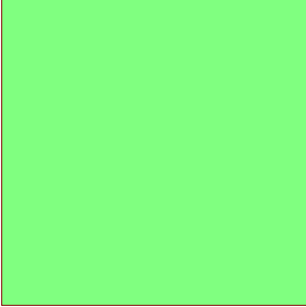
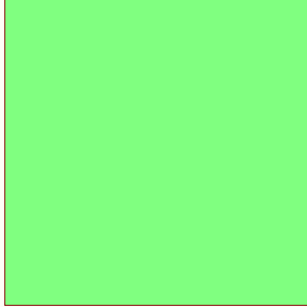


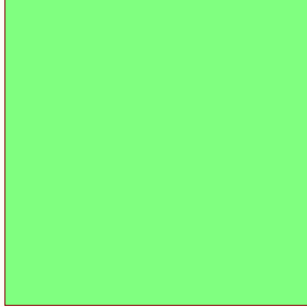
Designator  
COVER PAGE.SchDoc



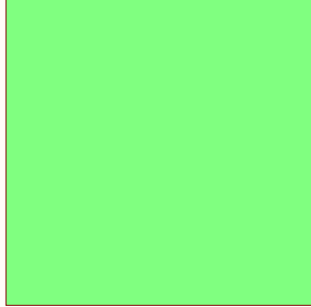
Designator  
BLOCK DIAGRAM.SchDoc



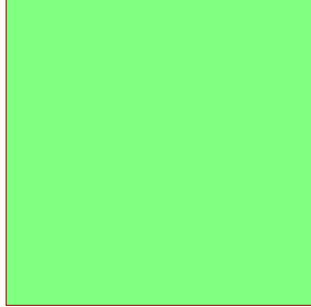
Designator  
DOC REVISION HISTORY.SchDoc



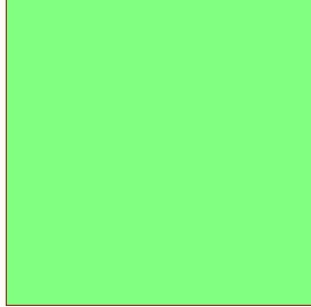
Designator  
ESP32\_S3.SchDoc



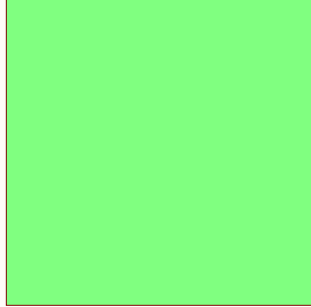
Designator  
SENSORS.SchDoc



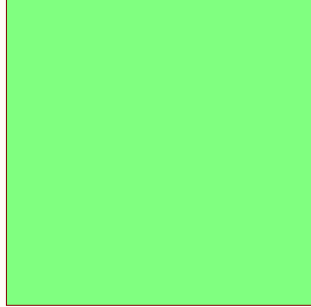
Designator  
POWER.SchDoc



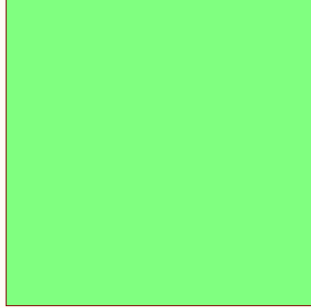
Designator  
LoRa.SchDoc



Designator  
LCD.SchDoc



Designator  
GPS.SchDoc



# TEMPLATE NOTES

## Set Project Parameters

- 1) Go to Project -> Project Options -> Parameters
- 2) Set Company, Project and VersionRevision

Mark Not Fitted Components as  
**NF**

## Net Class Example



## Differential signal example



TITLE Examples (You can change the color to reflect your company color)

# PAGE TITLE

*Peripheral / Group of component title*

*Smaller Ttitle*


## Schematic Status Explanation

**DRAFT** - Very early stage of schematic, ignore details.

**PRELIMINARY** - Close to final schematic.

**CHECKED** - There should not be any mistakes. Tell the engineer if you find one.

**RELEASED** - A board with this schematic has been sent to production.

Company: <i>MatchX</i>			CONFIDENTIAL. Do not distribute.	
Title: <i>X2E Reference Sensor</i> Variant: Default			<i>MatchX</i> * * * *	
Size: A3	Number: 1	Revision: V1.0		
Date: 08/05/2023	Time: 13:56:29	Sheet 1 of 10		
File: TOP SHEET.SchDoc				
			Engineer: PSB	

**08/05/2023**  
**V1.0**

# DRAFT


Page	Index	Page	Index	Page	Index	Page	Index
1	TOP PAGE	11		21		31	
2	COVER PAGE	12		22		32	
3	BLOCK DIAGRAM	13		23		33	
4		14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

DESIGN NOTE:  
Example text for informational  
design notes .

