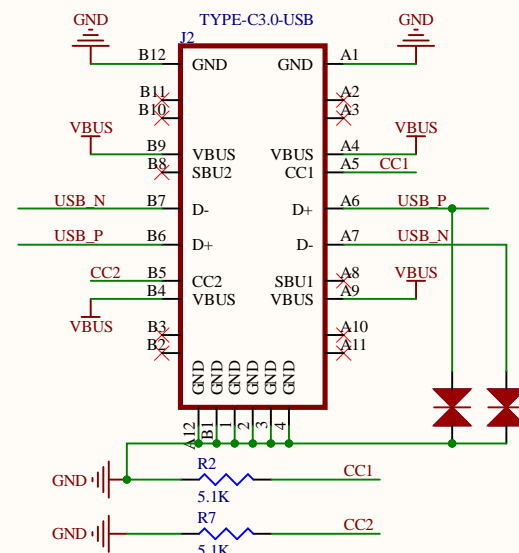
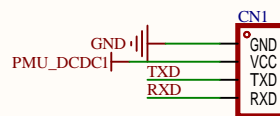
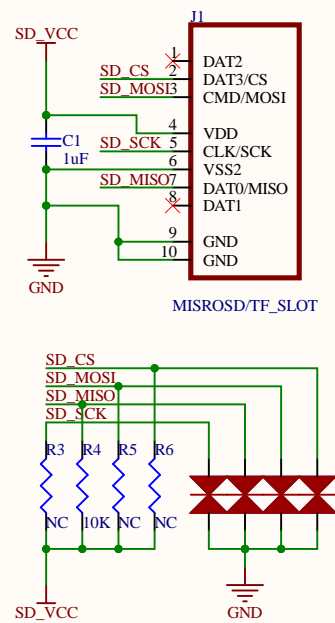


