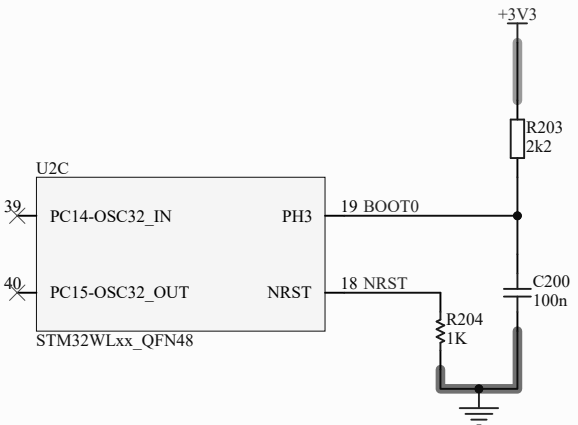
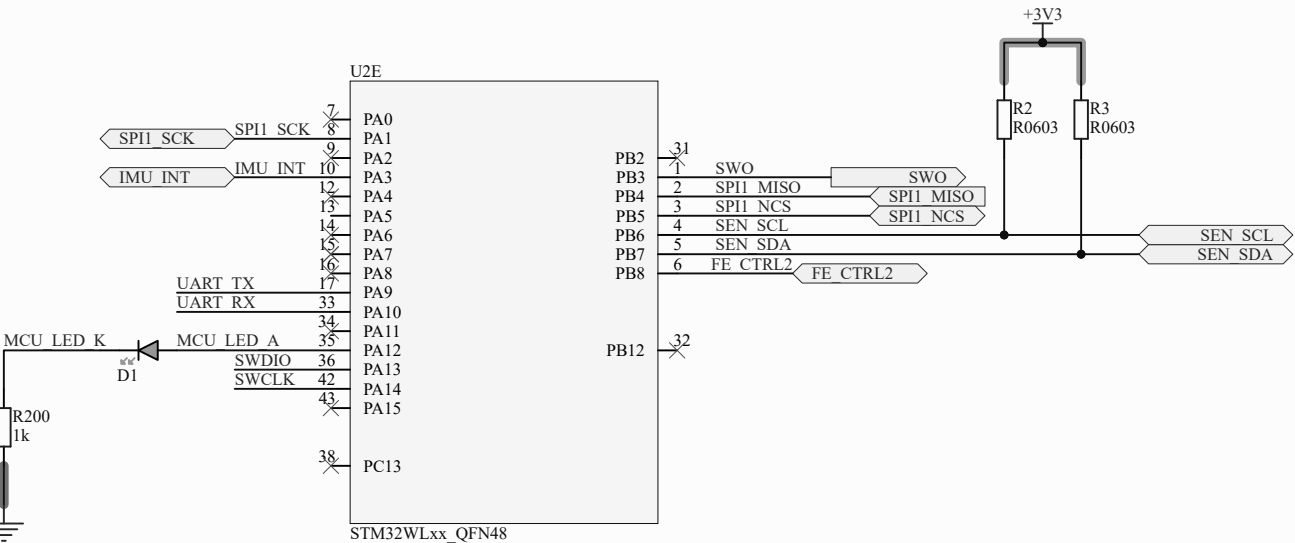
