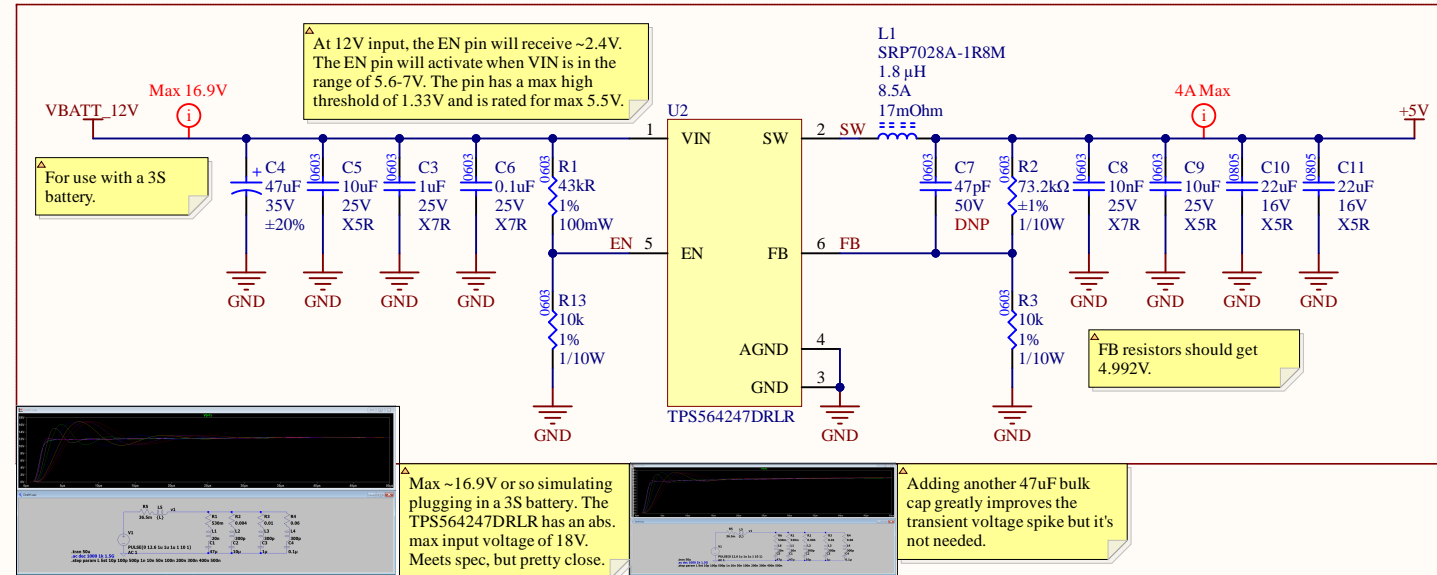


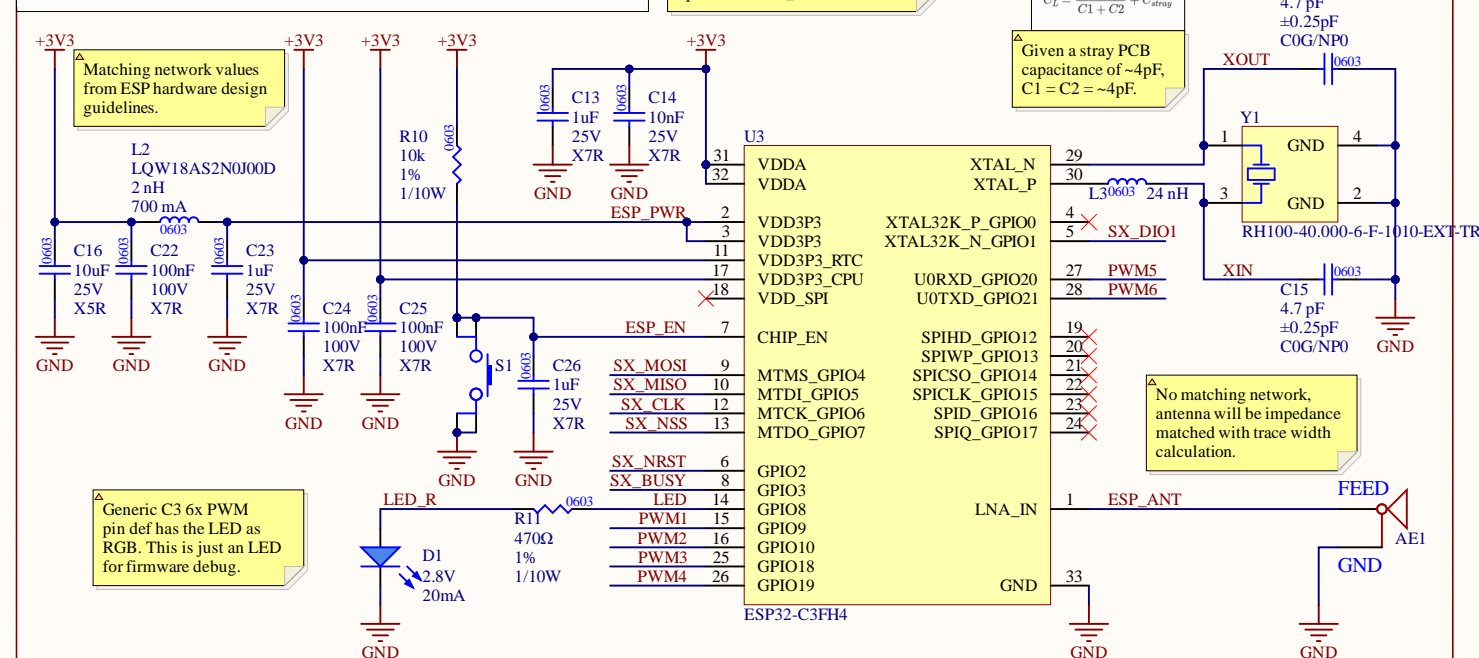
12V to 5V Buck Converter + ExpressLRS Module