N16R8:Octal SPI occupies 5 more GPIOs than Quad SPI, namely GPIO33~GPIO37



LED1

PIXES 1

PIXELS_VCC 2

3

4

GND

DIN

VDD

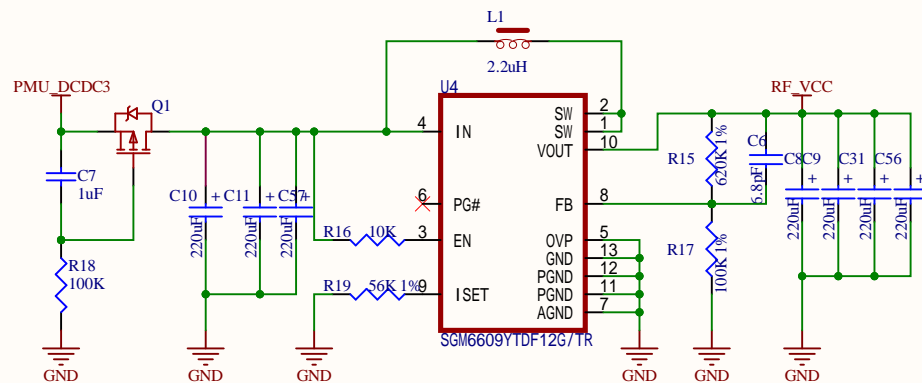
DOUT

VSS

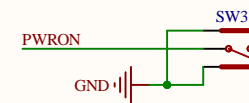
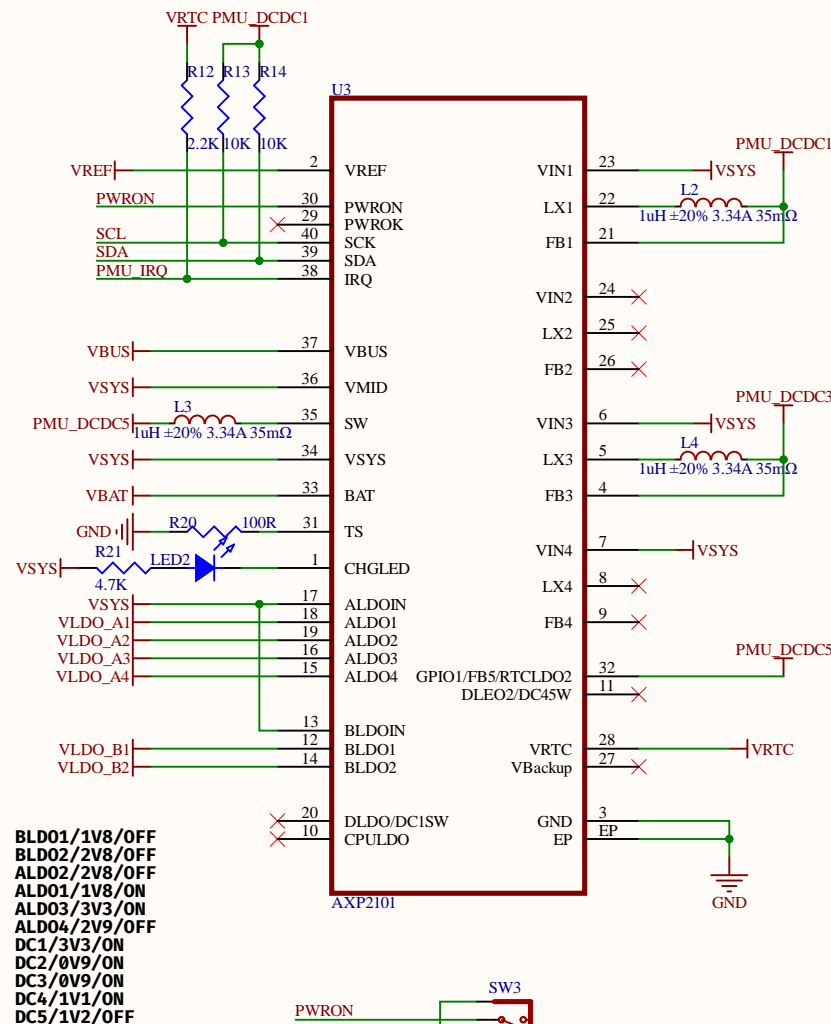
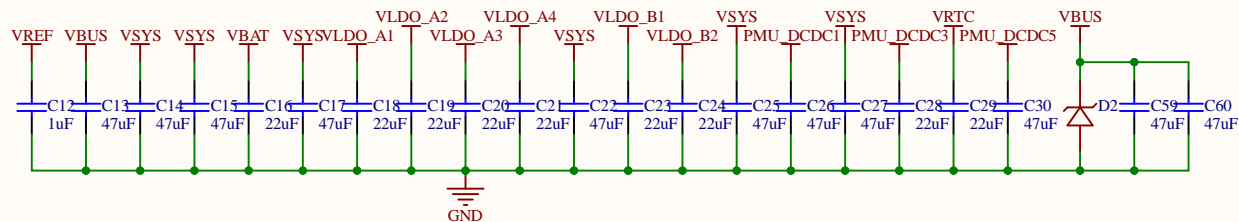
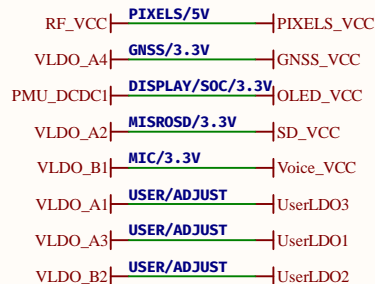
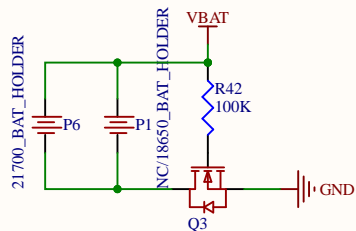
WS2812C-4020

Title			PCB_SOC_LILYGO		
Size A4	Number			Revision	
Date:	5/26/2023			Sheet of 1/6	
File:	C:\Users\AL\SOC_SchDoc			Drawn By: LewisHe	

