

**Project Name:**

# Projeto de Circuitos Eletrônicos para IoT V1.1.0

## Released 09/10/2024

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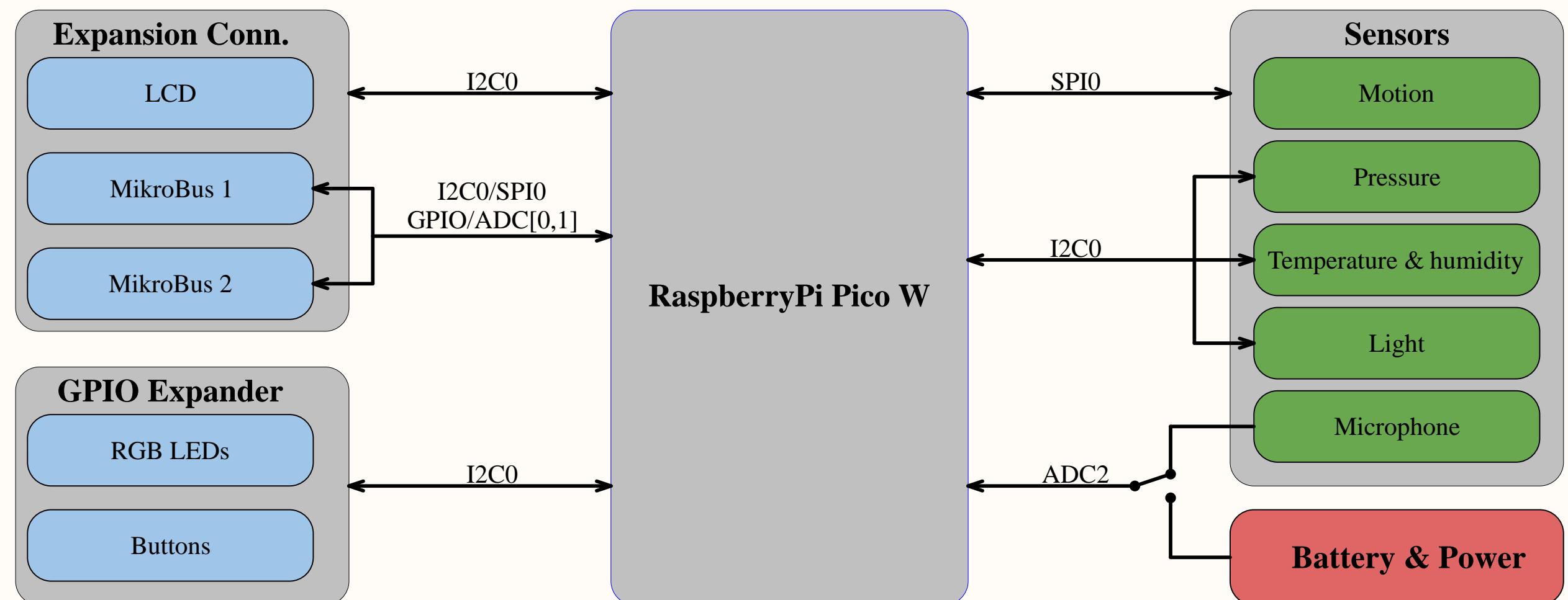
### Design Notes

