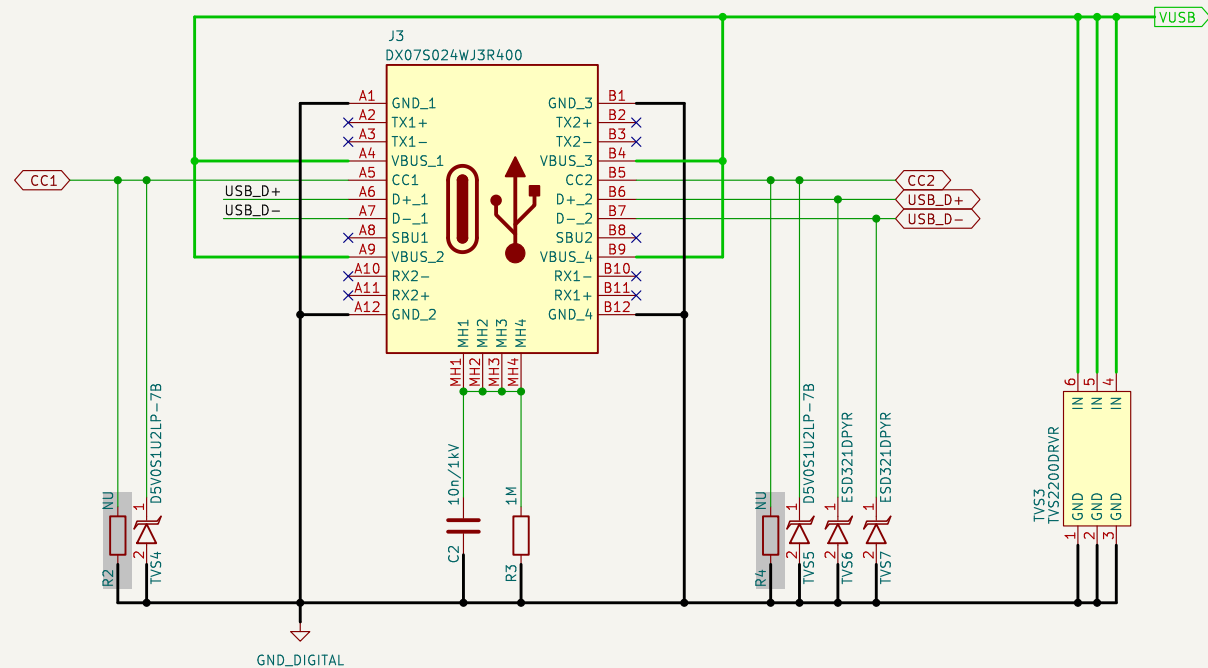
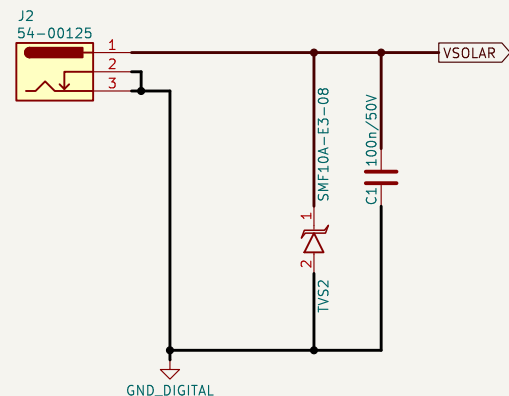


