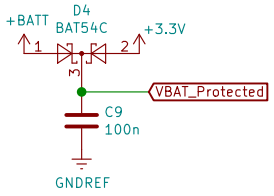


STDC14 interface

Pin Header as DIP-40



RTC Power Protection

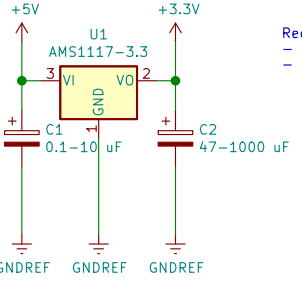


Power Supply

Originally, BluePill contained RT8183-B as voltage regulator. It is outdated.
Direct replacement: RT9193-33GB, but it is capable to deliver up to 300mA.
USB type C can provide up to 1.5 A over USB 2.0 connectivity.
- to provide < 1A use Linear Voltage regulators
- to go > 1A : use DC-DC converters

Among Linear Voltage Regulators good option is AMS1117-3.3 (SOT223).
It can deliver up to 800mA. Compatible parts are:
- LM1117-3.3
- NCP1117-3.3

Note:
MICREL MIC3910-3.3WS has difference: tab is GND, not Vout



RedPill utilizes AMS1117 and used:
- pre-capacitor : 25V 100 uF
- post-capacitor : 6.3 V 330 uF

Other effective low-drop linear regulators are:
TI LM3940, up to 1A, but isincompatible in pinout
LMS8117AMP3.3

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