**DESIGN NOTE:**  
Example text for cautionary  
design notes.

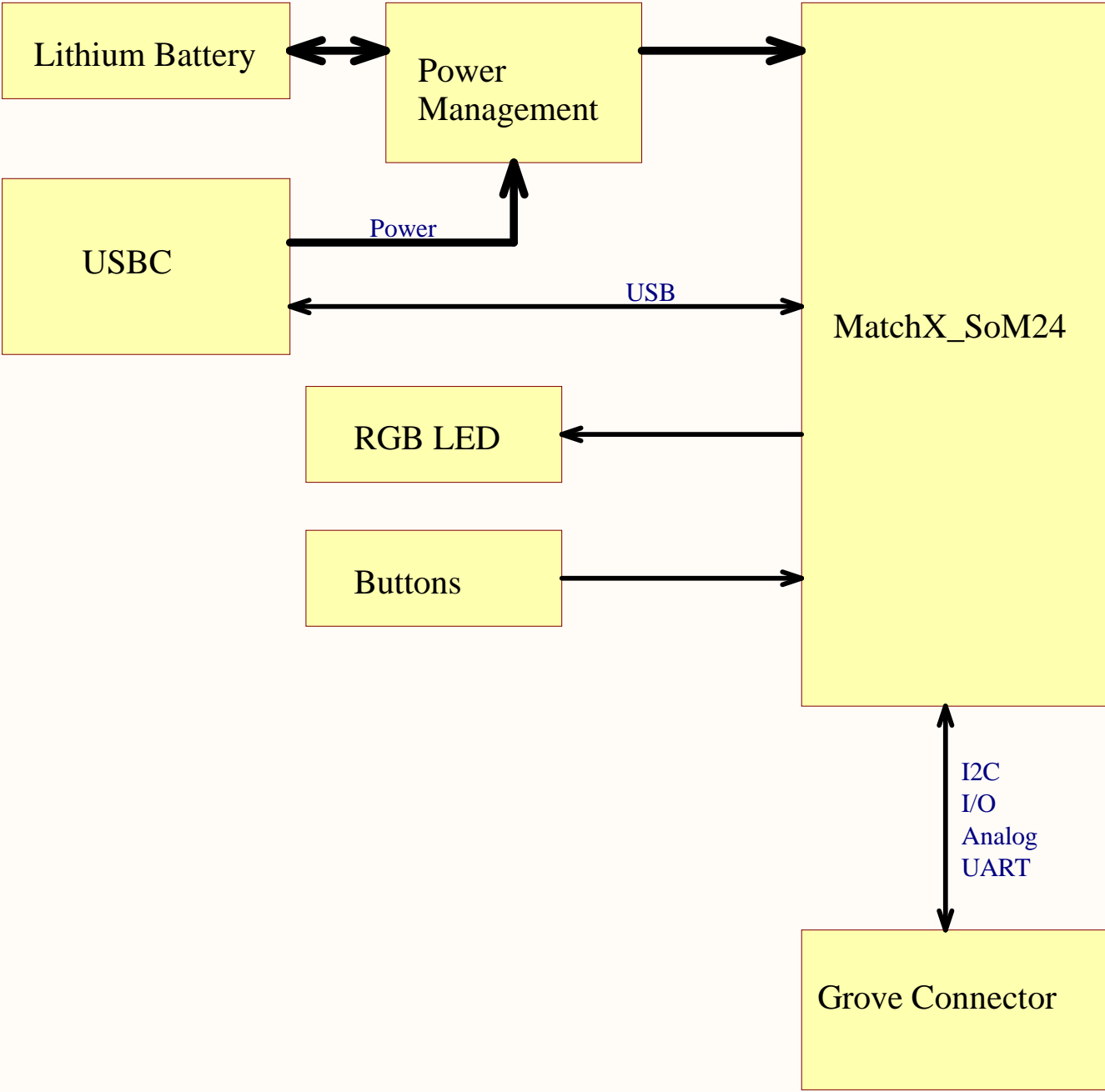
**DESIGN NOTE:**  
Example text for critical  
design notes.

**LAYOUT NOTE:**  
Example text for critical  
layout guidelines.

Company: <i>MatchX GmbH</i>			CONFIDENTAL. Do not distribute.	
Title: <i>X2E Reference Sensor</i> Variant: Default			<i>MatchX GmbH</i>	
Size: A3	Number: 1	Revision: 1.0		
Date: 08/05/2023	Time: 13:56:29	Sheet 2 of 10		
File: COVER PAGE.SchDoc				
			Engineer: PSB	