Radio DC



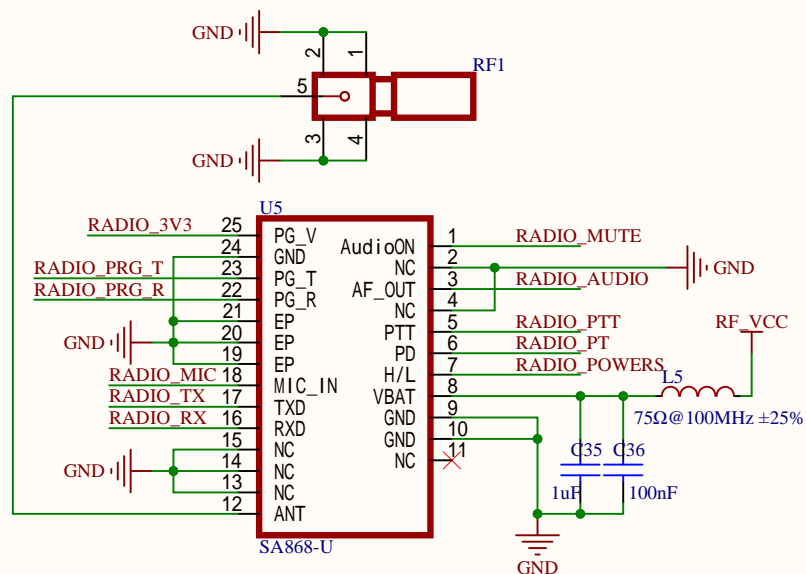
Battery Input Power Domain



PMU

Title		
PCB_PMU_LILYGO		
Size	Number	Revision
A4		V1.0
Date:	5/26/2023	Sheet of 2/6
File:	C:\Users\...\2.PMU.SchDoc	Drawn By: LewisHe

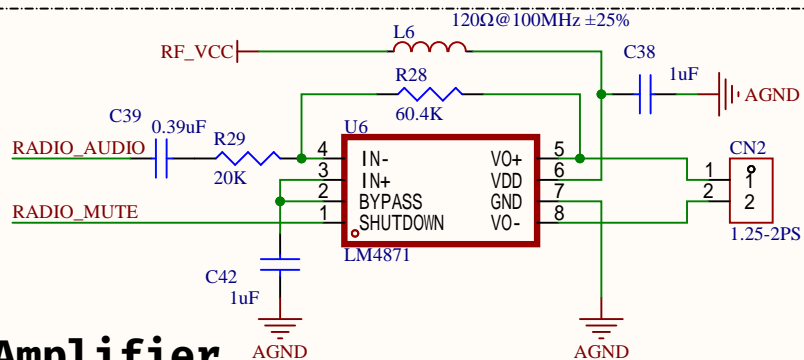
A



Default Low Power

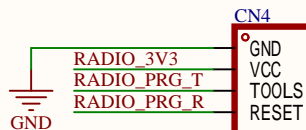
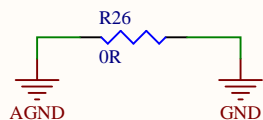
Radio Module

C

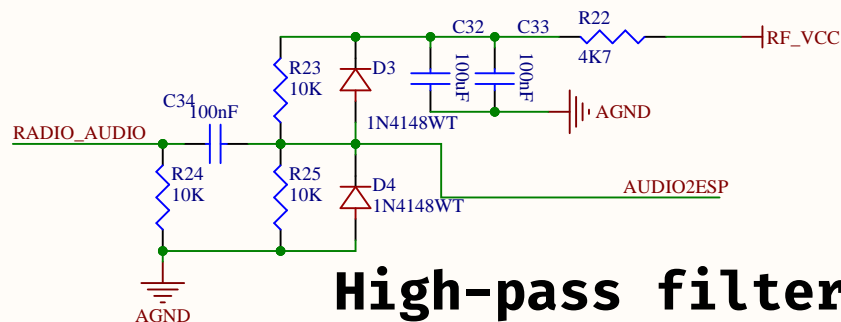
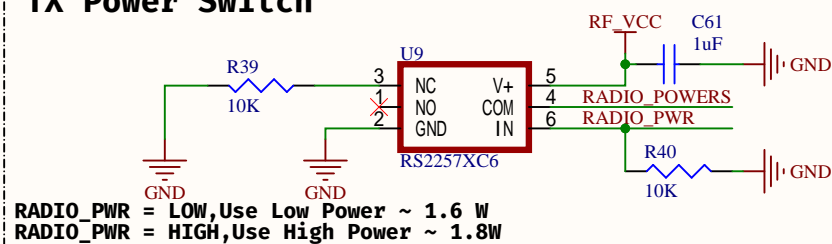


