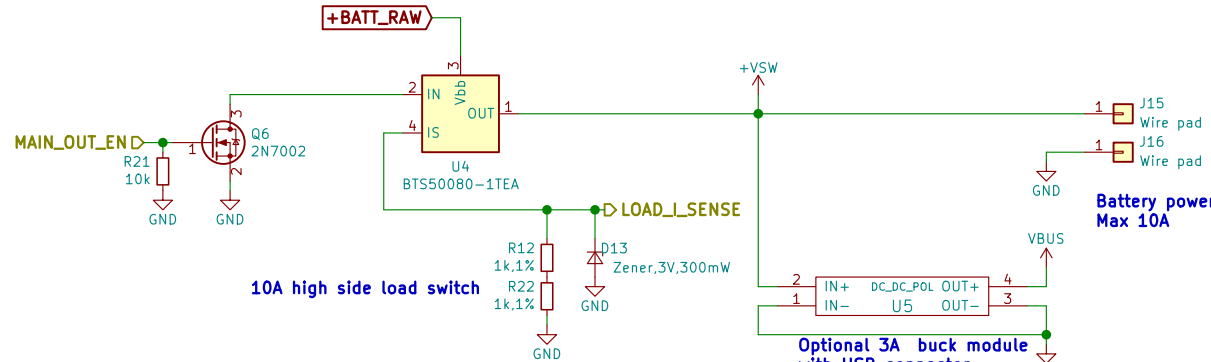


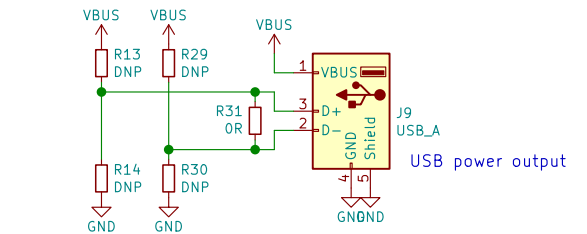
Main battery input
5.5 – 30VDC



10A high side load switch

Battery power output.
Max 10A

R_{LIS} selection : I_{LIS} = 6mA max
In normal conditions, I_{LIS} = I_{load} / 10000
=> with R_{LIS} = 2k, I_{load} = 10A gives 2V.
The Zener clamps voltage to 3V (error conditions => I_{LIS} = 5.2mA)

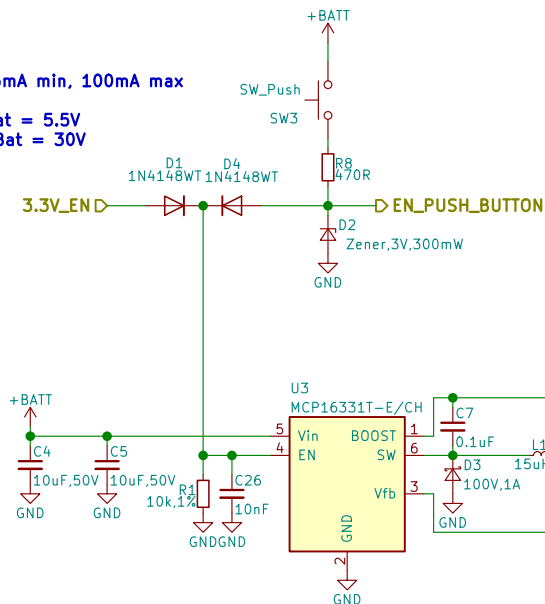


USB power output

For most newer devices, a 0R resistor between D+ and D- should be enough to indicate that the port can supply up to 1.5A.

Older Apple devices may need specific voltage dividers on D+/D- lines.
Check <https://lygte-info.dk/info/USBinfo%20UK.html>

R_B selection :
Zener current : 5mA min, 100mA max
470R :
5mA with V_{Bat} = 5.5V
57mA with V_{Bat} = 30V



The MCP16331 has an internal pull up on the EN pin.

On startup, R₁ pulls EN low (system Off)

When the push button is pressed, the Zener is powered and the EN pin gets high through D₁ => system On.

The uC gets powered and can now controls the system state with the 3.3V_EN line.
It can also monitor future states of the push button.



Sheet: /Power/
File: power.sch

Title:

Size: A4 Date: 2019-04-05

KiCad E.D.A. kicad 5.1.0

Rev: 2.0

Id: 2/3