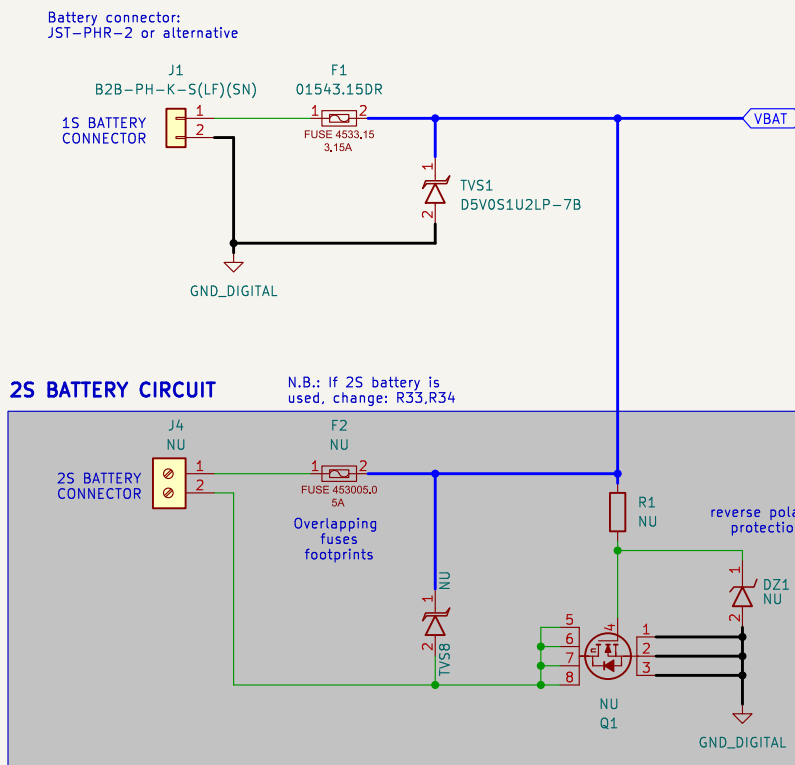
USB TYPE-C



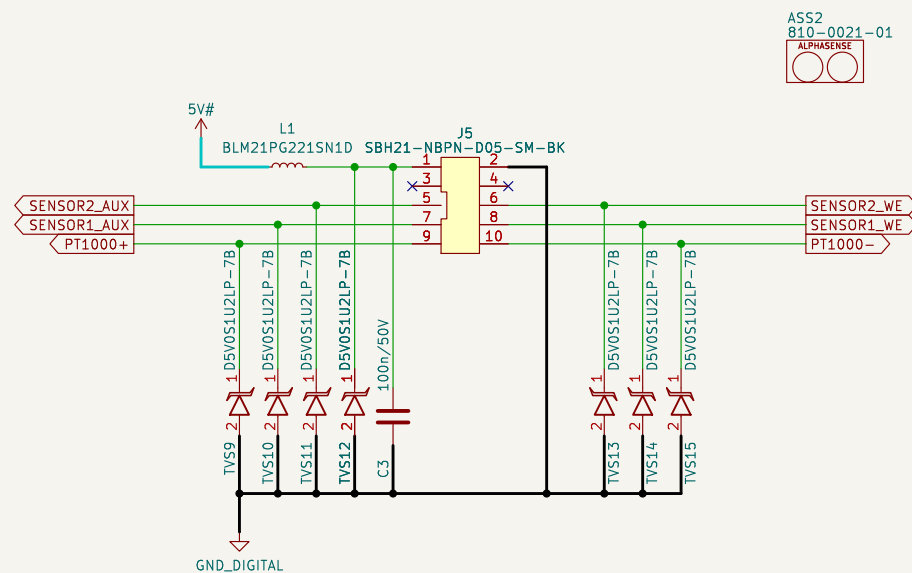
SOLAR PANEL



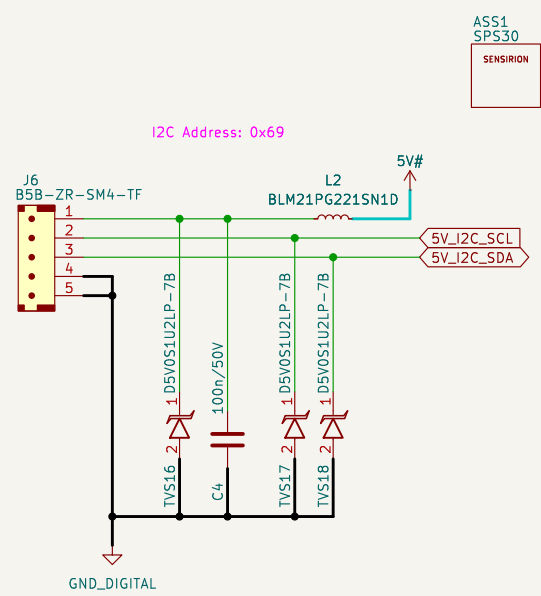
BATTERY



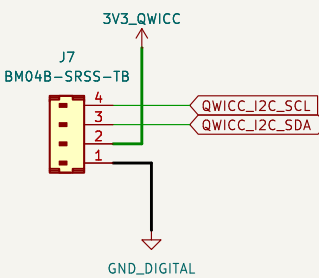
ALPHASENSE AFE NO2 + CO



SPS30 SENSOR



QWICC



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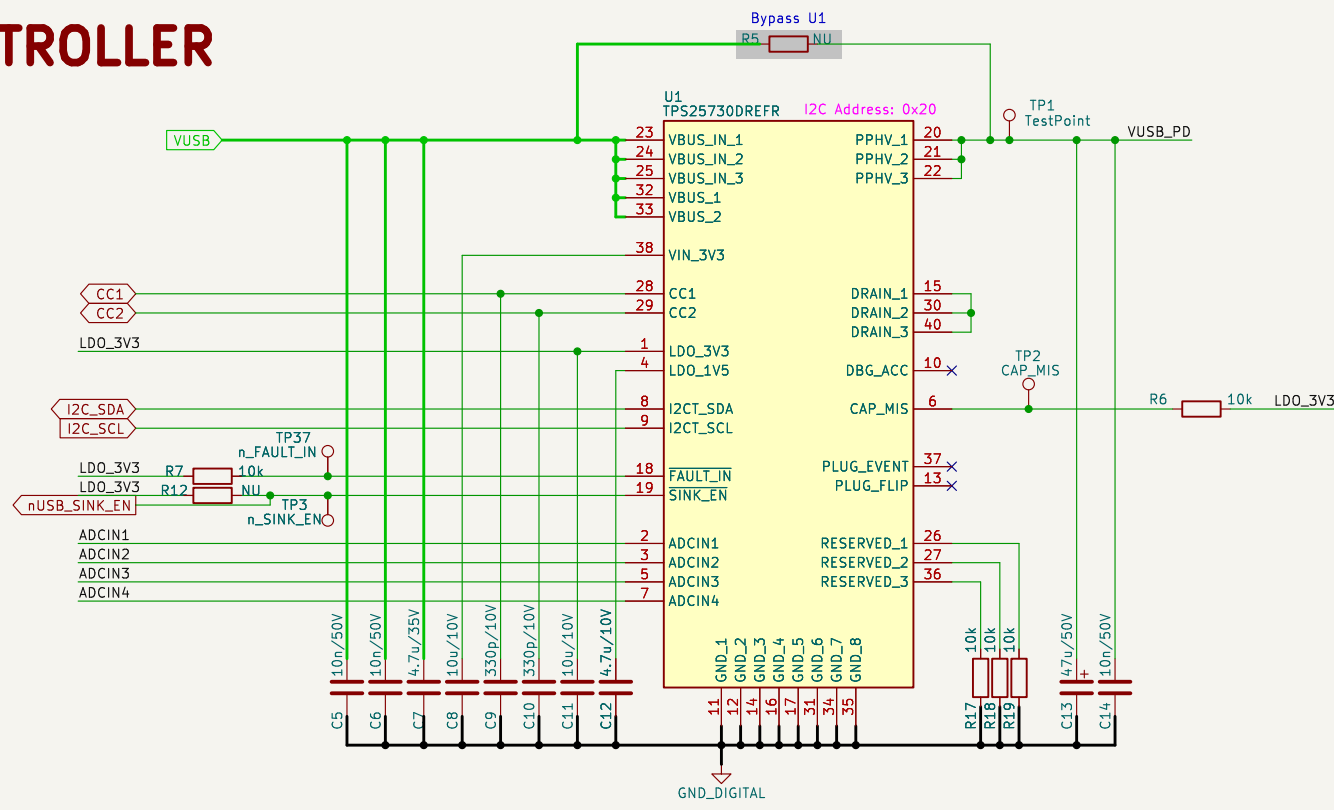
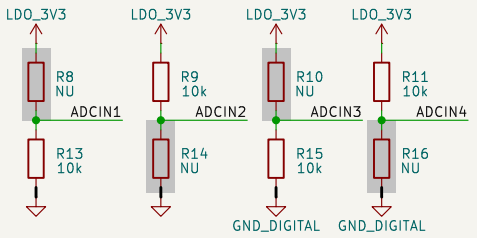
via C.Battisti 136, 24025, Gazzaniga (Bg), Italy
Mail: info@fae.technology Tel: +39 035738130

Project		Flatburn_V4		Page name 02 - CONNECTORS					
Designer		Luca Brighenti							
Internal code				-		Customer		MIT	
Rev. 1		Rev. changes See Root Page		Kicad Version		KiCad E.D.A. 9.0.0		Sheet 3/9	

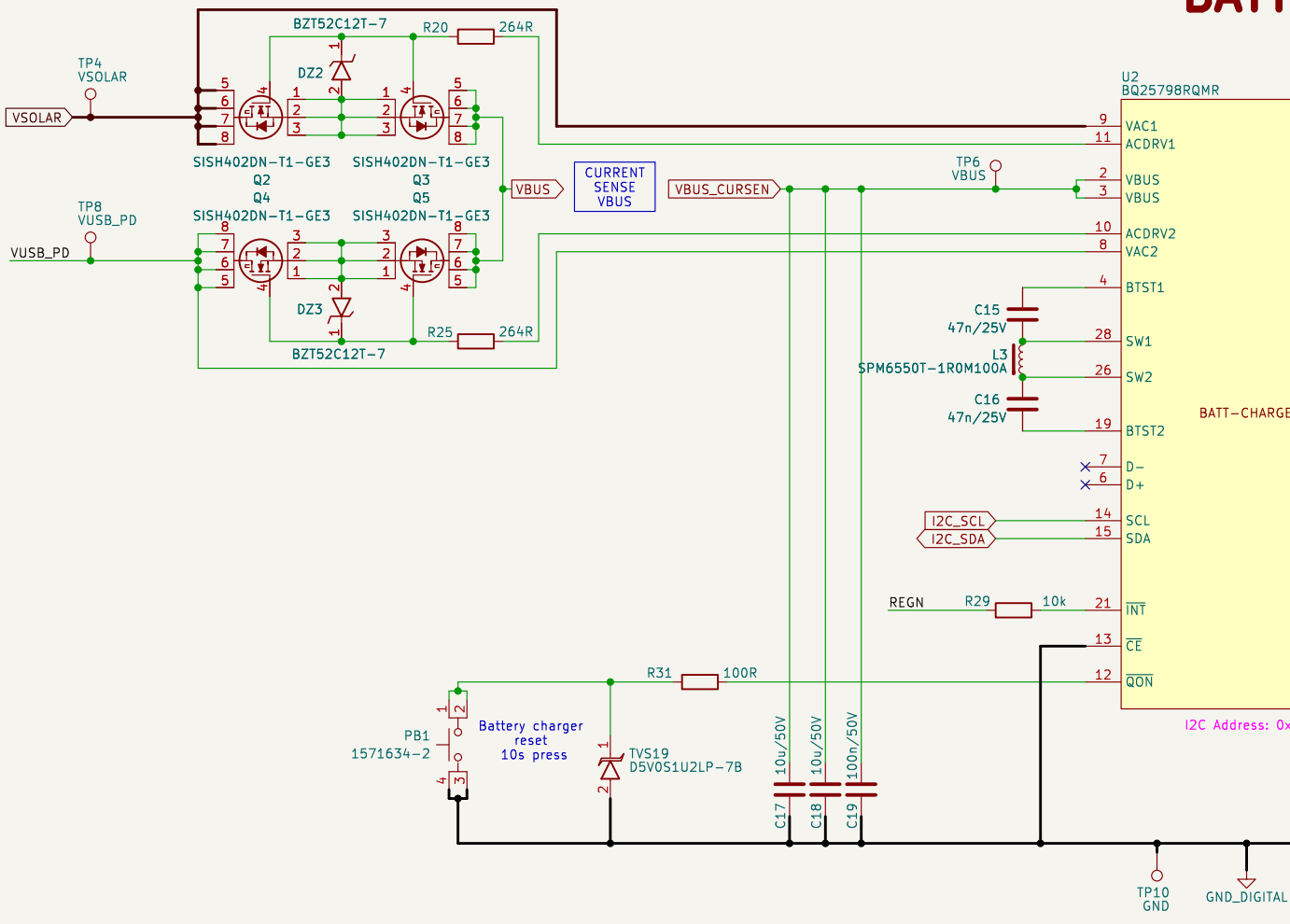
USB PD CONTROLLER

ADCINx pins Configure Default Behavior,read Datasheet for more info

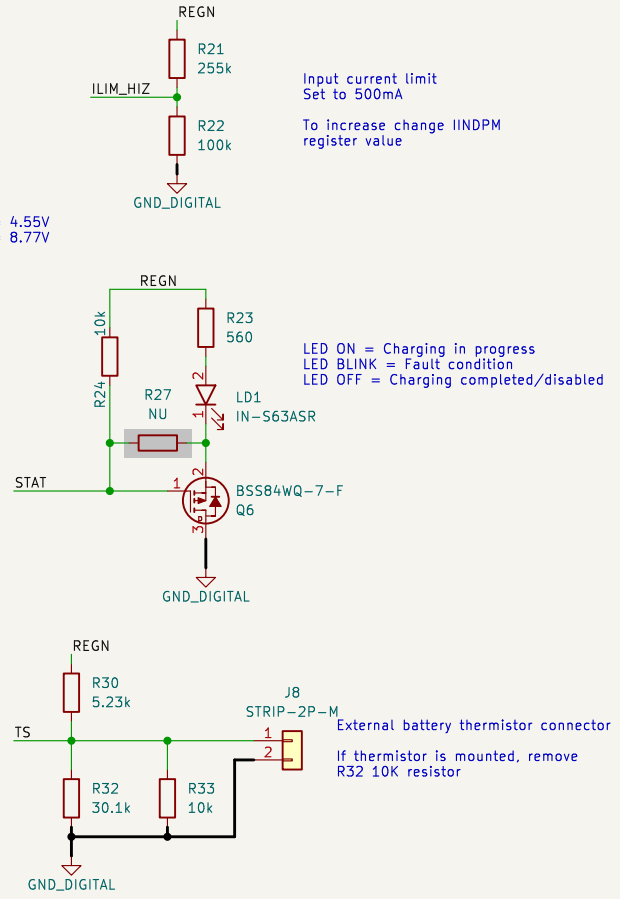
In this version:
5V min 20V max
0,5A min 5A max
I2C Address: 0x20