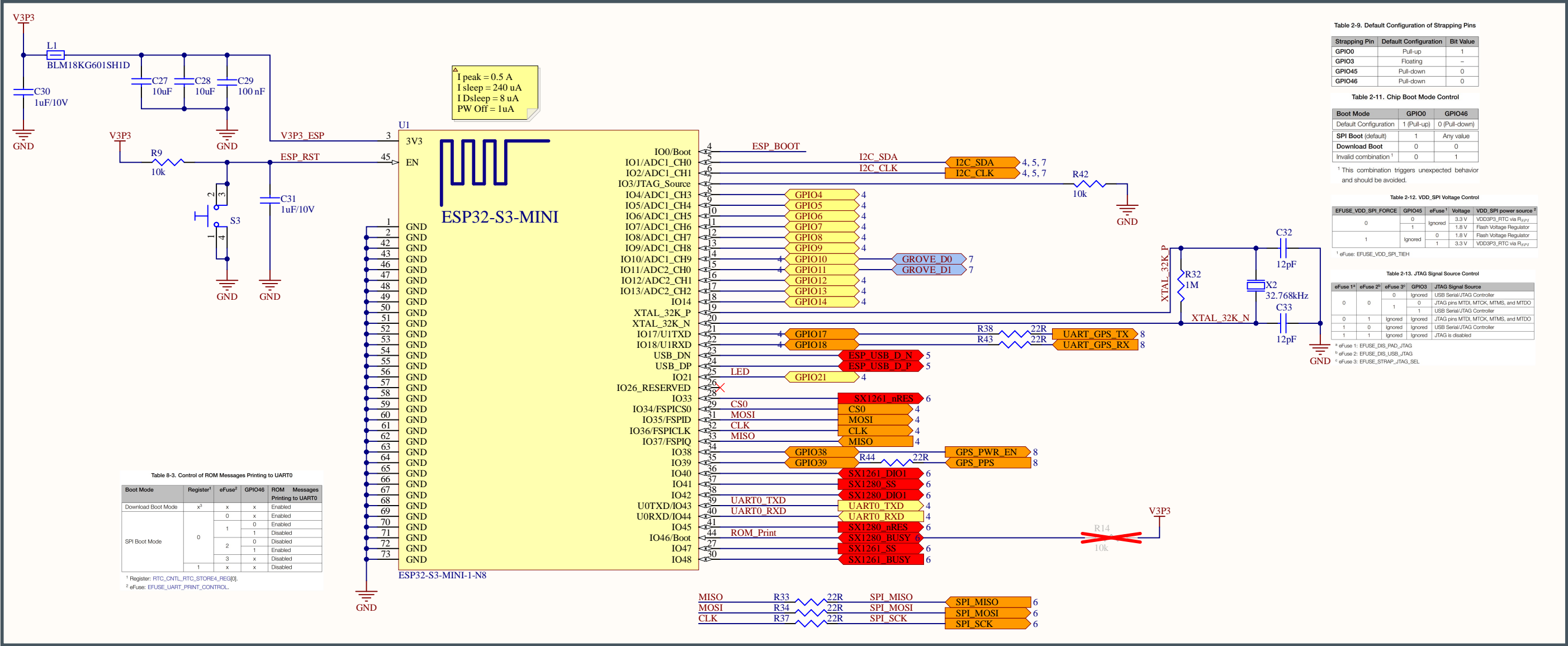
# X2E Reference Sensor

## (Block Diagram)

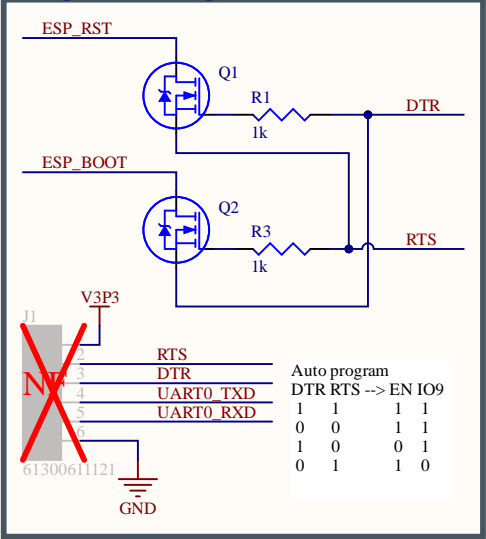


# ESP32\_S3.SchDoc