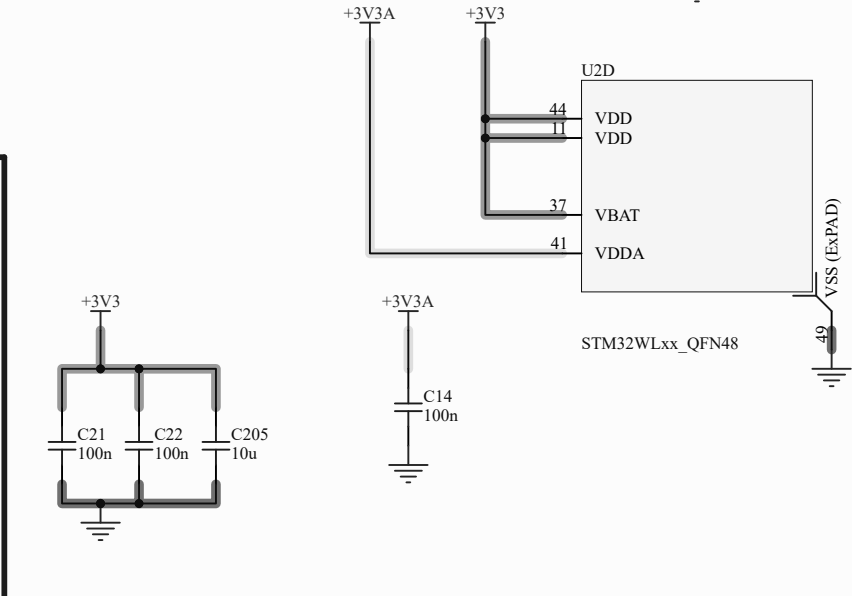
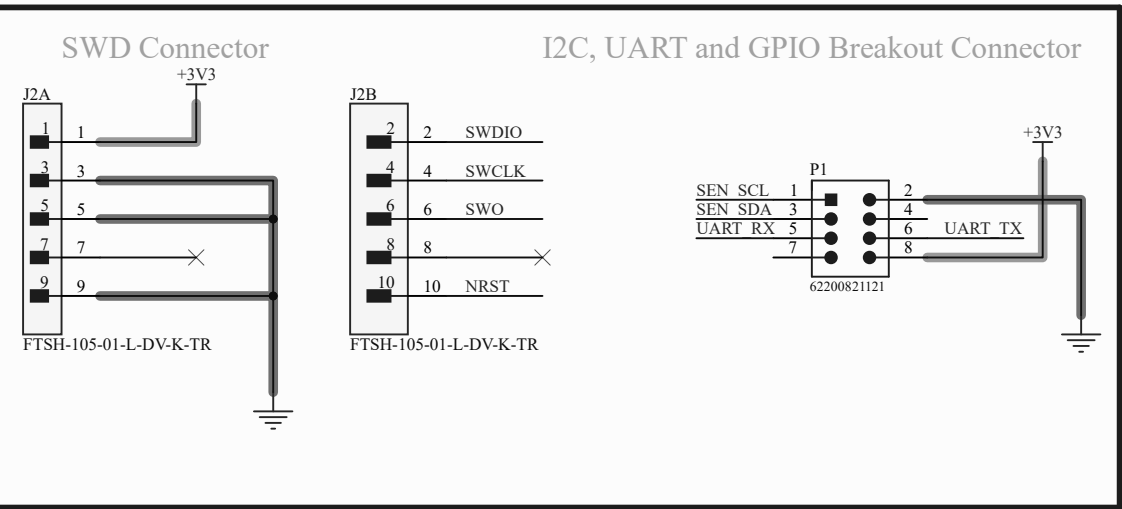