Buck Converter: 12V \rightarrow 5V @ 4A



ExpressLRS Microcontroller: ESP32-C3FH4

For VDDP3P3, when ESP32-C3 is transmitting signals, there may be a sudden increase in the current draw, causing power rail collapse. Therefore, it is highly recommended to add a 10 μ F capacitor to the power rail, which can work in conjunction with the 0.1 μ F capacitor(s).



! Attention

- CHIP_EN must not be left floating.
- To ensure the correct power-up and reset timing, it is advised to add an RC delay circuit at the CHIP_EN pin. The recommended setting for the RC delay circuit is usually $R = 10\text{ k}\Omega$ and $C = 1\text{ }\mu\text{F}$. However, specific parameters should be adjusted based on the characteristics of the actual power supply and the power-up and reset timing of the chip.

! Attention

Do not add high-value capacitors at GPIO9, otherwise, the chip may not boot successfully.

Generic 2400MHz
ESP32-C3 6x PWM p
definition target. From
ExpressLRS GitHub.

```
targets /RX /Generic C3 2400 PWM.json
```

pkendall66 More appropriate generic targets for

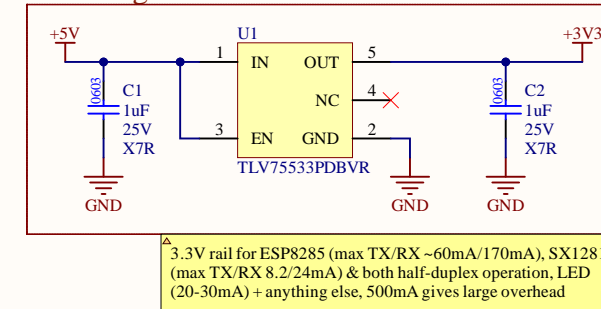
Code Blame 21 lines (21 loc) 426 Bytes

```

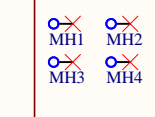
1 {
2     "radio_busy": 1,
3     "radio_idle": 1,
4     "radio_silent": 1,
5     "radio_mosi": 4,
6     "radio_miso": 7,
7     "radio_rst": 2,
8     "radio_sck": 6,
9     "power_silent": 0,
10    "power_high": 0,
11    "power_max": 0,
12    "power_default": 0,
13    "power_control": 1,
14    "power_values": [11],
15    "pwm_outputs": [9,10,18,19,20,21],
16    "led_rgb": 0,
17    "led_rgb_toggle": true,
18    "led_rgb": 9,
19    "what_offset": 4,
20    "what_scale": 410
21 }