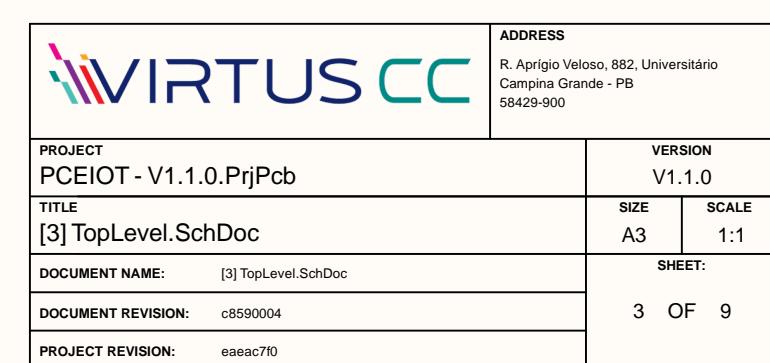
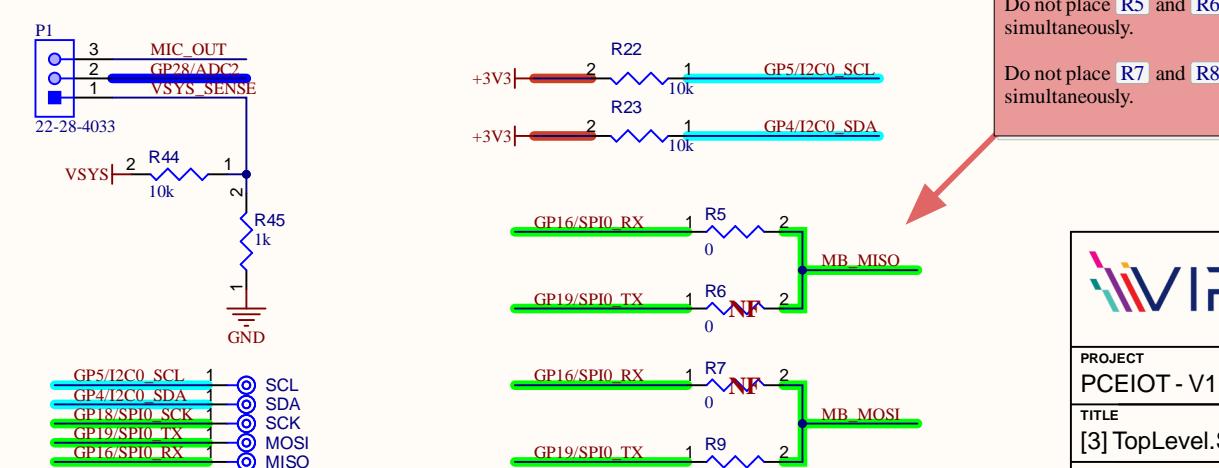
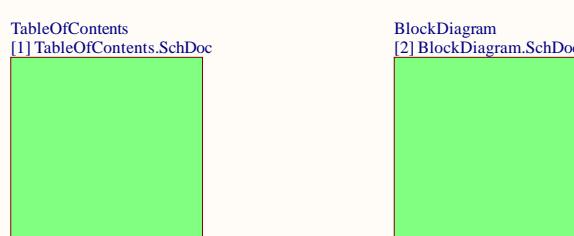
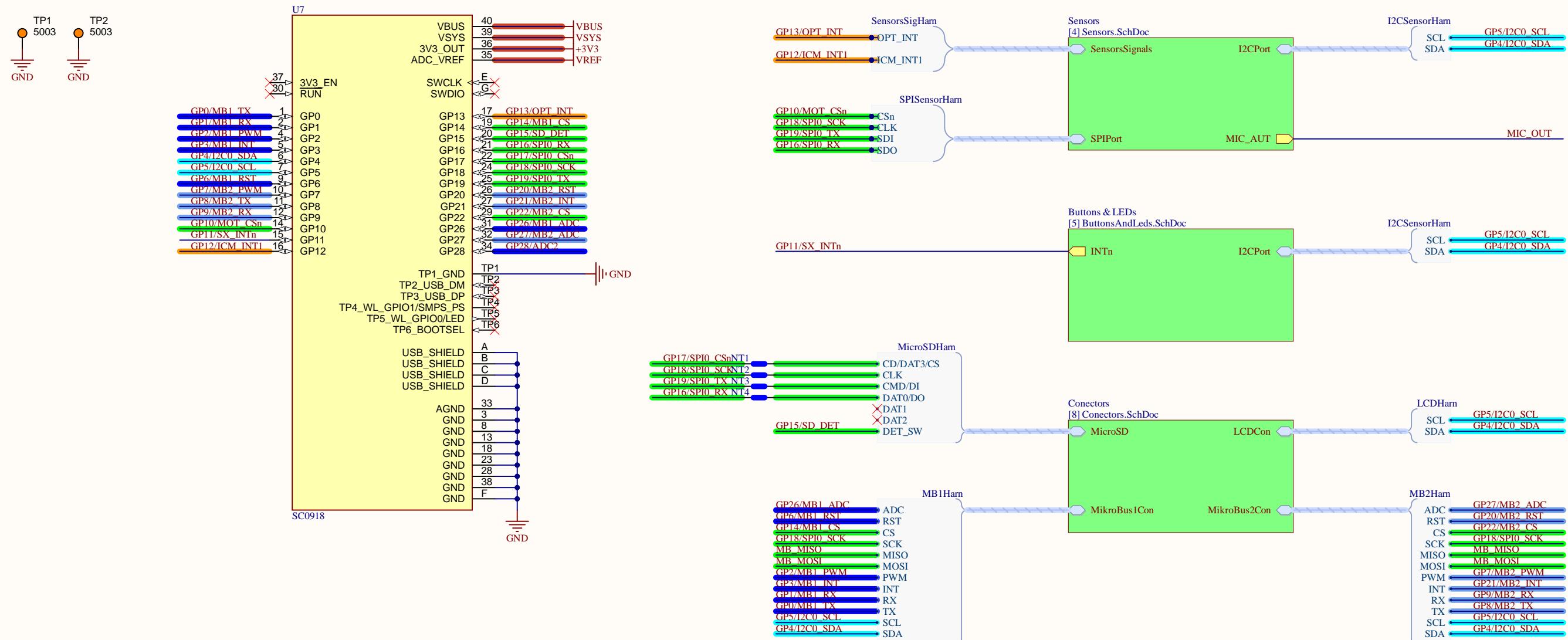
Example of informational notes.