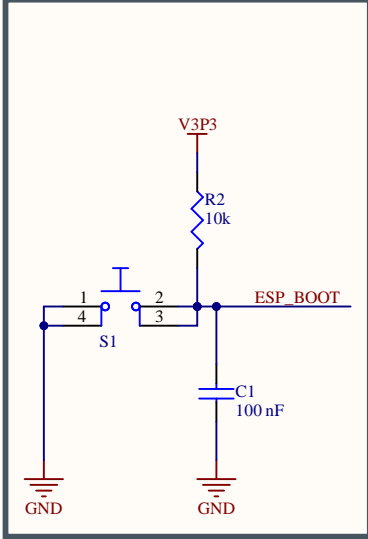
## ESP32-S2 Module



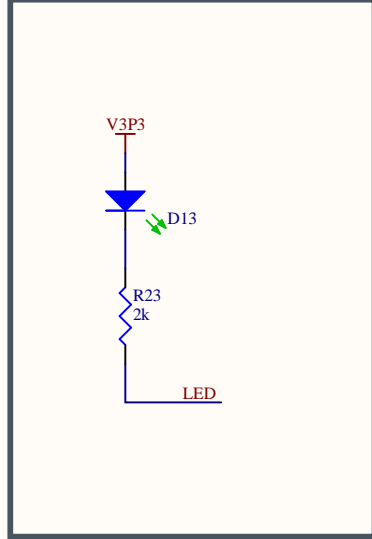
## Programming interface



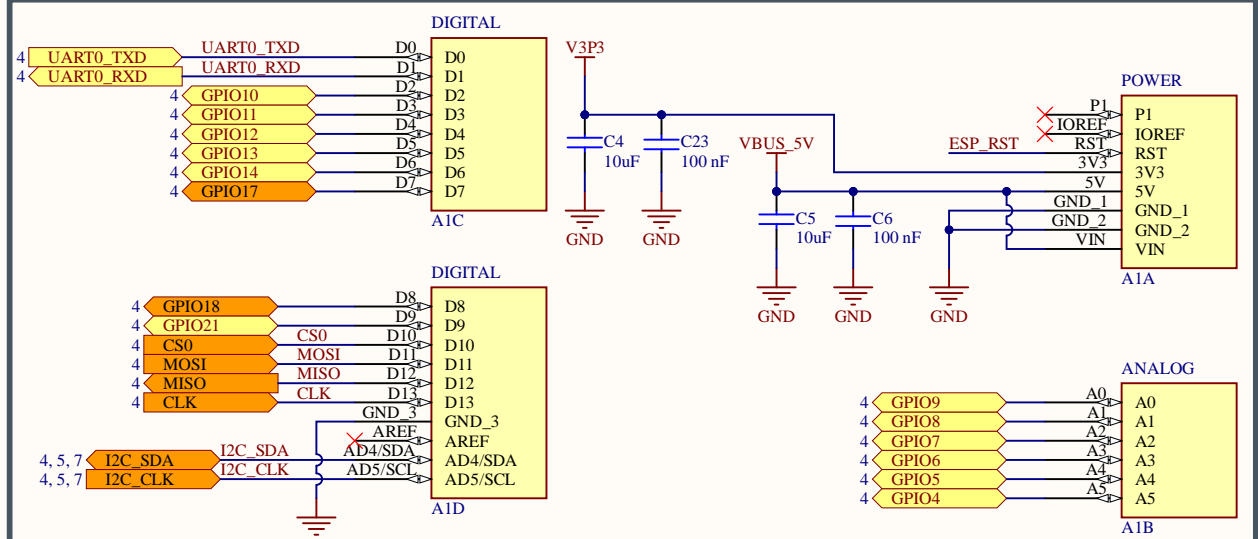