# MicroController STM32WL55 QFN48 Pin



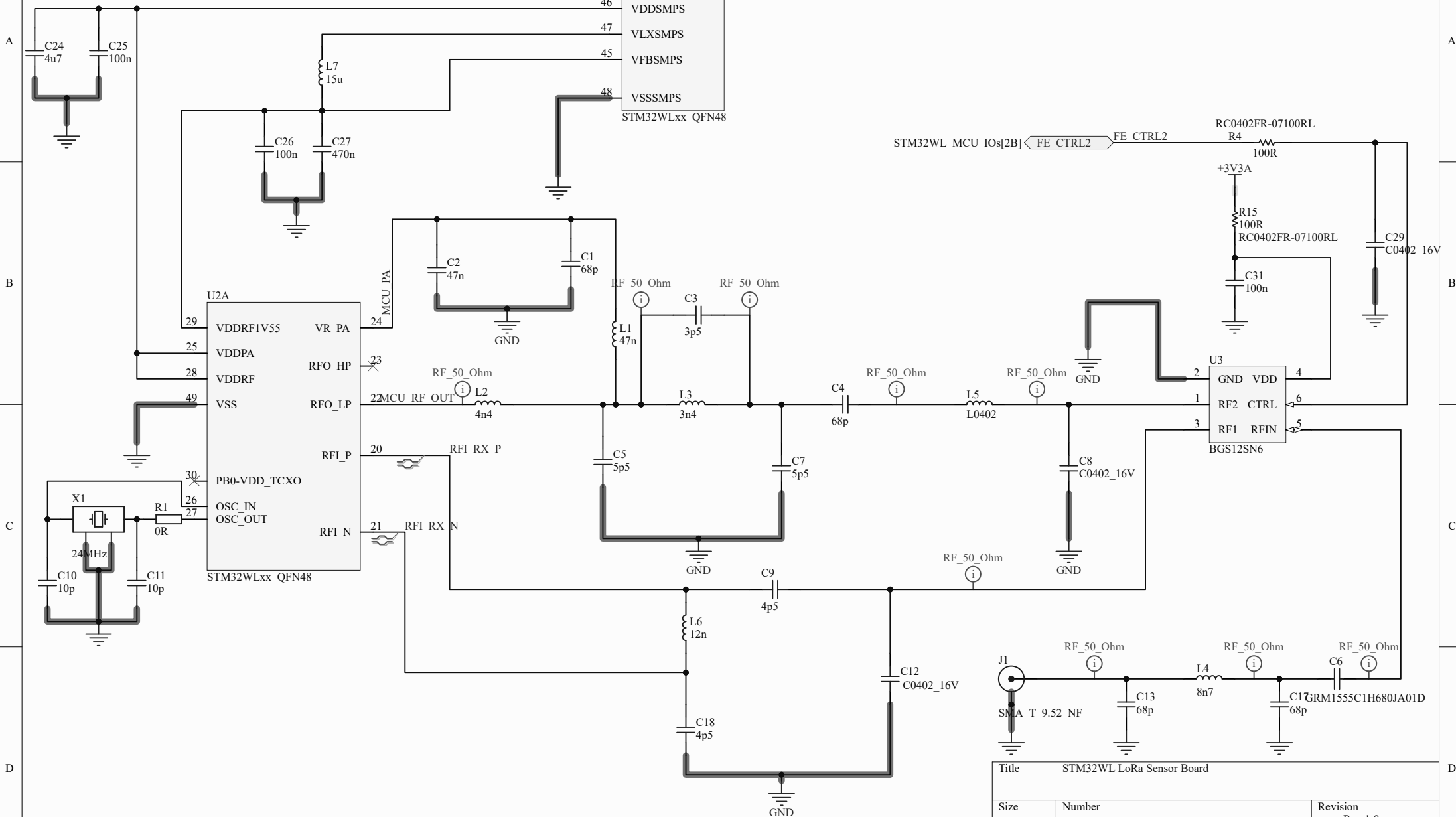
## Connectors: Breakout and SWD



Title STM32WL LoRa Sensor Board		
Size A4	Number	Revision Rev 1.0
Date: 9/09/2025	Sheet of	
File: C:\Users\STM32WL MCU IOs\SchDoc	Drawn By: Caoilte Donohoe	

# STM32WL55 LoRa RF

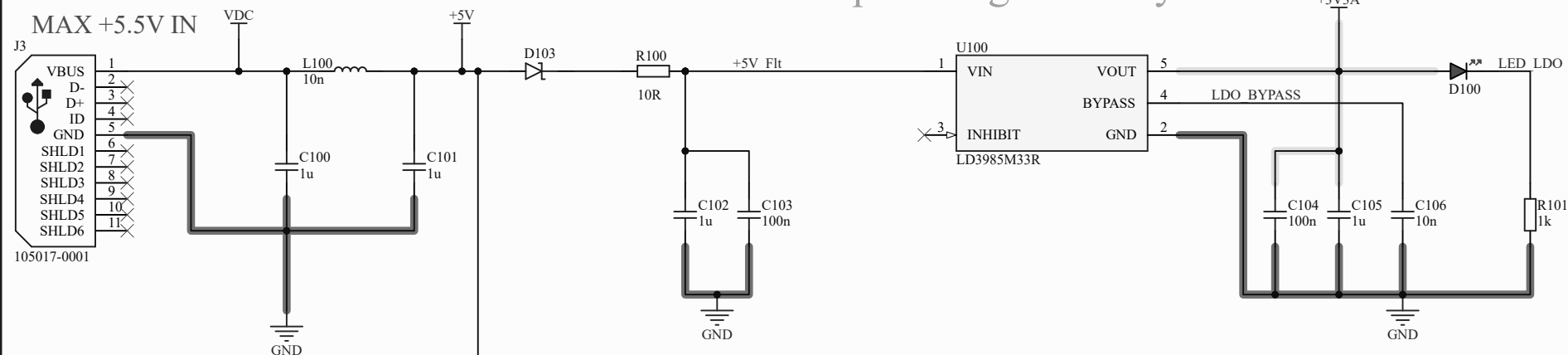
an5457-rf-matching-network-design-guide-for-stm32wl-series-stmicroelectronics.pdf