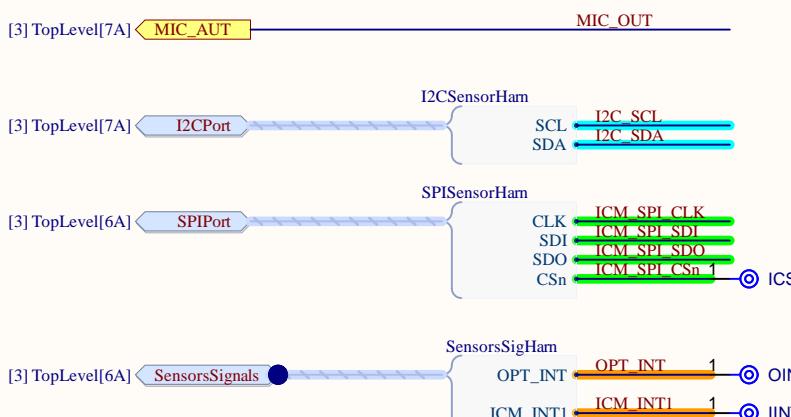
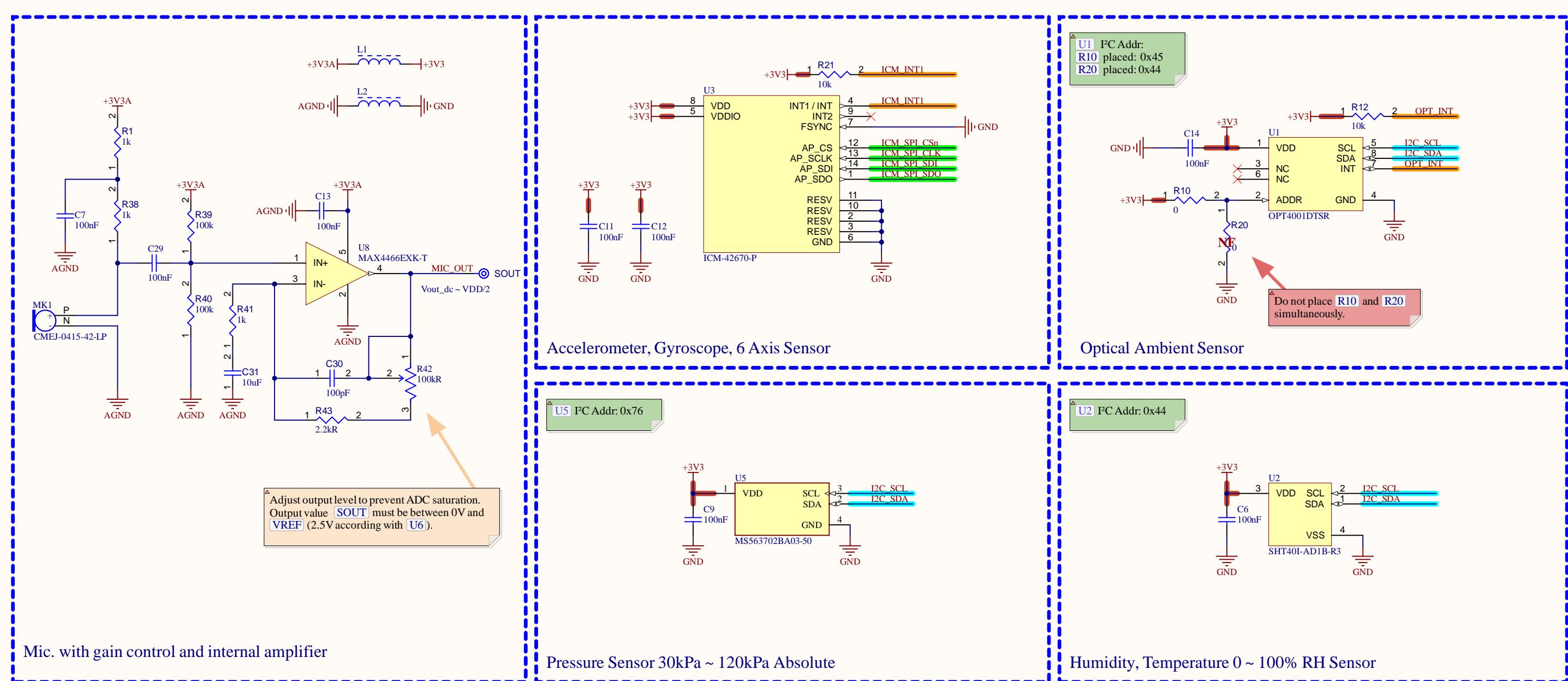
Example of cautionary design notes.