## Boot



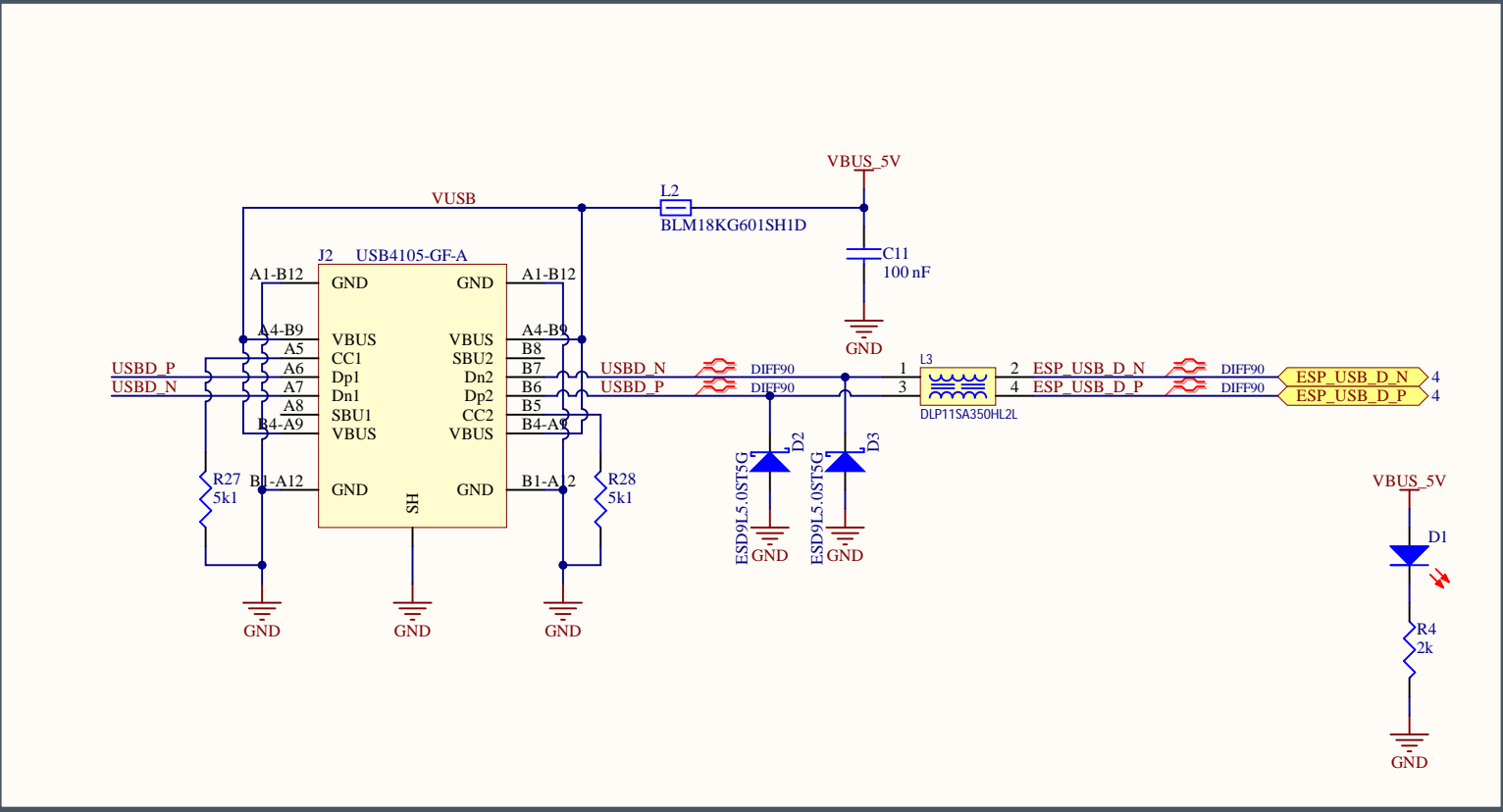
## LED



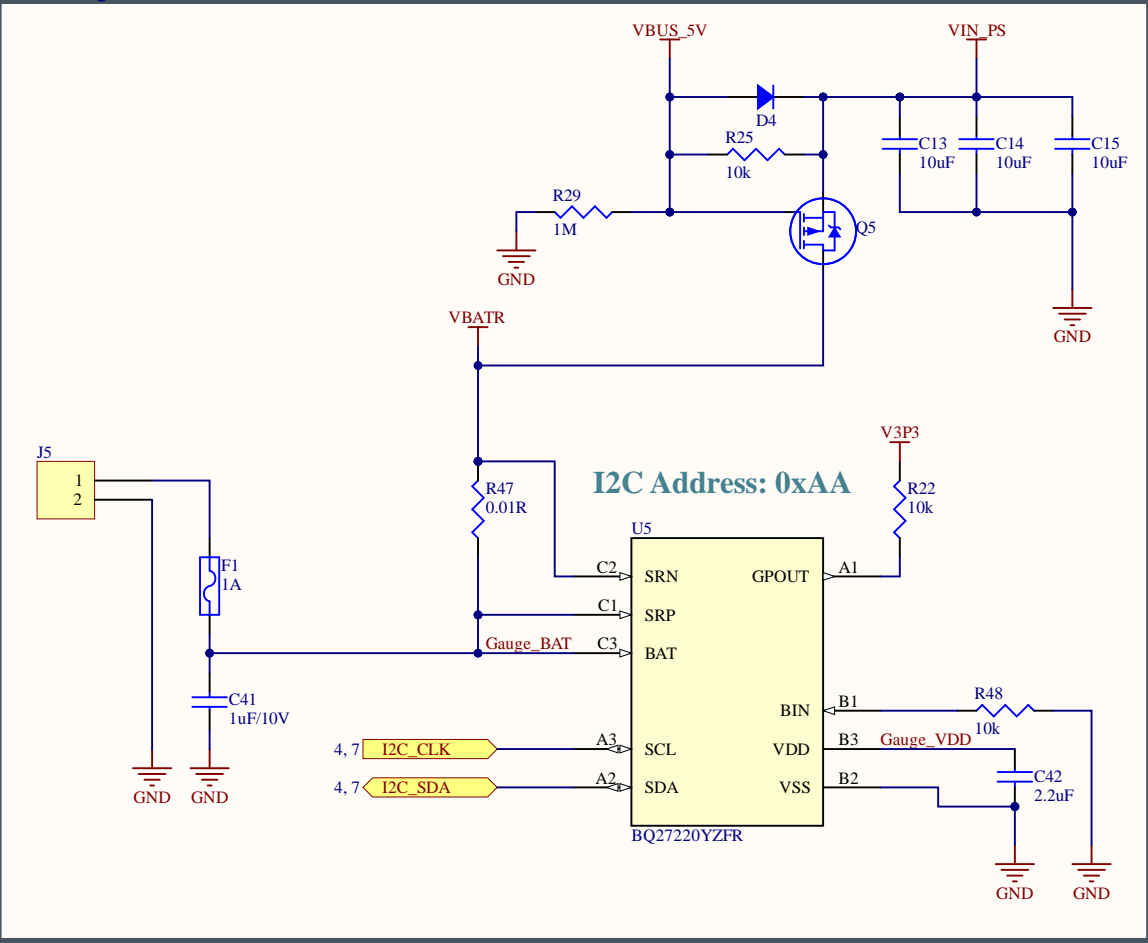
## Arduino Header



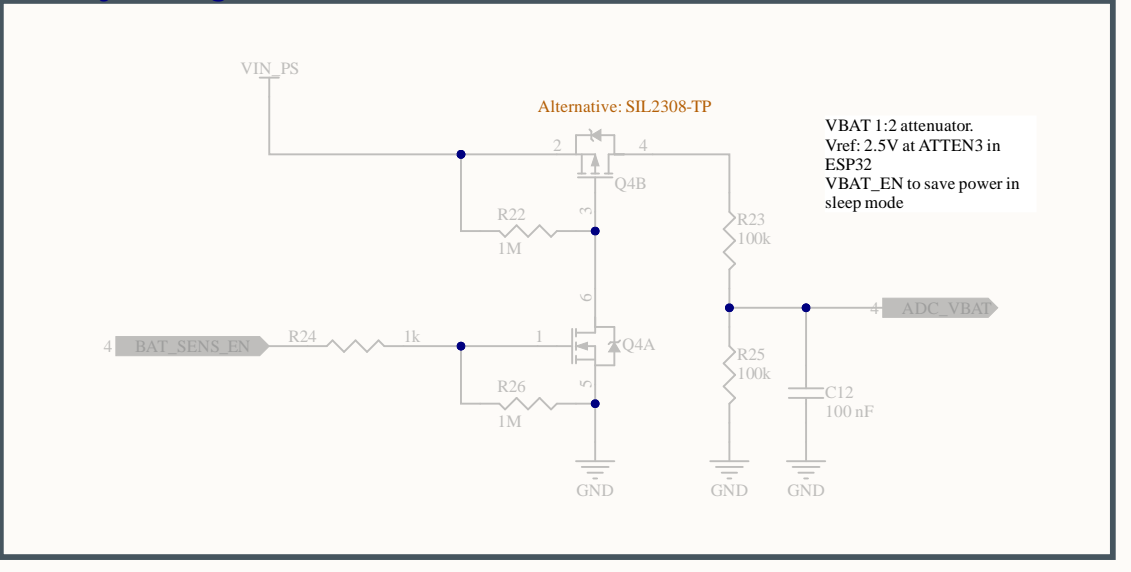