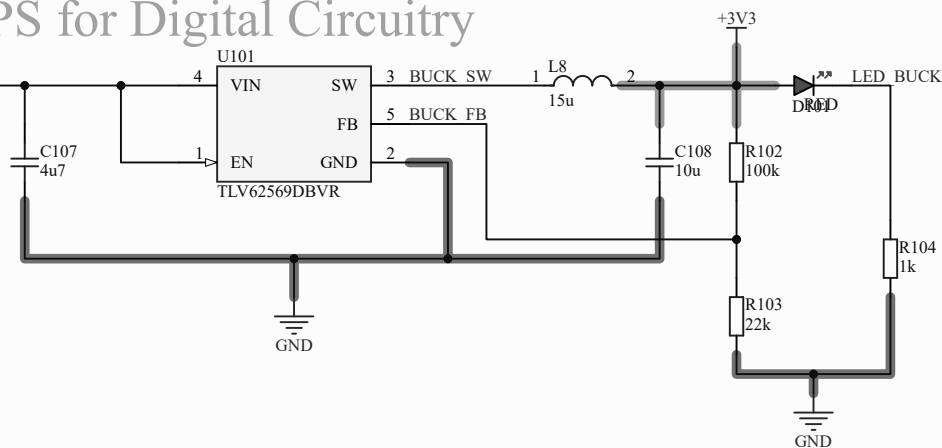
Title STM32WL LoRa Sensor Board		
Size A4	Number	Revision Rev 1.0
Date: 9/09/2025	Sheet of	
File: C:\Users\STM32WL RF\SchDoc	Drawn By:	Caoilte Donohoe

