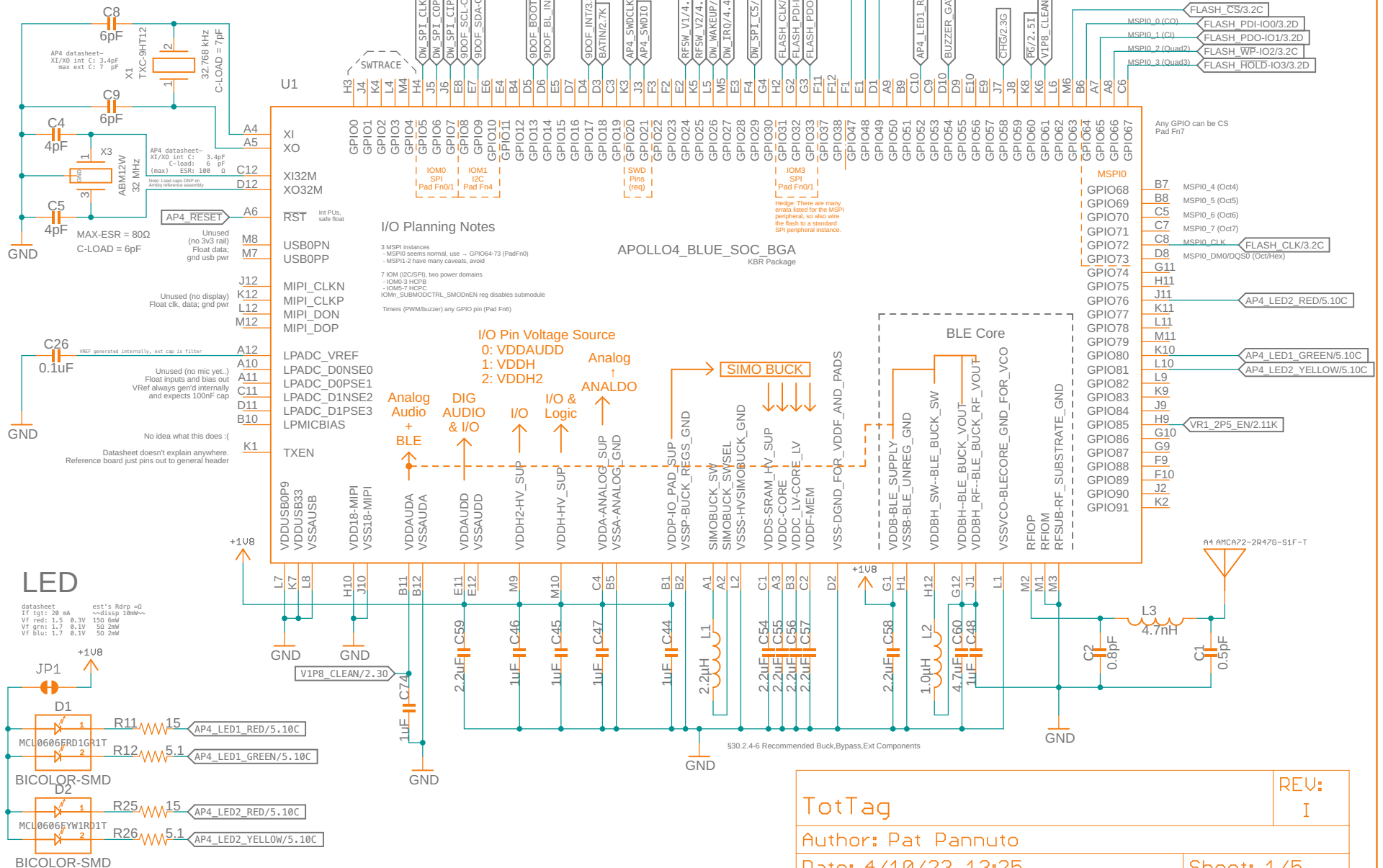


```
M4 max sust: 4 mA
Buck spikes: 100 mA
BLE max sus: 6 (+1.2?) mA
BLE buck spk: 2.2 mA
```



# Power Supply and Charging

## Physical I/O for Power

### USB4110-GF-A

### MOLEX-PICO-SPOX-3SIDE

### Charging LED

### Input Power Selection

### Battery charging

### Main Power Switch

### Battery Monitoring

### Main system regulation

### Low-Noise VDDAUDA Regulation

Q1 (Wireless) Input	U4
WR222320-20M Ls = 27 uH (datasheet) No measurement for Ls, set at 40 uH 1 / (P * pi * 100 MHz * 2) = 40 uH = 63.3nF For high to approximate estimate, C1 = 3 * 20nF 1 / (1 MHz * 2 * pi * 2 * 27 uH - (1 / (66 nF))) = 0.95 nF	CLAMP1 OUT 4 VQ1 CHG 7 CHG/1.9D COMM1 9 VUSB AD 8 AD EN BOOT1 2 AC1 13 Q1_TS_CTRU1.8C AC2 18 BOOT2 12 ILIM 14 FOD 14 CLAMP2 10 EN1 11 EN2 11 PGND 1*3