BATTERY CHARGER

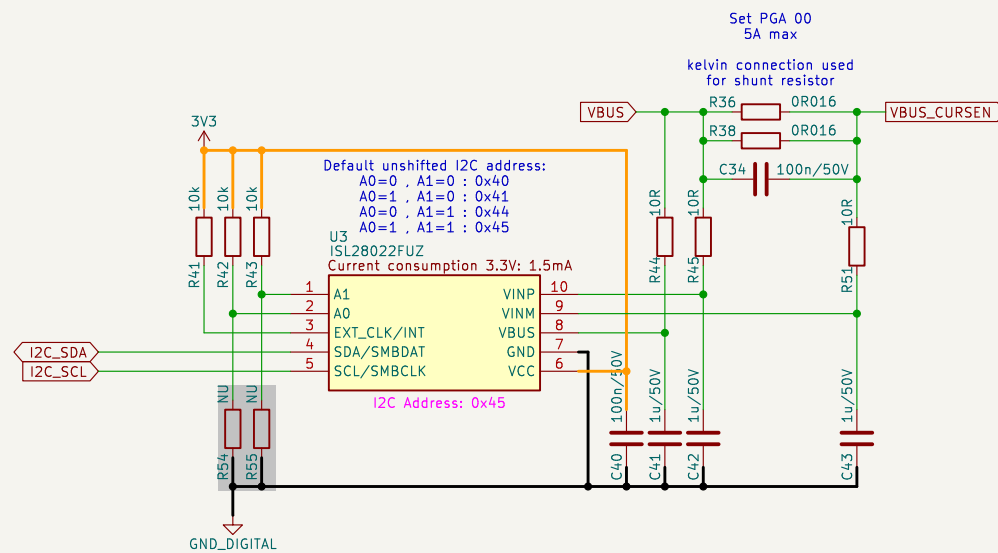


PROG pin sets default Switching Frequency and Battery Cell Count
In this version:
f:1.5MHz Cell:15

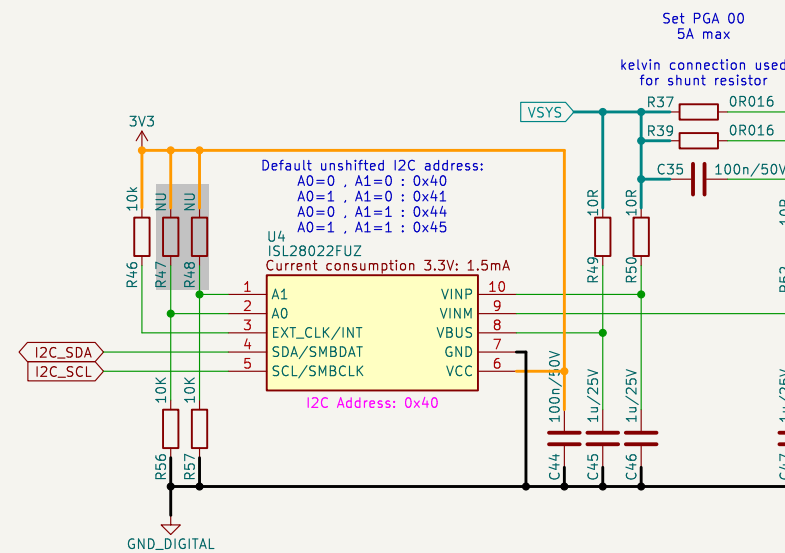


Project	Flatburn_V4	Page name	03 - POWER		
Designer	Luca Brighenti	Customer	MIT		
Internal code	-	Kicad Version	KiCad E.D.A. 9.0.0	Sheet	4/9
Date	07-03-2025	Rev. 1	Rev. changes See Root Page		