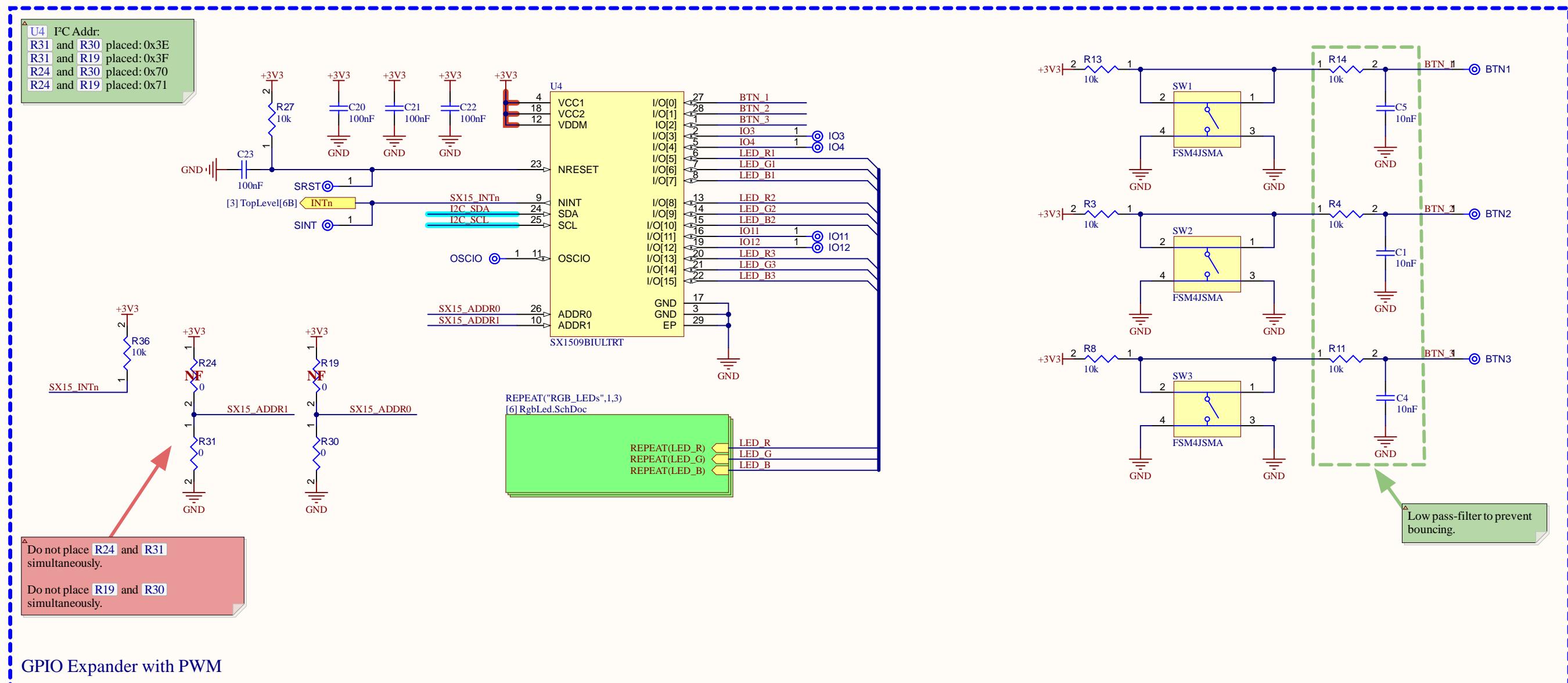
Example of critical design notes.