USB-C Connector



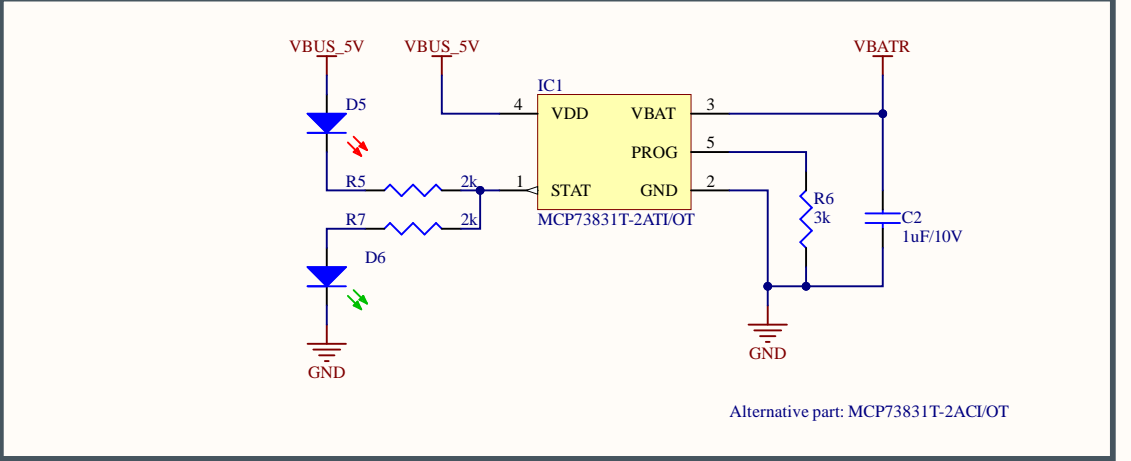
Battery Connector



Battery Voltage Measurement

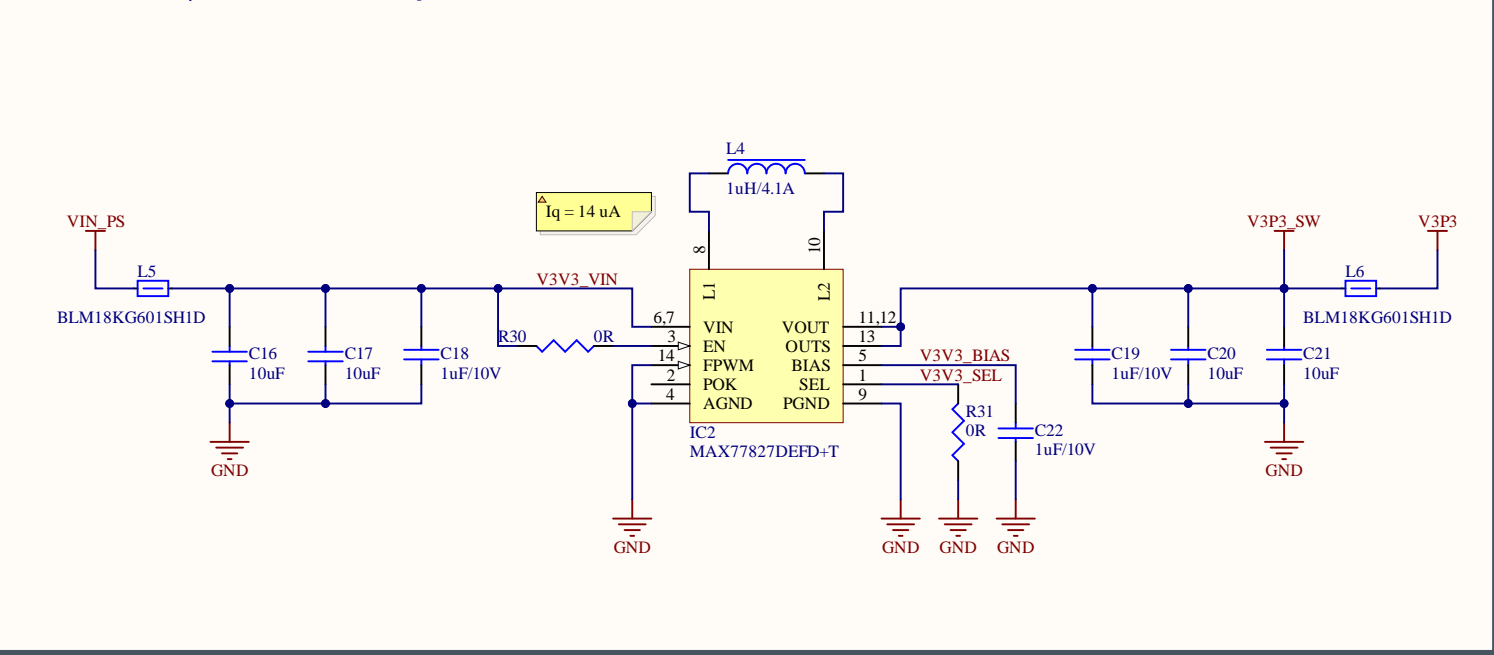


Battery Charger