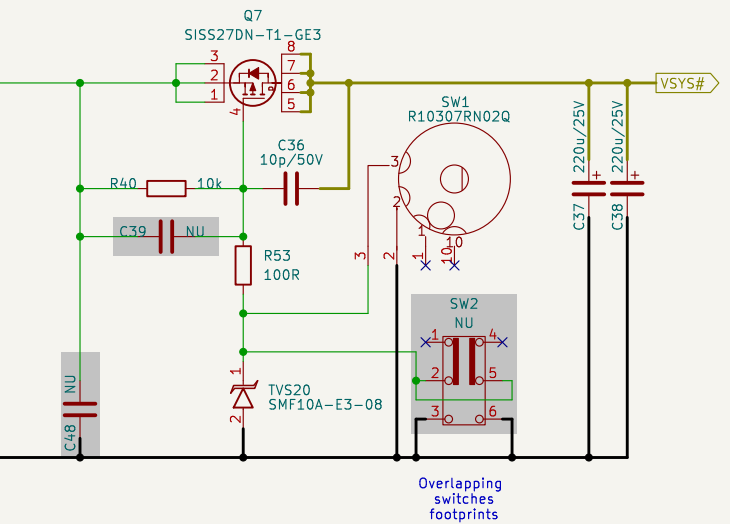
CURRENT SENSE VBUS



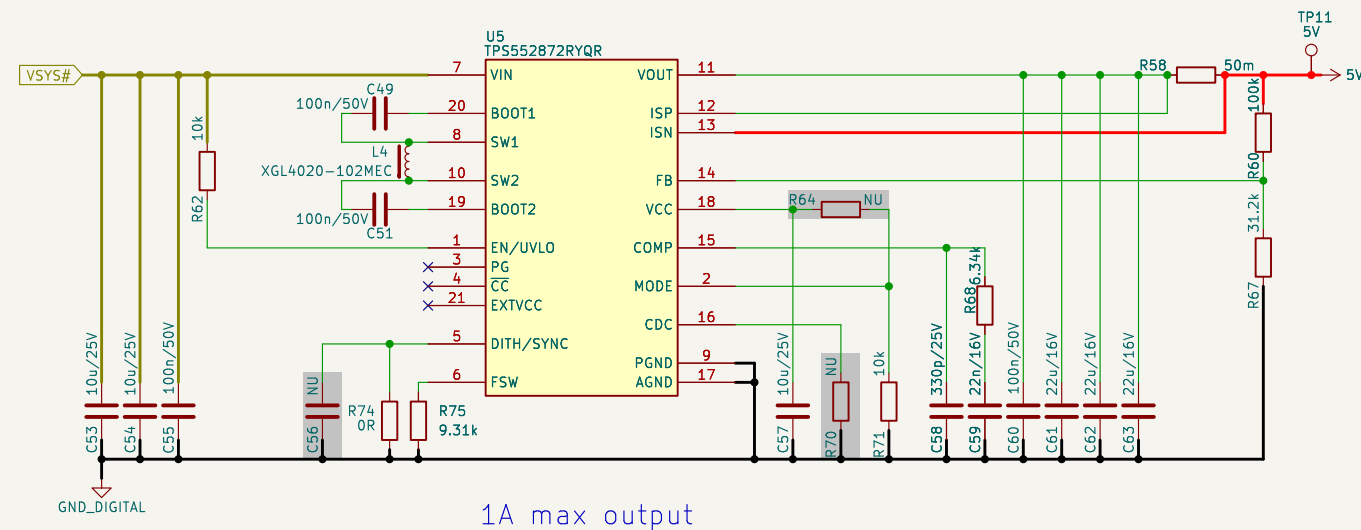
CURRENT SENSE VSYS



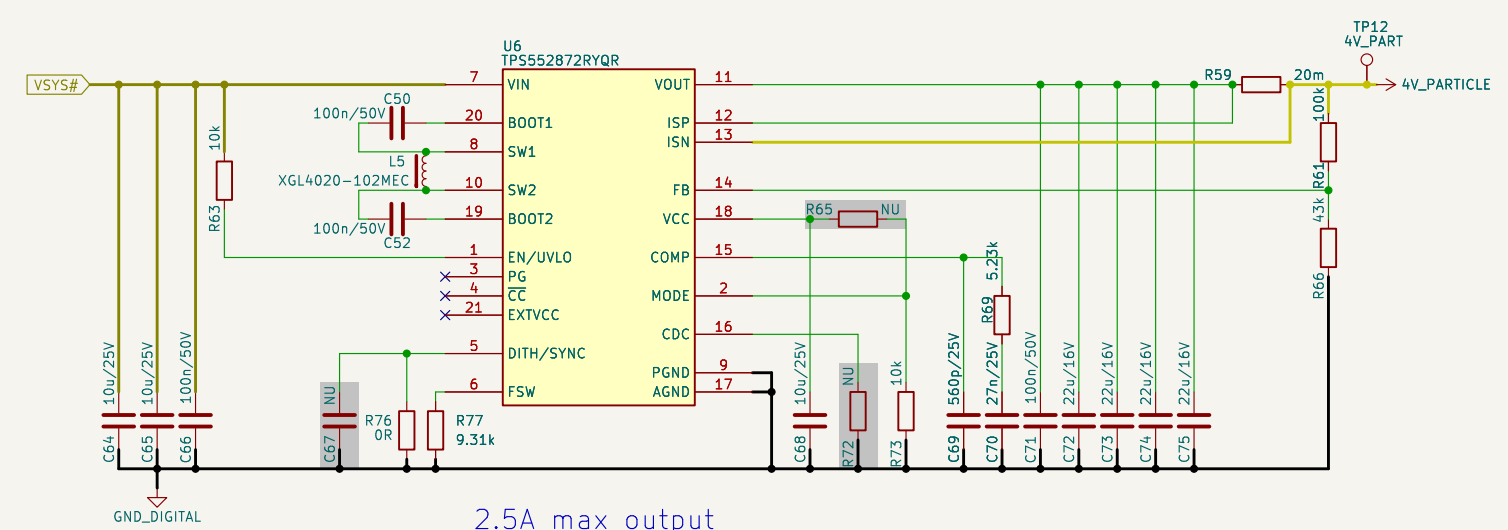
ON-OFF SWITCH



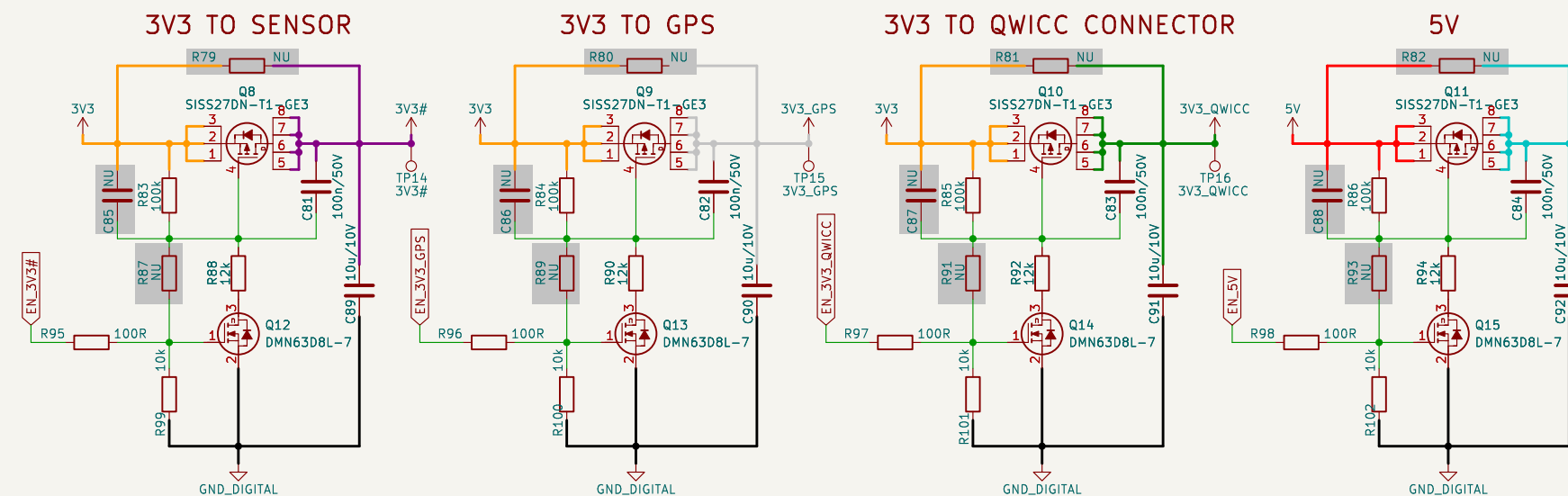
BUCK-BOOST 5V



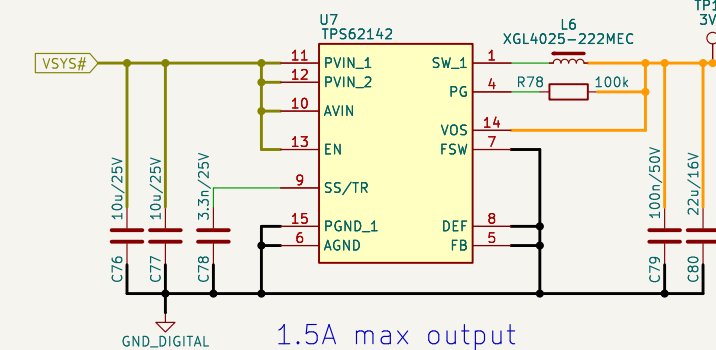
BUCK-BOOST 4V (PARTICLE MODULE)