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	R. Aprígio Veloso, 882, Universitário Campina Grande - PB 58429-900	
PROJECT	PCEIOT - V1.1.0.PrjPcb	VERSION
TITLE	[1] TableOfContents.SchDoc	SIZE A3 SCALE 1:1
DOCUMENT NAME:	[1] TableOfContents.SchDoc	SHEET:
DOCUMENT REVISION:	c8590004	1 OF 9
PROJECT REVISION:	eaac7f0	









A

A

B

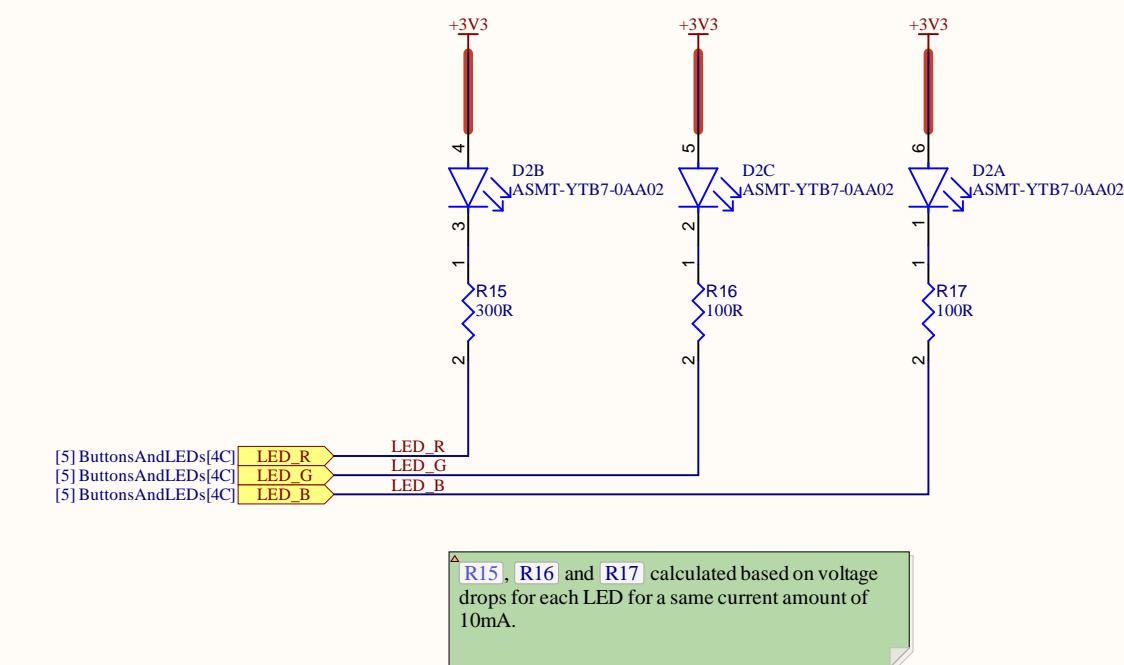
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C