2.5V Rail	1.8V Rail
DW_VDD2 88 mA (180) Buzzer 98 mA (158) 198.3 mA (265)	DW_VDD1 10 mA (18) DW_VDD3 78 mA (188) Flash 38 mA (58) 905F 12.3 mA (15) Apollo4 11.3 mA (128)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

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40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

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40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

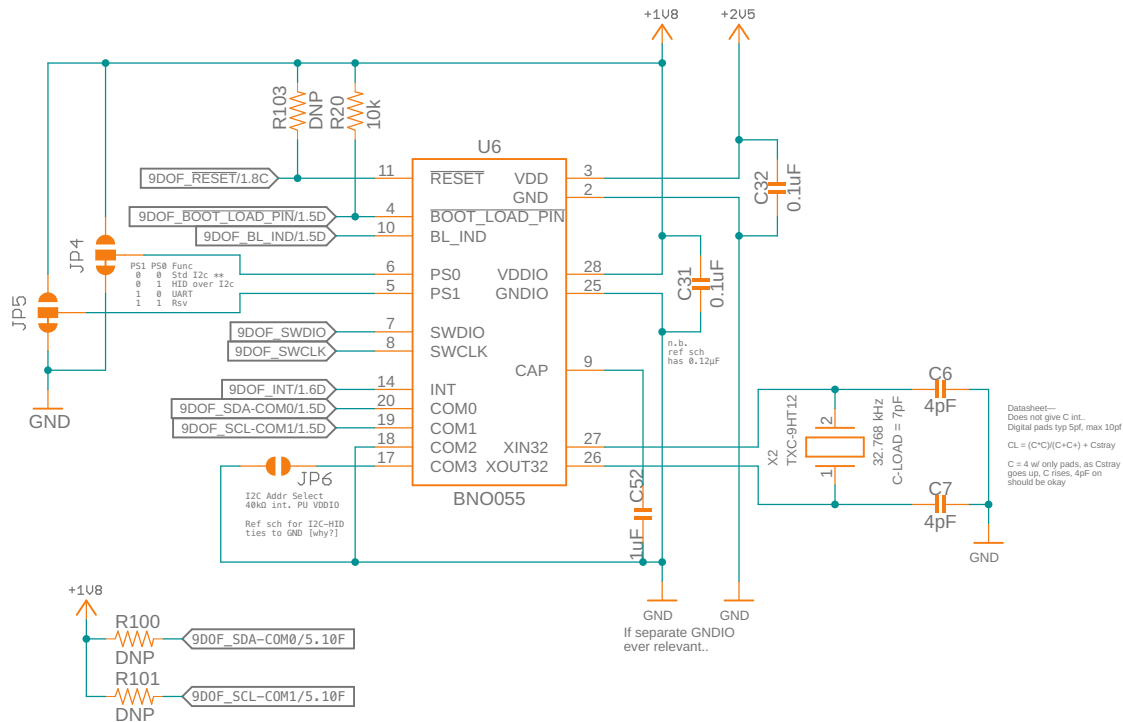
40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1: 5.8 uH ( 11.3) 85 mA (132)	40V1--L1: 5.8 uH ( 11.3) 85 mA (132)

40V1	40V1
40V1--L1: 6.5 uH ( 9.2) 85 mA (138) 40V1--L1:	

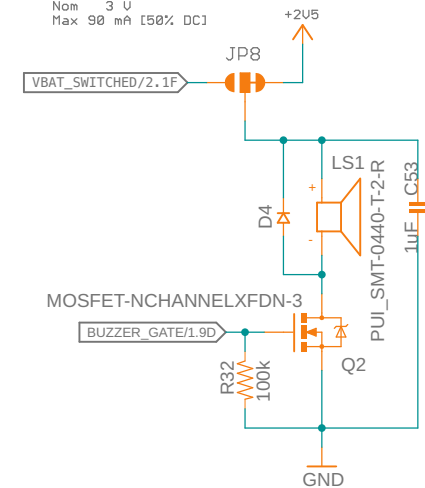
Sup 1.7 - 1.95 V  
Qui 10  $\mu$ A  
Max 35 mA  
+CS PU 0.2mA



Sensors 2.4 - 3.6 V  
I/O 1.7 - 3.6 V  
Qui 40  $\mu$ A  
Max 12.3 mA  
(current max sum rails)



Sup 2 - 4 V  
Nom 3 V  
Max 90 mA [50% DC]



TotTag		REV: I
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Date: 4/10/23 13:25	Sheet: 3/5	

# UWB: DW3210 and Switches

Supply 2.4 - 3.6 V  
ds #'s @ 3.0 V

	min	typ	max
VDD1	1.6	3.0	3.6
VDD2a,b	2.4	3.0	3.6
VDD3	1.5	3.0	3.6

Voltage on GPIO0-5,  
WAKEUP, RSTn, SPICSn,  
SPIMOSI, SPICLK  
-> Max: VDD1+0.3V