Amplifier

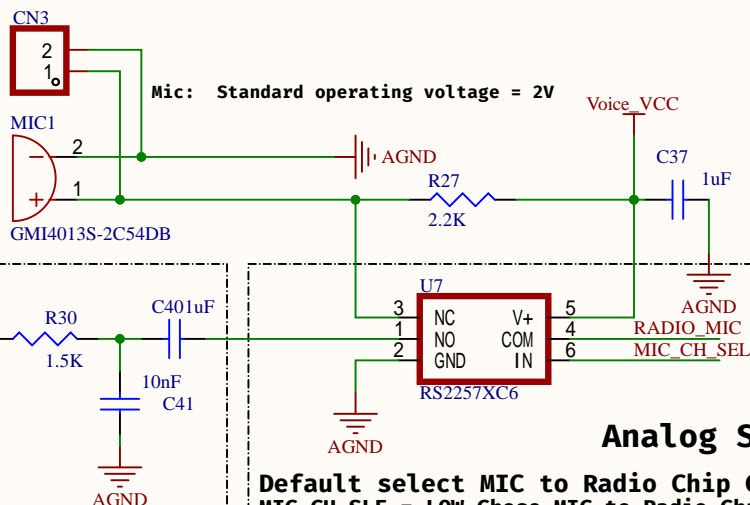
D



TX Power Switch



High-pass filter



Low Pass Filter

Analog Switch

Default select MIC to Radio Chip Channel
MIC_CH_SLE = LOW, Chose MIC to Radio Chip
MIC_CH_SLE = HIGH, Chose ESP32S3 to Radio