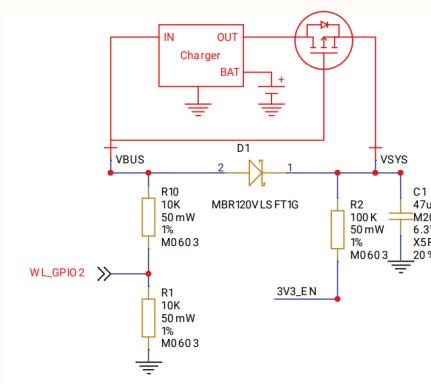
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D



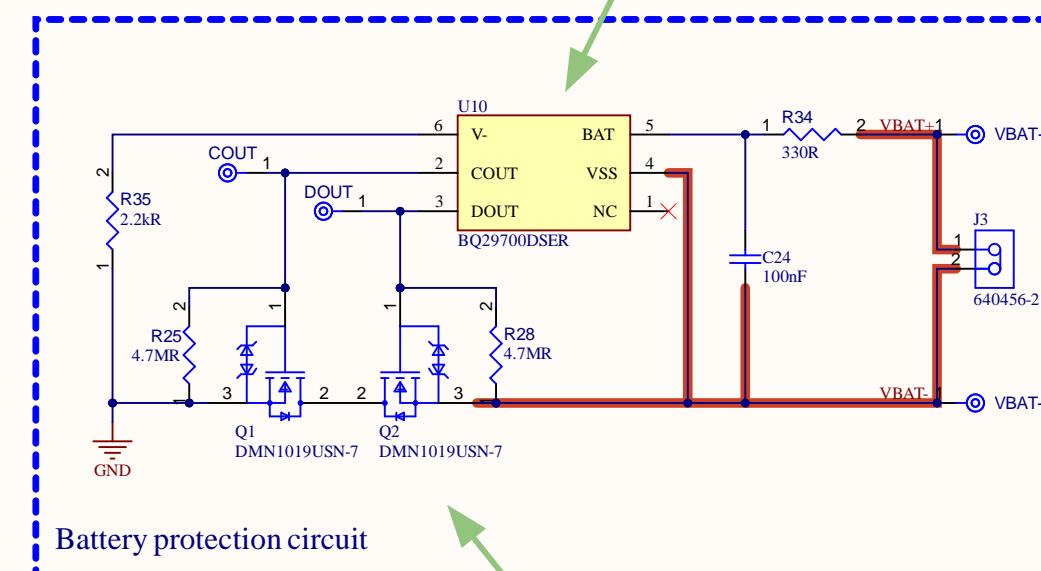
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## RPI Pico W Battery suggestion usage



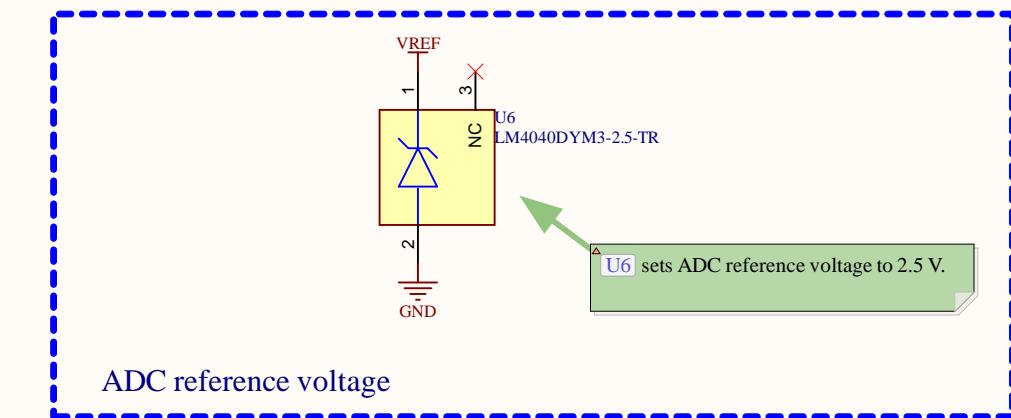
VBUS  
+3V3  
VSYS  
VREF

U10 operating values:  
Overcharge detection (OVP): 4.275V  
Over-discharge detection (UVP): 2.800V