# POWER and Input RF Filtering

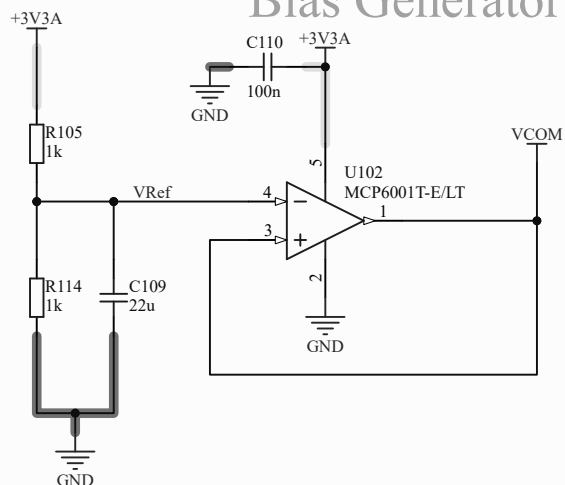
## LDO for Analog Circuitry



## SMPS for Digital Circuitry



## Bias Generator



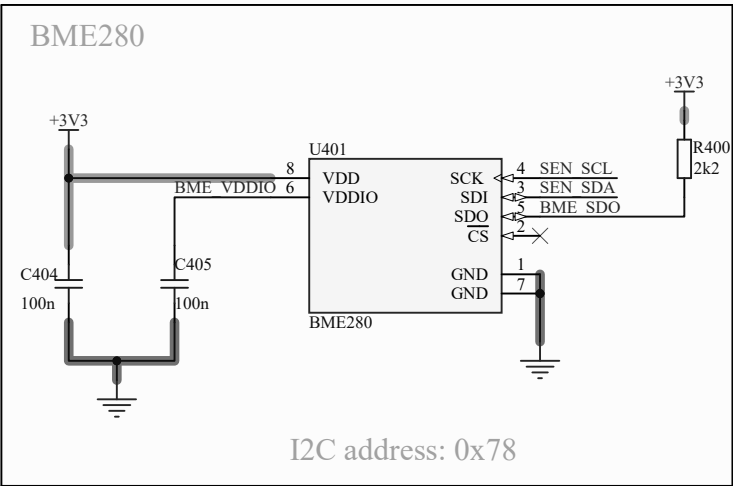
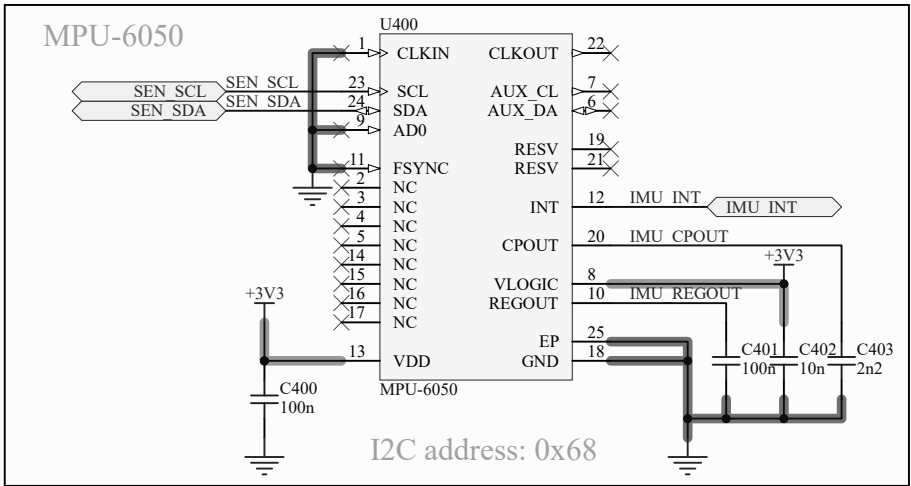
$$V(out)=0.6(1+100K/22K)=3.327V \text{ using } 1\% \text{ resistors ''}$$

VDC comes from Barrel Jack connector (Schematic page 3)

Title			STM32WL LoRa Sensor Board	
Size	A4	Number	Revision	
Date:	9/09/2025	Sheet of	Rev 1.0	
File:	C:\Users\...\stm32wl Power.SchDoc	Drawn By:	Caoilte Donohoe	

# PCB Mounted Sensors

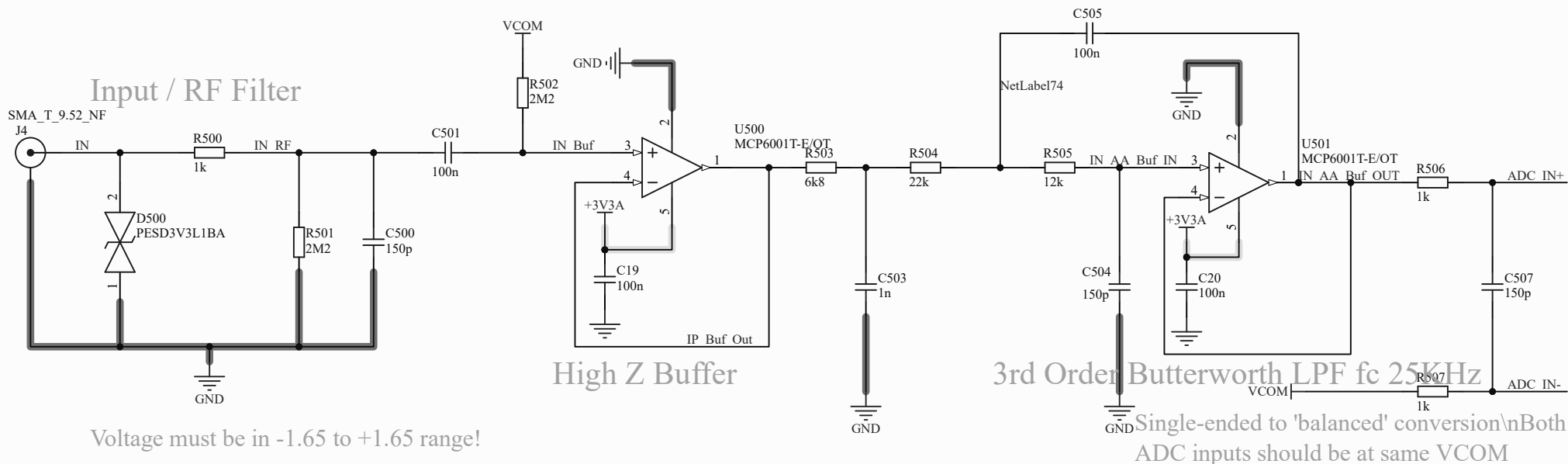
## Inertial Measurement Unit (MPU-6050) and BME280 (Temp/Humidity Pressure)