Title

PCB_RADIO_LILYGO

Size

Number

Revision

A

V1.0

Date: 5/26/2023

Sheet of 3/6

File: C:\Users\...\3.RADIO.SchDoc

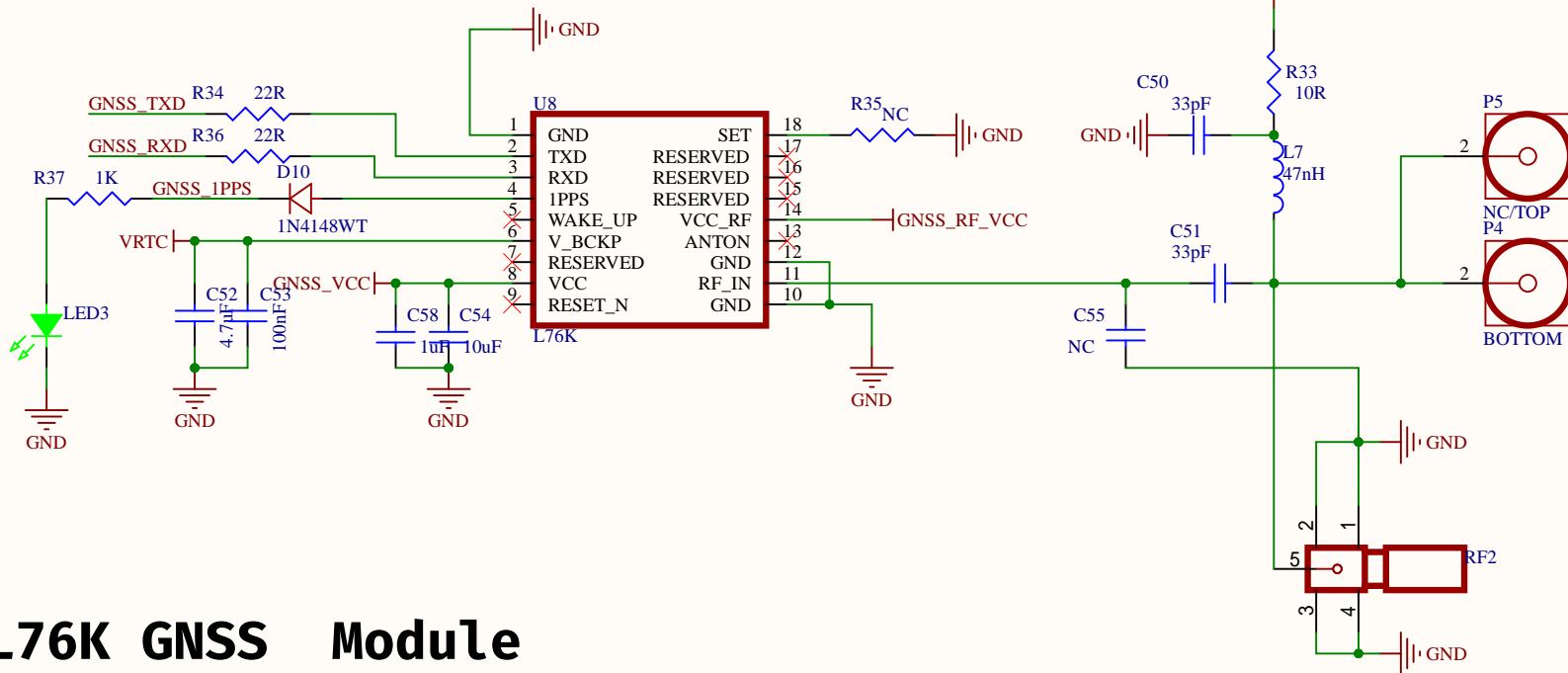
Drawn By: LewisHe

A

B

C

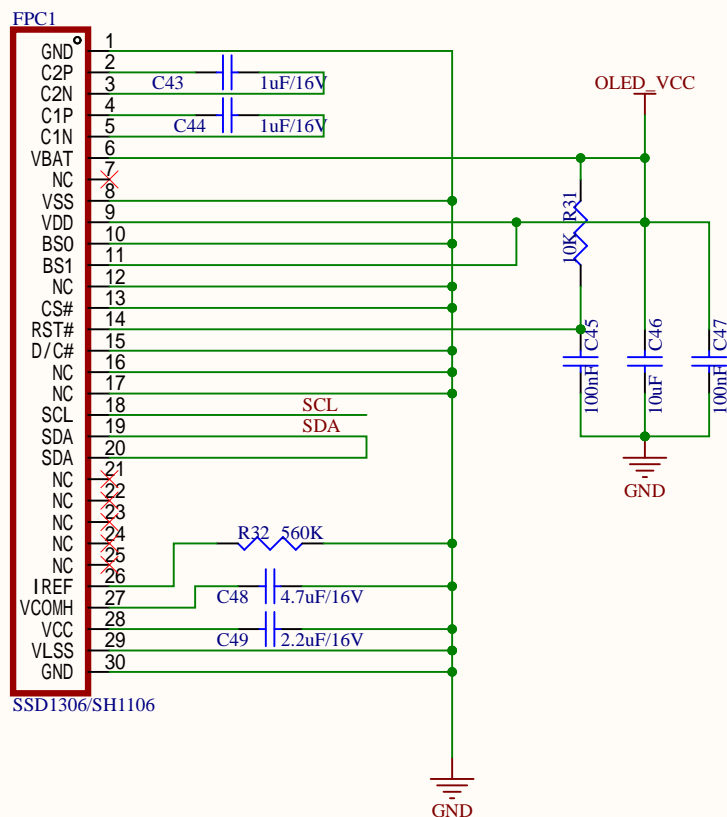
D



L76K GNSS Module

R34 = 0R, Select GPS + GLONASS
R34 = NC, Select BeiDou + GPS

Title			PCB_GNSS_LILYGO	
Size	Number		Revision	
A			V1.0	
Date:	5/26/2023		Sheet of	4/6
File:	C:\Users\...\4.GNSS.SchDoc		Drawn By:	LewisHe



OLED Display

Slave 7 bit address : 0x3C

Title			PCB_DISPLAY_LILYGO	
Size	Number		Revision	
A			V1.0	
Date:	5/26/2023		Sheet of	5/6
File:	C:\Users\...\5.DISPLAY.SchDoc		Drawn By:	LewisHe