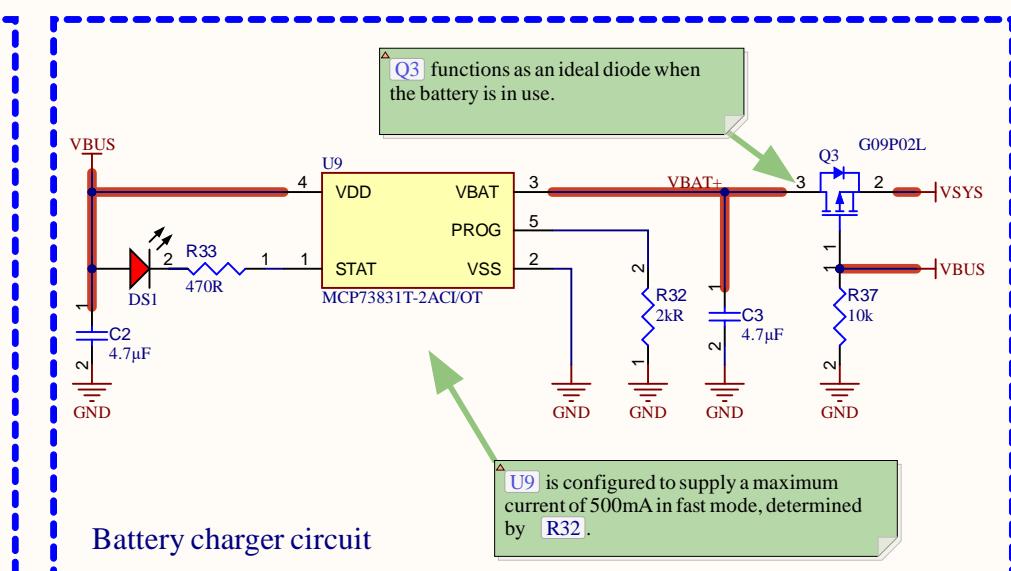


Battery protection circuit

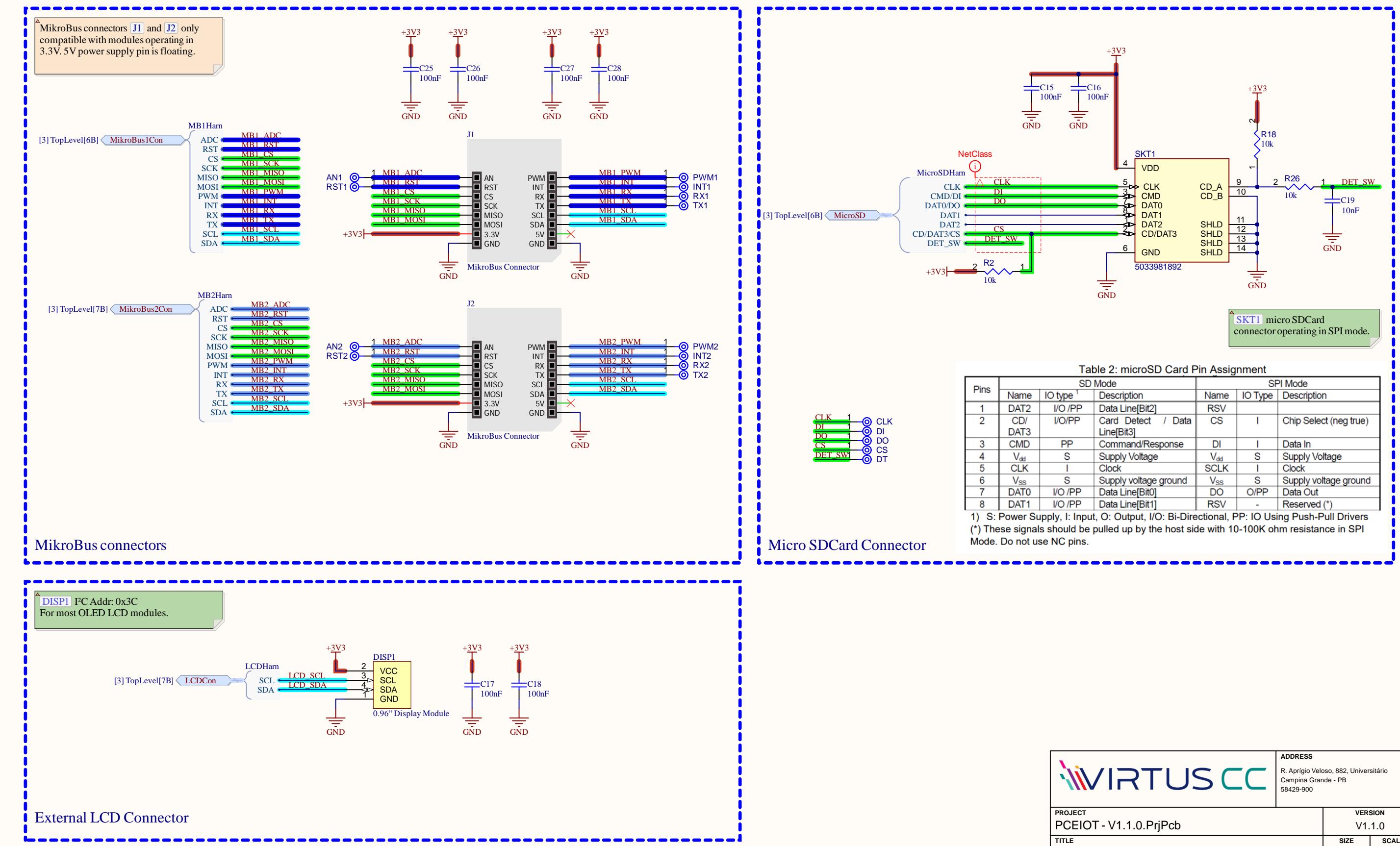
Q1 and Q2 under  $V_{GS} = 2.5V$  conditions:  
 $I_d = 8.5A$   
 $R_{ds(on)} = 12m\Omega$   
The maximum current in this path, considering the maximum power output of the DC-DC converter in the Raspberry Pi Pico W, is approximately 3.6A.