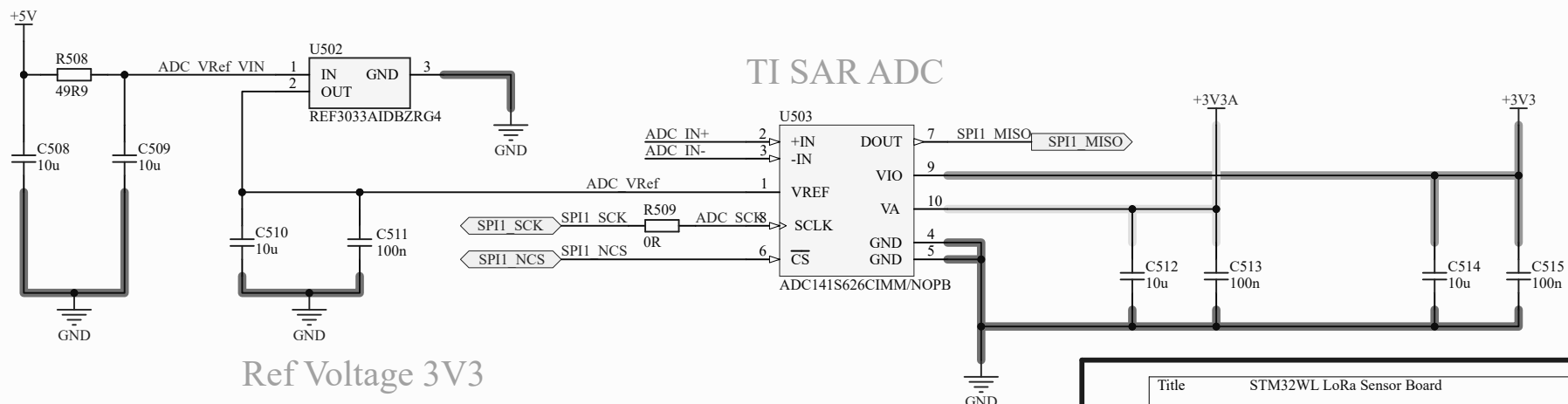
Title STM32WL LoRa Sensor Board			
Size A4	Number		Revision Rev 1.0
Date: 9/09/2025	Sheet of 5 of 5		
File: C:\Users\...\STM32WL Sensors.SchDoc	Drawn By: Caoilte Donohoe		

# ADC & Analog Front-End

MCP6001: I/O Rail to Rail, Single Supply, high impedance i/p CMOS, low bias currents, unity gain stable



## TI SAR ADC



Title STM32WL LoRa Sensor Board		
Size A4	Number	Revision Rev 1.0
Date: 9/09/2025	Sheet of 5 of 5	
File: C:\Users\...\STM32WL ADC.SchDoc	Drawn By: Caoilte Donohoe	