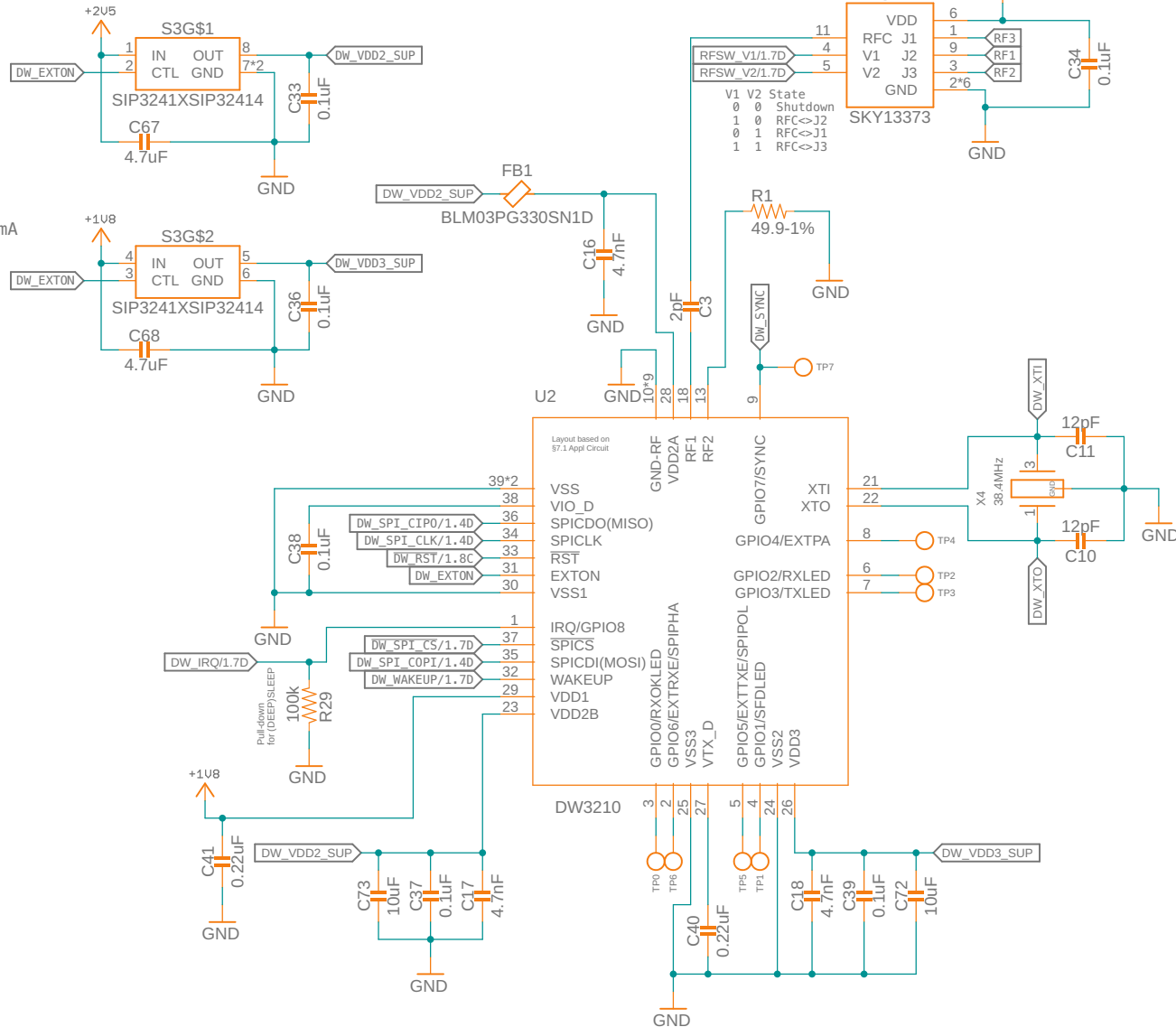
I/O current (max): 10 mA  
VDD1 -> I/O

Peak cont current  
is RX CH9: 88 mA

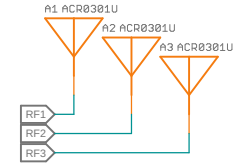
TX worst-case:  
VDD2a/b: 20 mA  
VDD3: 20 mA

RX worst-case:  
VDD2a/b: ~5 mA  
VDD3: ~70 mA

Quiescent: 0.26  $\mu$ A



## Antennas



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I

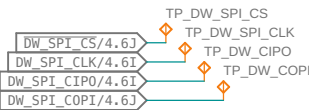
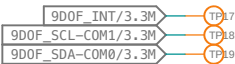
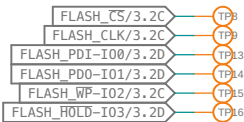
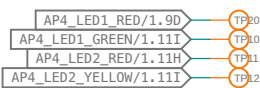
Sheet: 4/5

# Miscellany

Fiducials



## Test Points



TotTag

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I

Author: Pat Pannuto

Date: 4/10/23 13:25

Sheet: 5/5