ADC reference voltage



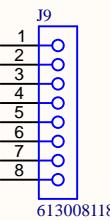
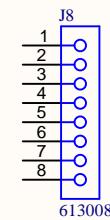
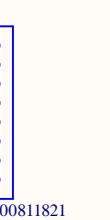
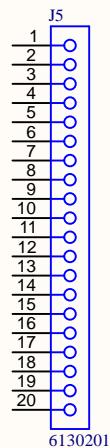
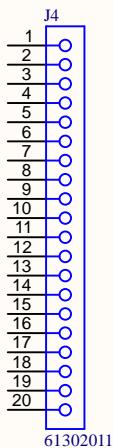
Battery charger circuit



Pins	SD Mode			SPI Mode		
	Name	IO type <sup>1</sup>	Description	Name	IO Type	Description
1	DAT2	I/O/PP	Data Line[Bit2]	RSV		
2	CD/DAT3	I/O/PP	Card Detect / Data Line[Bit3]	CS	I	Chip Select (neg true)
3	CMD	PP	Command/Response	DI	I	Data In
4	V <sub>dd</sub>	S	Supply Voltage	V <sub>dd</sub>	S	Supply Voltage
5	CLK	I	Clock	SCLK	I	Clock
6	V <sub>ss</sub>	S	Supply voltage ground	V <sub>ss</sub>	S	Supply voltage ground
7	DAT0	I/O/PP	Data Line[Bit0]	DO	O/PP	Data Out
8	DAT1	I/O/PP	Data Line[Bit1]	RSV	-	Reserved (*)

1) S: Power Supply, I: Input, O: Output, I/O: Bi-Directional, PP: IO Using Push-Pull Drivers  
(\*) These signals should be pulled up by the host side with 10-100K ohm resistance in SPI Mode. Do not use NC pins.

A A



- |                |                |
|----------------|----------------|
| FD1<br>FID1X2R | FD2<br>FID1X2R |
| FD3<br>FID1X2R | FD4<br>FID1X2R |
| FD5<br>FID1X2R | FD6<br>FID1X2R |
| FD7<br>FID1X2R | FD8<br>FID1X2R |

B B



709670110

M2



709670110

M3



970080354

M4



970080354

M5



MPMS 003 0005 PH

M6



MPMS 003 0005 PH

C C



709670110

M8



709670110

M9



970080354

M10



970080354

M11



MPMS 003 0005 PH

M12



MPMS 003 0005 PH

D D

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