POWER ENABLE



BUCK 3.3V

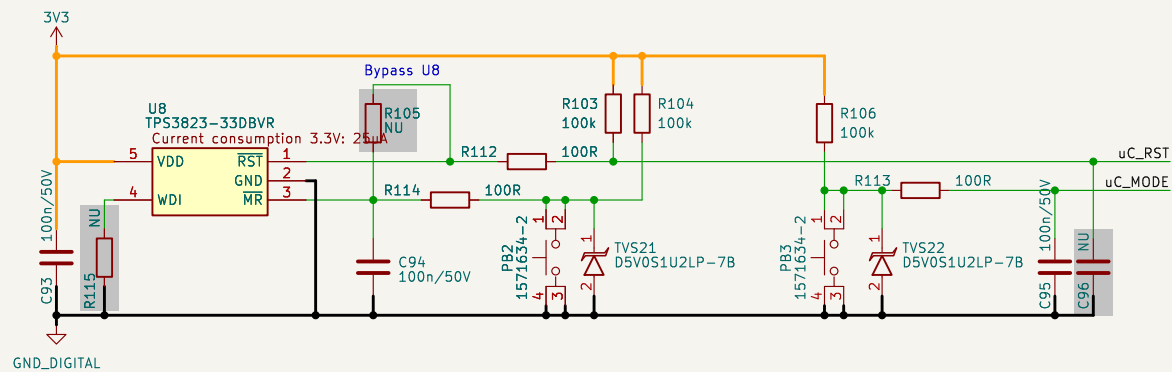


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TECHNOLOGY

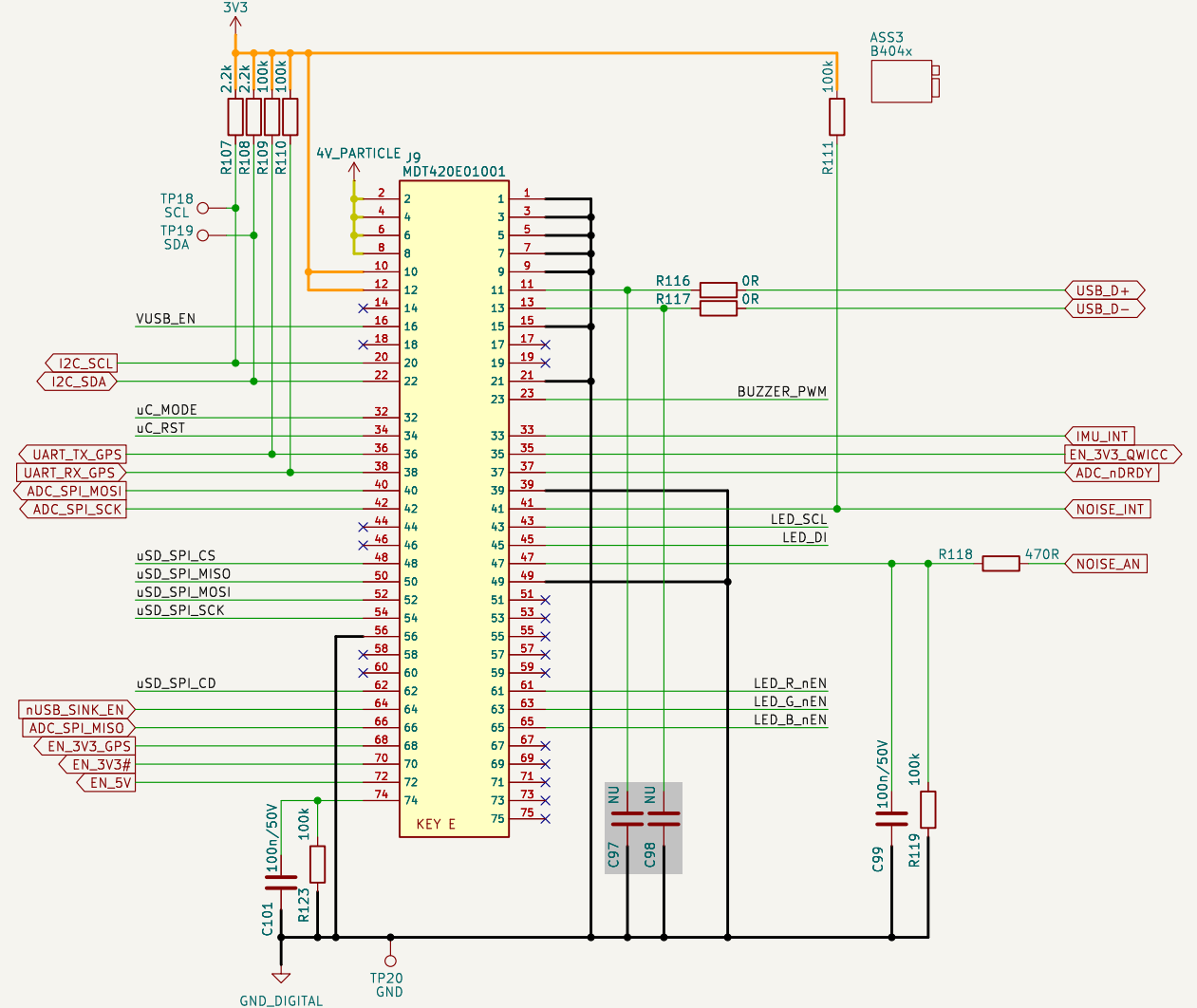
via C.Battisti 136, 24025, Gazzaniga (Bg), Italy
Mail: info@fae.technology Tel: +39 035738130

Project	Flatburn_V4	Page name	04 - POWER 2		
Designer	Luca Brighenti	Customer	MIT		
Internal code	-	Kicad Version	KiCad E.D.A. 9.0.0		
Date	07-03-2025	Rev. 1	Rev. changes	See Root Page	Sheet 5/9

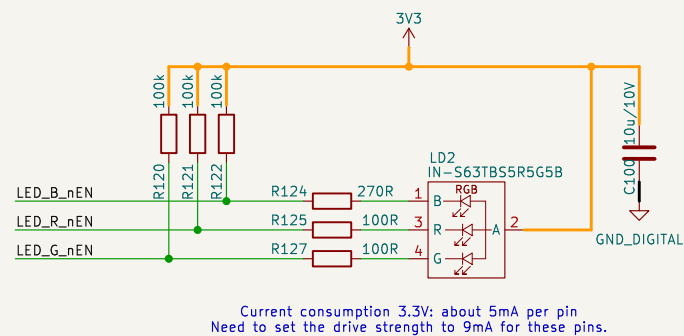
RESET-MODE BUTTONS



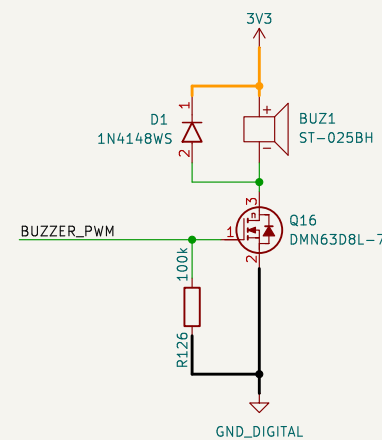
PARTICLE MODULE BX404X/B523



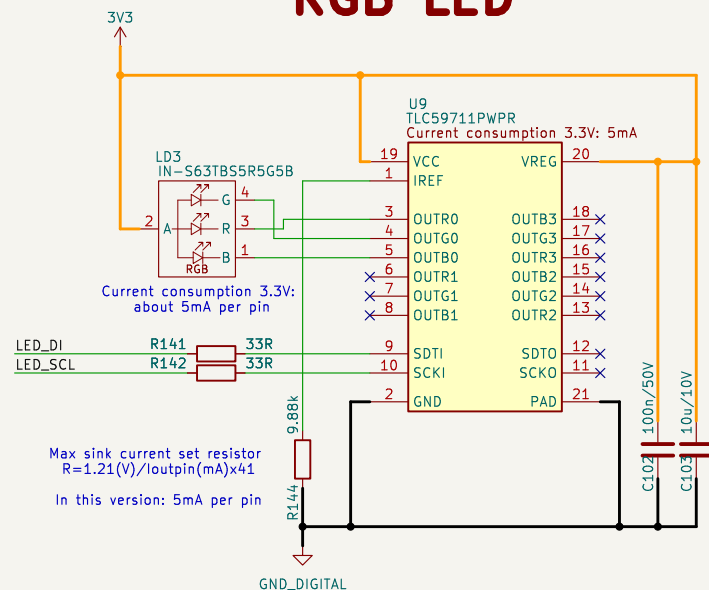
PARTICLE MODULE STATUS RGB LED



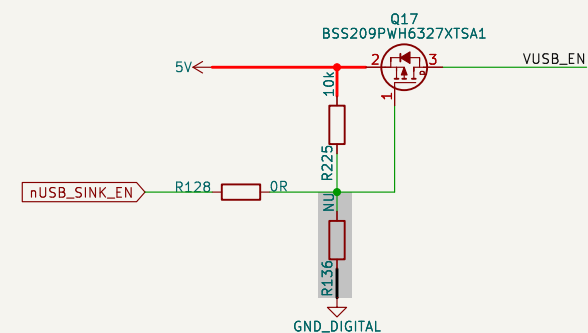
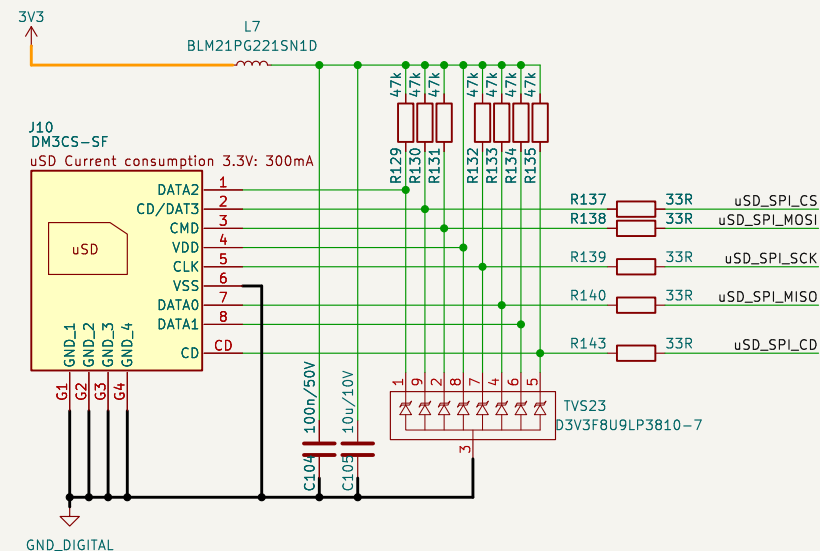
BUZZER



RGB LED



uSD-CARD



FAE
TECHNOLOGY

via C.Battisti 136, 24025, Gazzaniga (Bg), Italy
Mail: info@fae.technology Tel: +39 035738130