```

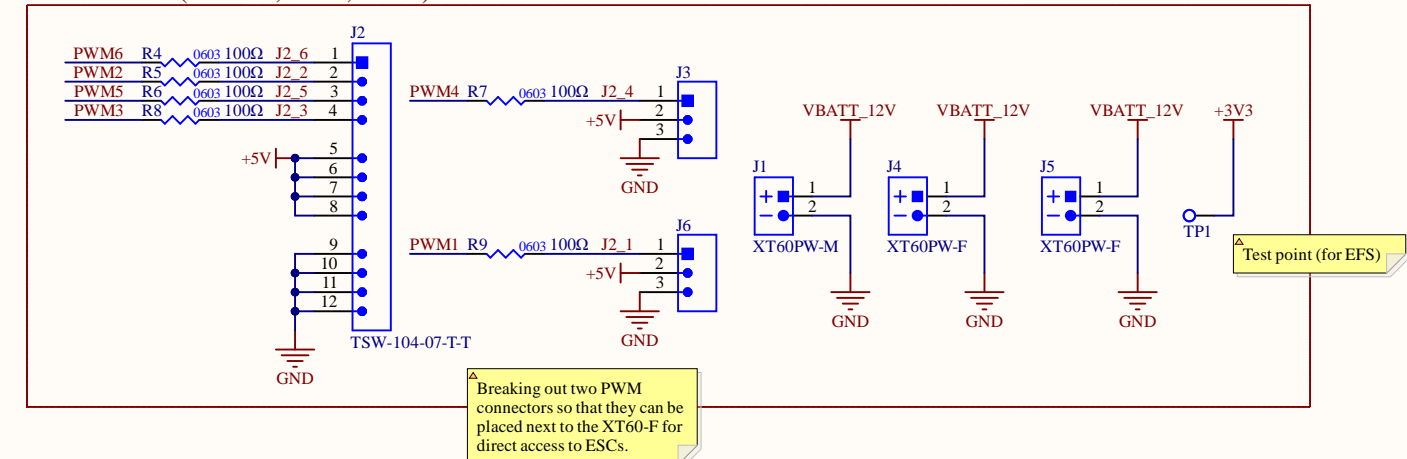
LDO Regulator: 5V to 3.3V @ 500mA



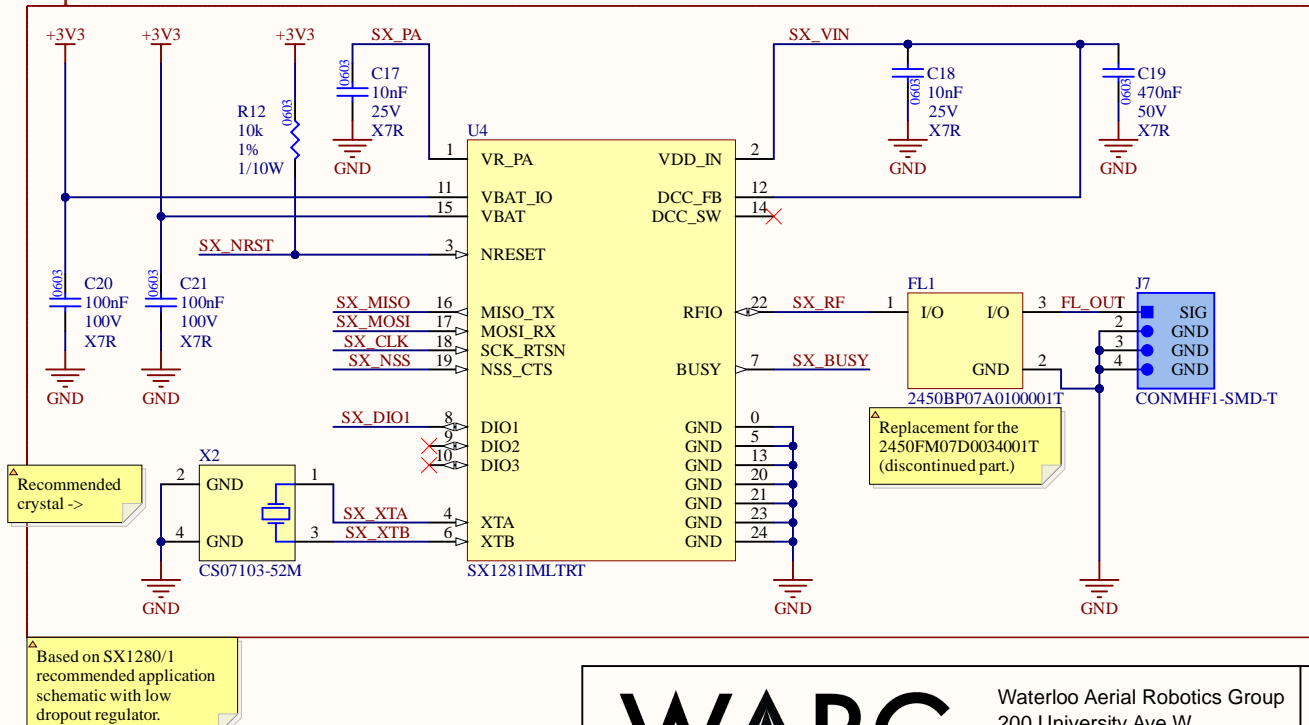
Mounting Holes (M3)



Connectors (motors, ESC, flash)



ExpressLRS Transceiver: SX1281



Waterloo Aerial Robotics Group
200 University Ave W
Waterloo, Ontario, Canada
N2L 3G1



PROJECT 12V-5V 4ABuck with ELRS.PrjPcb, [No Variations]		REVISION *
DOCUMENT Buck-Schematic.SchDoc		MODIFIED 11/12/2024
ENGINEER Kenny Na	REVIEWER *	SHEET 1 OF 1