RADIO_PTT	IO41
RADIO_PT	IO40
RADIO_PWR	IO38
RADIO_TX	IO48*
RADIO_RX	IO39

MIC_CH_SEL	IO17
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RTC_GPIO	IO4	PMU_IRQ
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RTC_GPIO	IO8	SDA
RTC_GPIO	IO9	SCL

SPI_CS1	IO14
SD_CS	IO10
SD_MOSI	IO11
SD_SCK	IO12
SD_MISO	IO13

RTC_GPIO	GNSS_RXD	IO6
RTC_GPIO	GNSS_TXD	IO5
RTC_GPIO	GNSS_IPPS	IO7

RTC_GPIO	ENCODER_A	IO47
RTC_GPIO	ENCODER_S	IO21
RTC_GPIO	ENCODER_B	IO46

RTC_GPIO	USER_BTN	IO3
----------	----------	-----

PIXES	IO42
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ADC2_CH6	ESP2MIC	IO18
----------	---------	------

ADC1_CH1	AUDIO2ESP	IO1
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Radio Pins

Interrupt Wire

SPI1

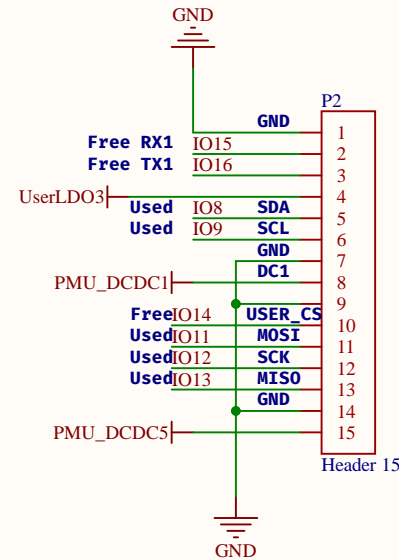
GNSS

Encoder

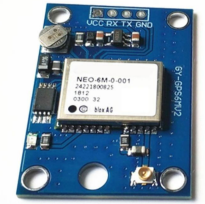
Other

TFT

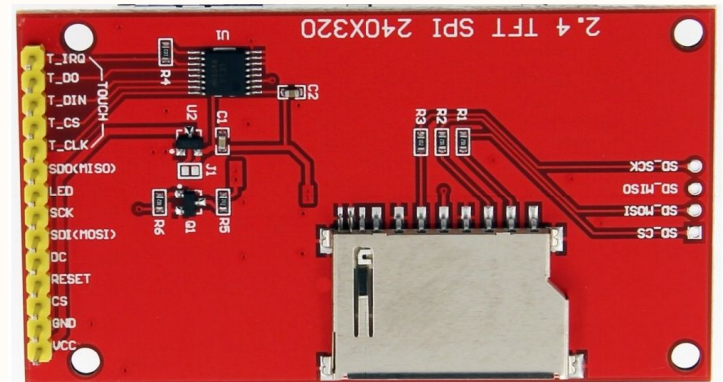
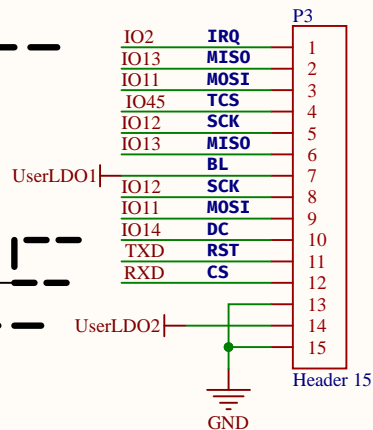
Serial2



UART Wire SPI

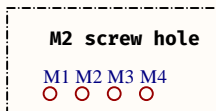


Compatible module order



See Datasheet 2.3.3 Restrictions for GPIOs and RTC_GPIOs:ADC2 - no restrictions, unless there is an on-going Wi-Fi connection. ADC2_CH... analog functions

External Pin Define



Title			PCB_PINS_LILYGO	
Size	Number		Revision	
A			V1.0	
Date:	5/26/2023		Sheet of	6/6
File:	C:\Users\...\6.Pins.SchDoc		Drawn By:	LewisHe