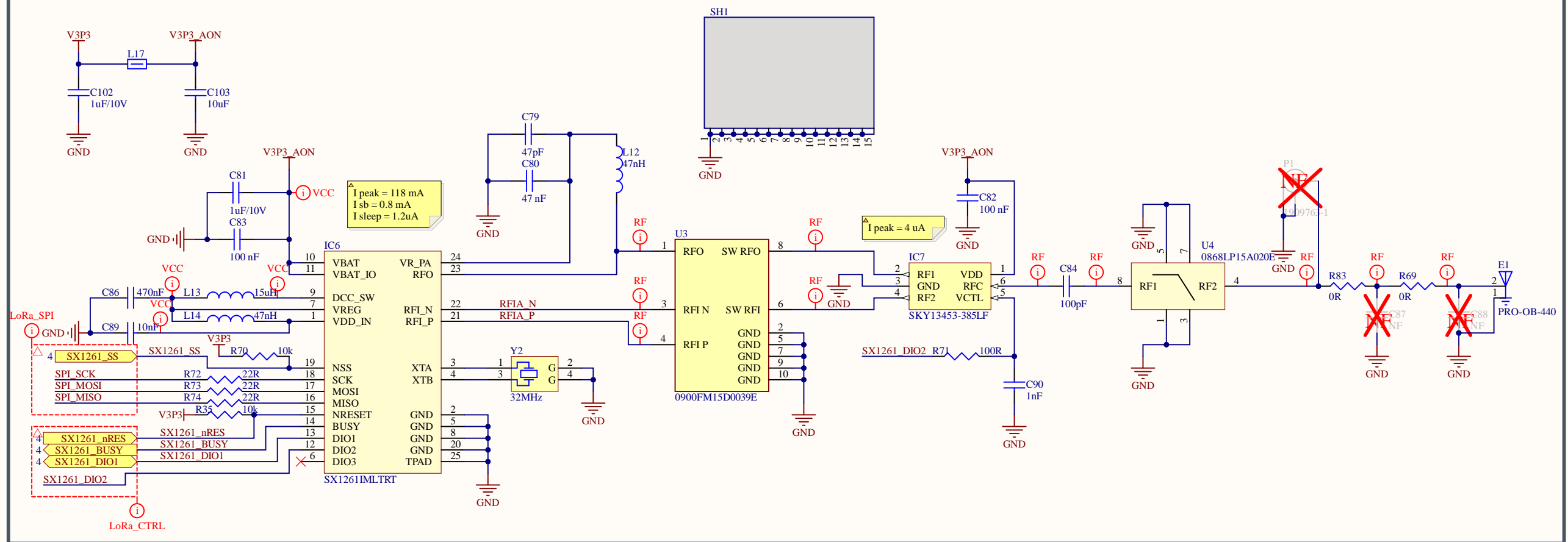


3.3V Buck-Boost Always On

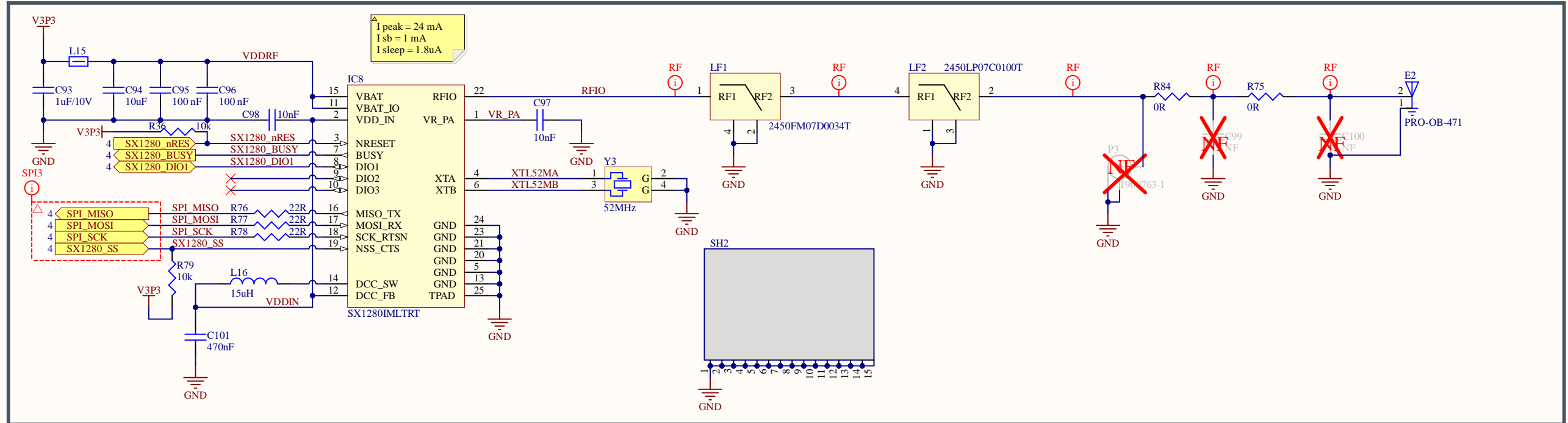
1.8V to 5.3V Input, 900mA Out, 6µA Iq, 2.5MHz Fsw