Date
07-03-2025

Project **Flatburn_V4**
Designer **Luca Brighenti**

Internal code -

Rev.
1

Rev. changes
See Root Page

Page name

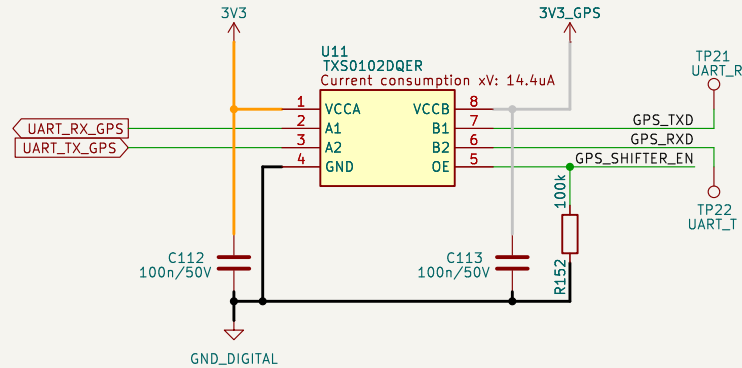
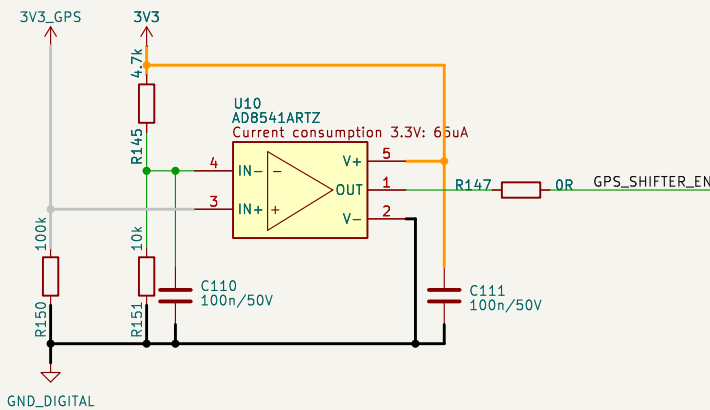
05 - MCU

Customer **MIT**

Kicad Version **KiCad E.D.A. 9.0.0**

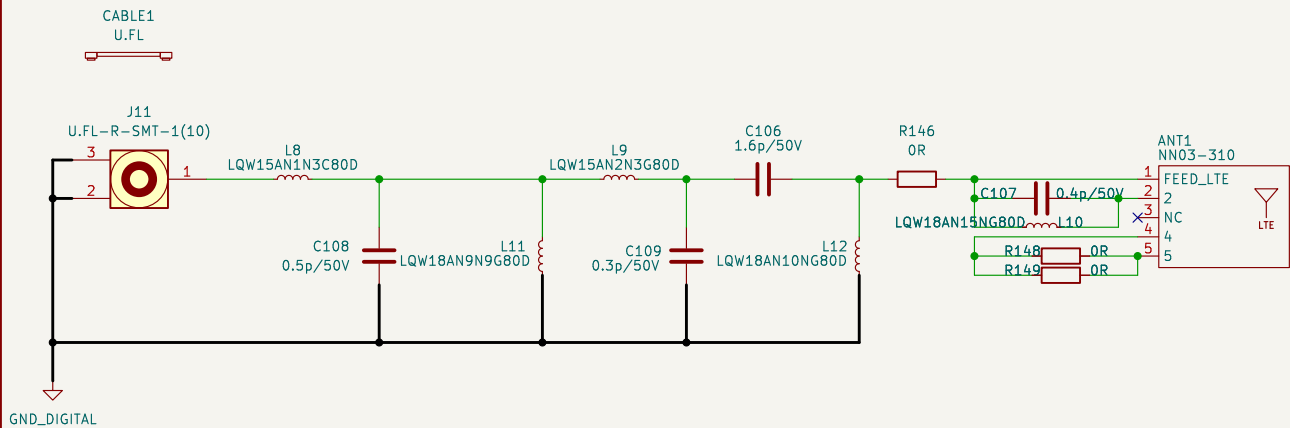
Sheet
6/9

GPS SIGNAL SWITCH (LEVEL SHIFTER)