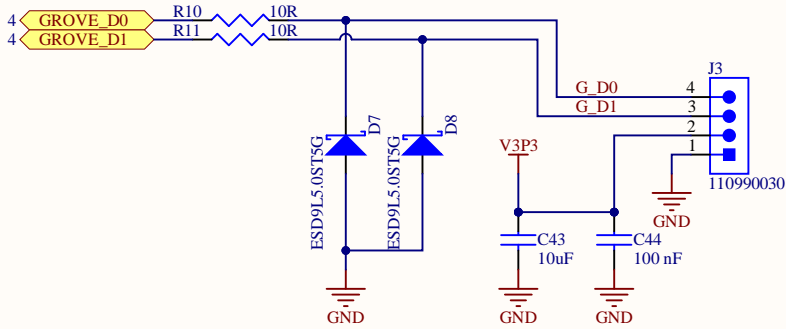
## LoRa Sub-GHz Module



## LoRa 2.4GHz

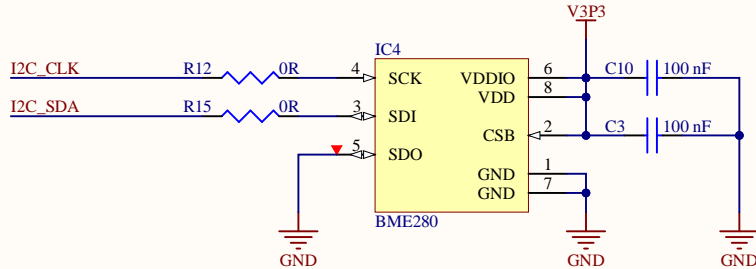


Grove Connector



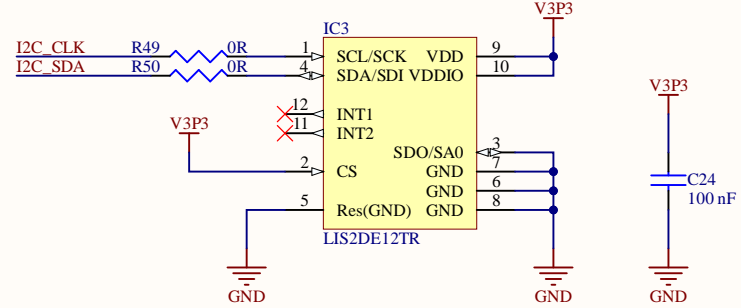
Pressure/Temp/Humidity Sensor

I2C Address: 0x76

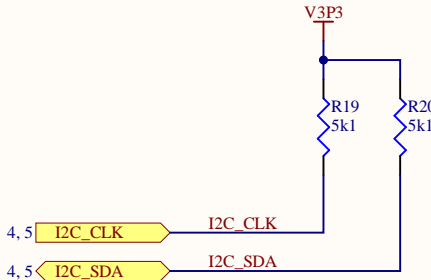


Accelerometer

I2C Address: 0x30

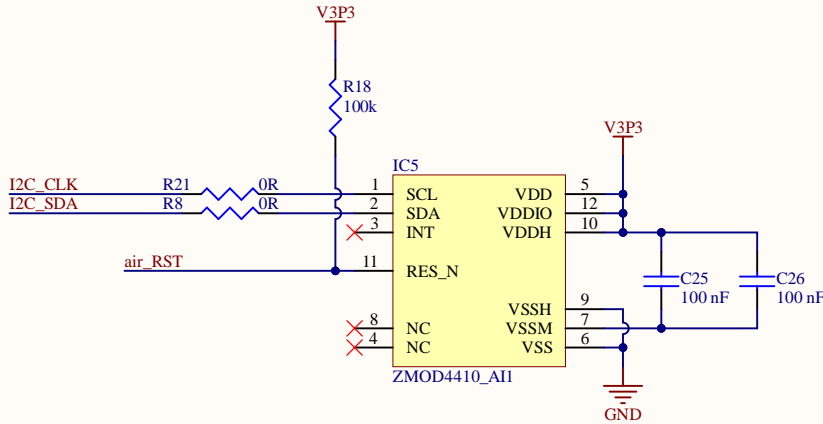


I2C Pull-Ups

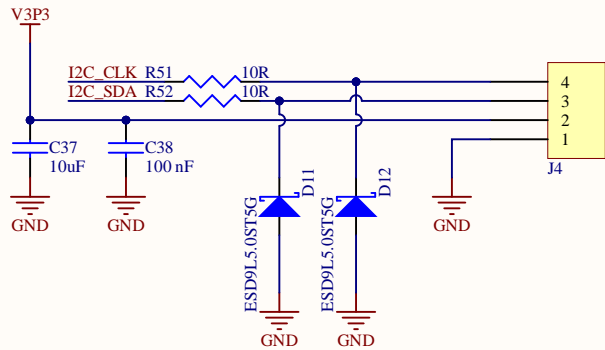


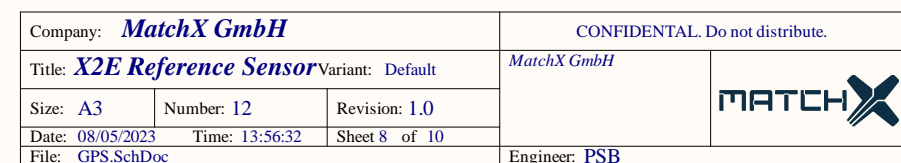
Air Quality Sensor

I2C Address: 0x32




STEMMA 4-Pin







1	2	3	4	5	6	7	8
A							A
B							B
C							C
D							D
1	2	3	4	5	6	7	8


Company: <i>MatchX GmbH</i>			CONFIDENTIAL. Do not distribute.	
Title: <i>X2E Reference Sensor</i> Variant: Default			<i>MatchX GmbH</i>	
Size: A3	Number: 7	Revision: 1.0		
Date: 08/05/2023	Time: 13:56:33	Sheet 9 of 10		
File: LCD.SchDoc				

# DOC: REVISION HISTORY

## Revision History

## TODO in rev.1.1

CLOCKS (CPU & PCIe)

Company: <i>MatchX GmbH</i>			CONFIDENTIAL. Do not distribute.	
Title: <i>X2E Reference Sensor</i> Variant: Default			<i>MatchX GmbH</i>	
Size: A3	Number: 8	Revision: 1.0		
Date: 08/05/2023	Time: 13:56:33	Sheet 10 of 10		
File: DOC REVISION HISTORY.SchDoc			Engineer: PSB	