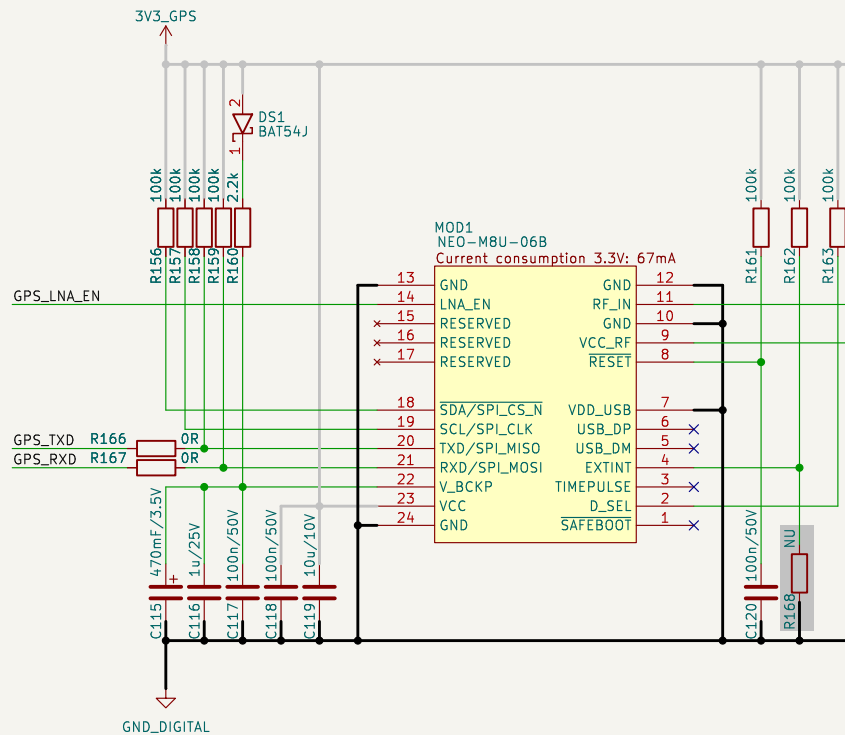
LTE ANTENNA

Supported Bands: 698-960MHz, 1710-2690Mhz



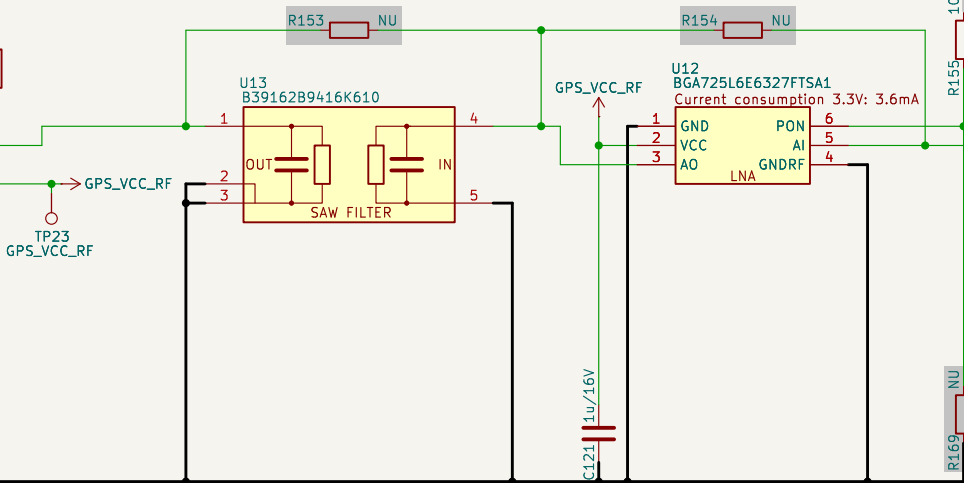
GPS MODULE

50Ω impedance trace



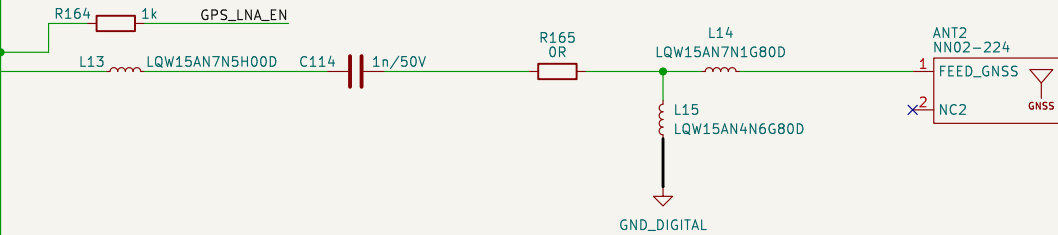
GPS SAW+LNA

50Ω impedance trace



GPS ANTENNA

50Ω impedance trace
Supported Bands: 1559-1610MHz



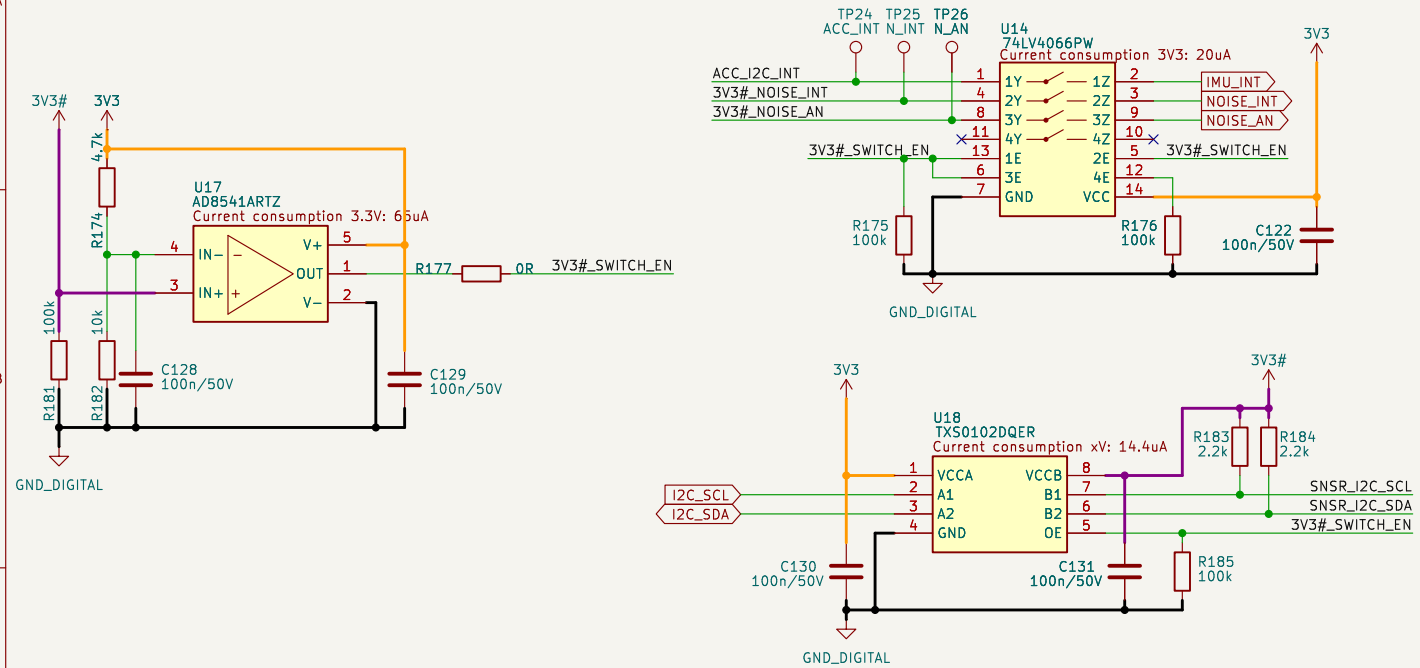
via C.Battisti 136, 24025, Gazzaniga (Bg), Italy
Mail: info@fae.technology Tel: +39 035738130

Date
07-03-2025

Project	Flatburn_V4
Designer	Luca Brighenti
Internal code	-
Rev.	1
Rev. changes	See Root Page

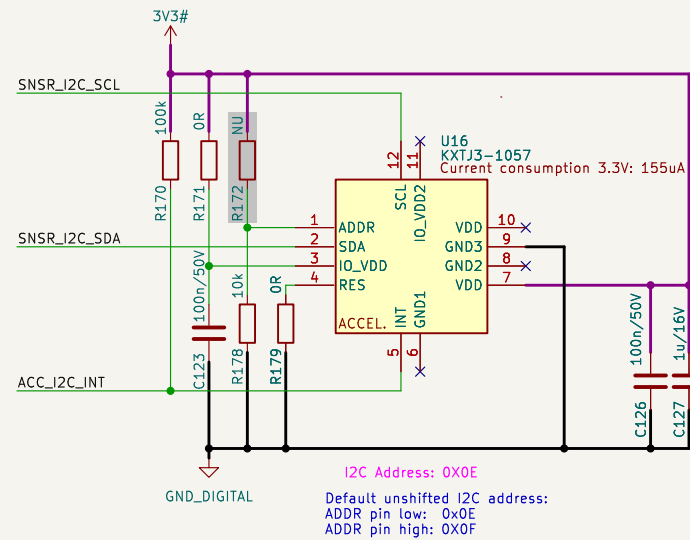
Page name	06 - GPS-LTE
Customer	MIT
Kicad Version	KiCad E.D.A. 9.0.0
Sheet	7/9

3V3 SENSORS SIGNAL SWITCH

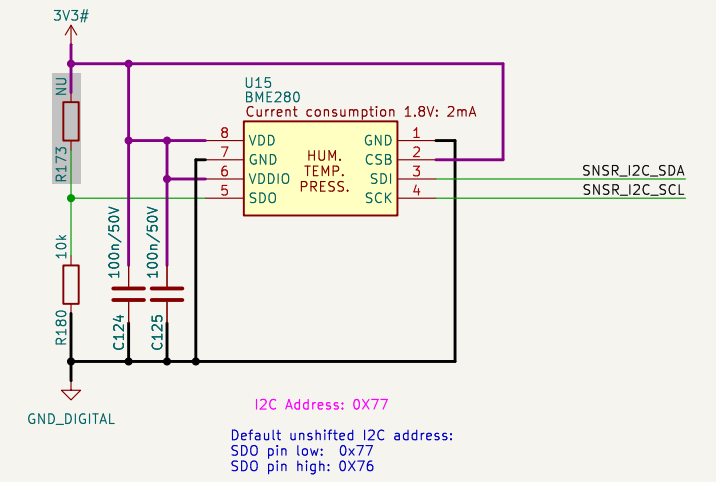


ACCELEROMETER

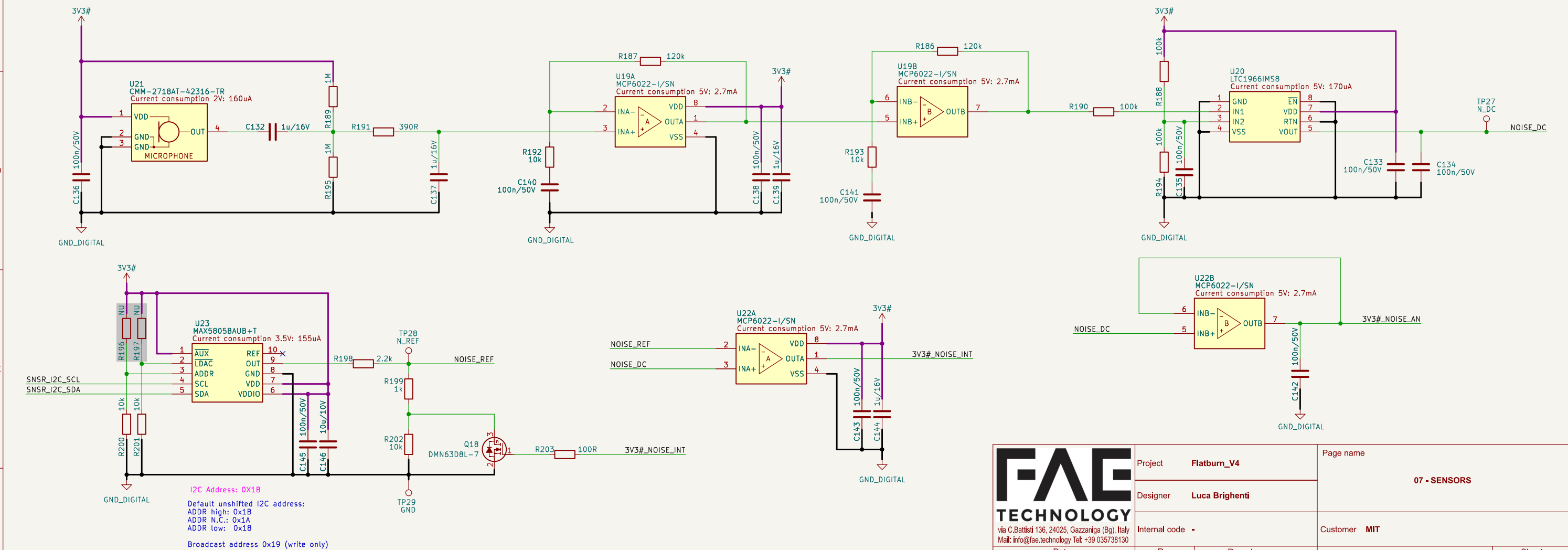
Alternative P/N: MXC6655XA
Default unshifted I2C address: 0X15

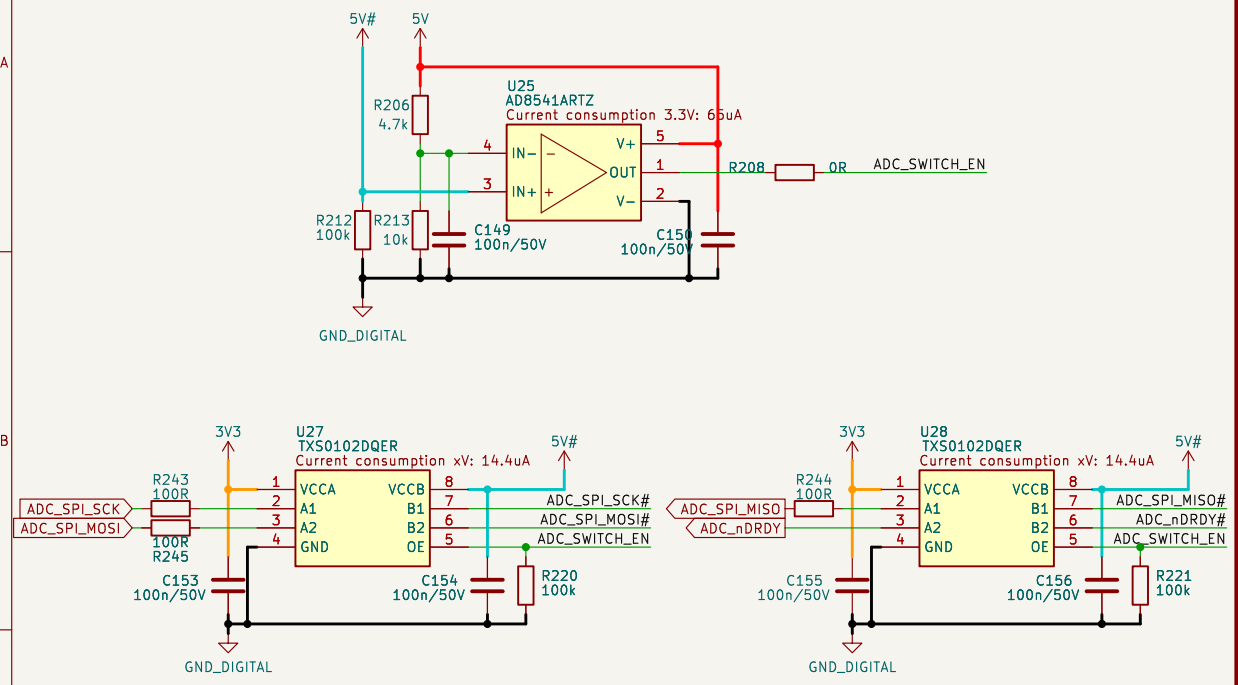


AMBIENT SENSOR



NOISE DETECTION

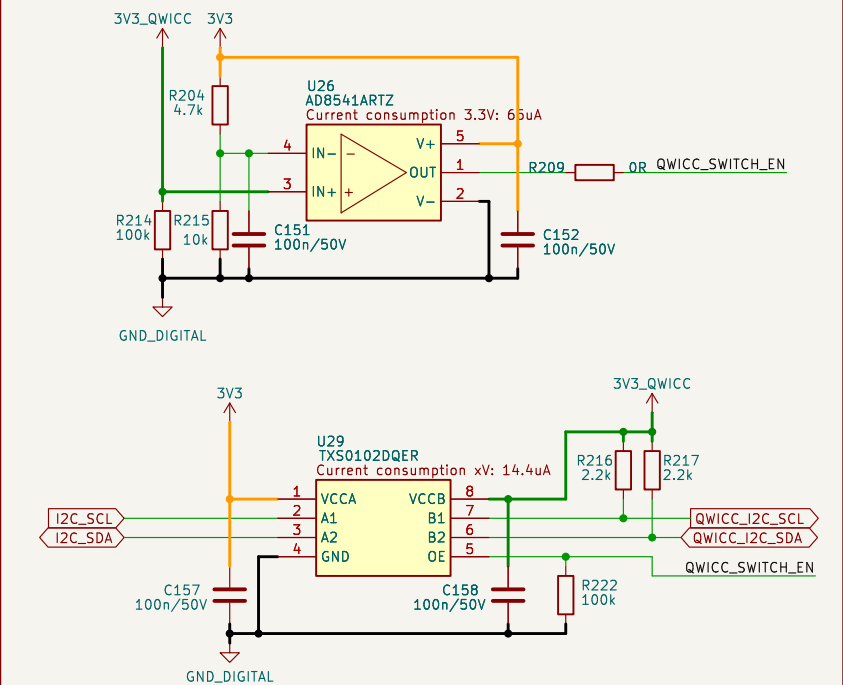


[illegible]

QWICC SIGNAL SWITCH

The top diagram illustrates a QWICC signal switch circuit. It features a 3V3_QWICC and 3V3 power supply. A 4.7k resistor (R204) is connected to the 3V3_QWICC. The circuit includes an AD8541ARTZ comparator (U26) with a current consumption of 3.3V: 65uA. The comparator's non-inverting input (IN+) is connected to the 3V3 supply, and its inverting input (IN-) is connected to the 3V3_QWICC signal. The output (OUT) is connected to the QWICC_SWITCH_EN signal. The circuit also includes a 100k resistor (R214), a 10k resistor (R215), a 100nF/50V capacitor (C151), and a 100nF/50V capacitor (C152). The ground connection is labeled GND_DIGITAL.

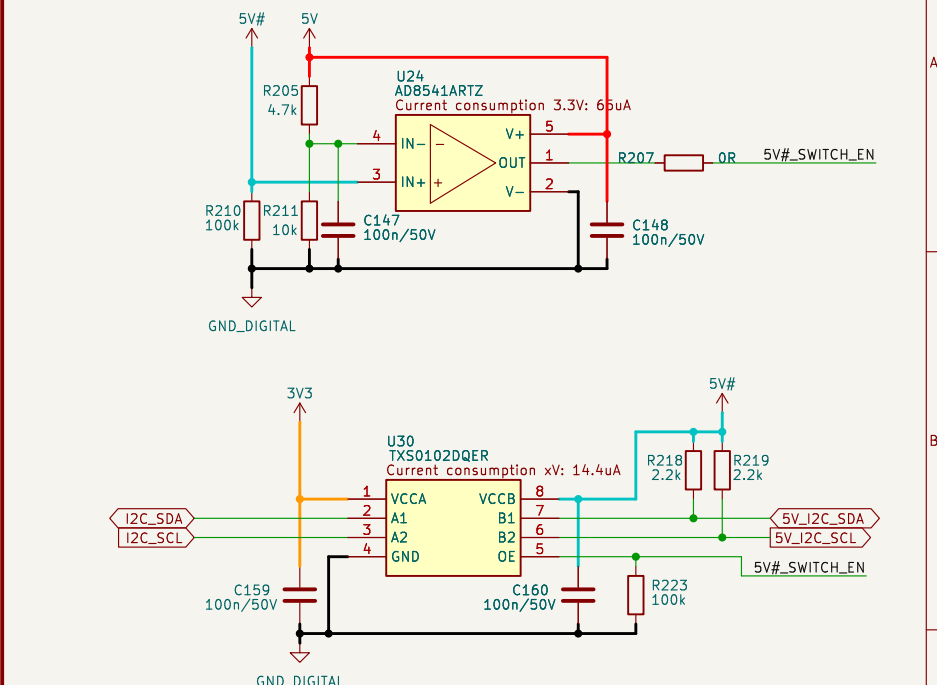
The bottom diagram illustrates another QWICC signal switch circuit. It features a 3V3 and 3V3_QWICC power supply. The circuit includes a TXS0102DQWR buffer (U29) with a current consumption of xV: 14.4uA. The buffer's VCCA pin is connected to the 3V3 supply, and its VCCB pin is connected to the 3V3_QWICC signal. The output (OE) is connected to the QWICC_SWITCH_EN signal. The circuit also includes a 100nF/50V capacitor (C157), a 100nF/50V capacitor (C158), a 2.2k resistor (R216), and a 100k resistor (R222). The ground connection is labeled GND_DIGITAL.



SPS30 SIGNAL SWITCH

The top diagram shows the AD8541ARTZ op-amp circuit. It is powered by a 5V supply (5V#) and a 5V supply. The op-amp is configured as a voltage follower. The input is connected to a 5V supply through a 4.7k resistor (R205). The output is connected to a 5V supply through a 100k resistor (R210). The op-amp is also connected to a 5V supply through a 100nF/50V capacitor (C147). The output is connected to a 5V supply through a 100nF/50V capacitor (C148). The output is also connected to a 5V supply through a 100k resistor (R207). The output is labeled 5V#_SWITCH_EN.

The bottom diagram shows the TXS0102DQER level shifter circuit. It is powered by a 3V3 supply and a 5V supply (5V#). The level shifter is configured as a bidirectional buffer. The input is connected to a 3V3 supply through a 100nF/50V capacitor (C159). The output is connected to a 5V supply through a 100nF/50V capacitor (C160). The level shifter is also connected to a 5V supply through a 100k resistor (R223). The output is connected to a 5V supply through a 2.2k resistor (R218). The output is also connected to a 5V supply through a 2.2k resistor (R219). The output is labeled 5V#_SWITCH_EN.

[illegible]