Never solder any components while they are connected to a power supply (battery, power supply, USB port, …)!

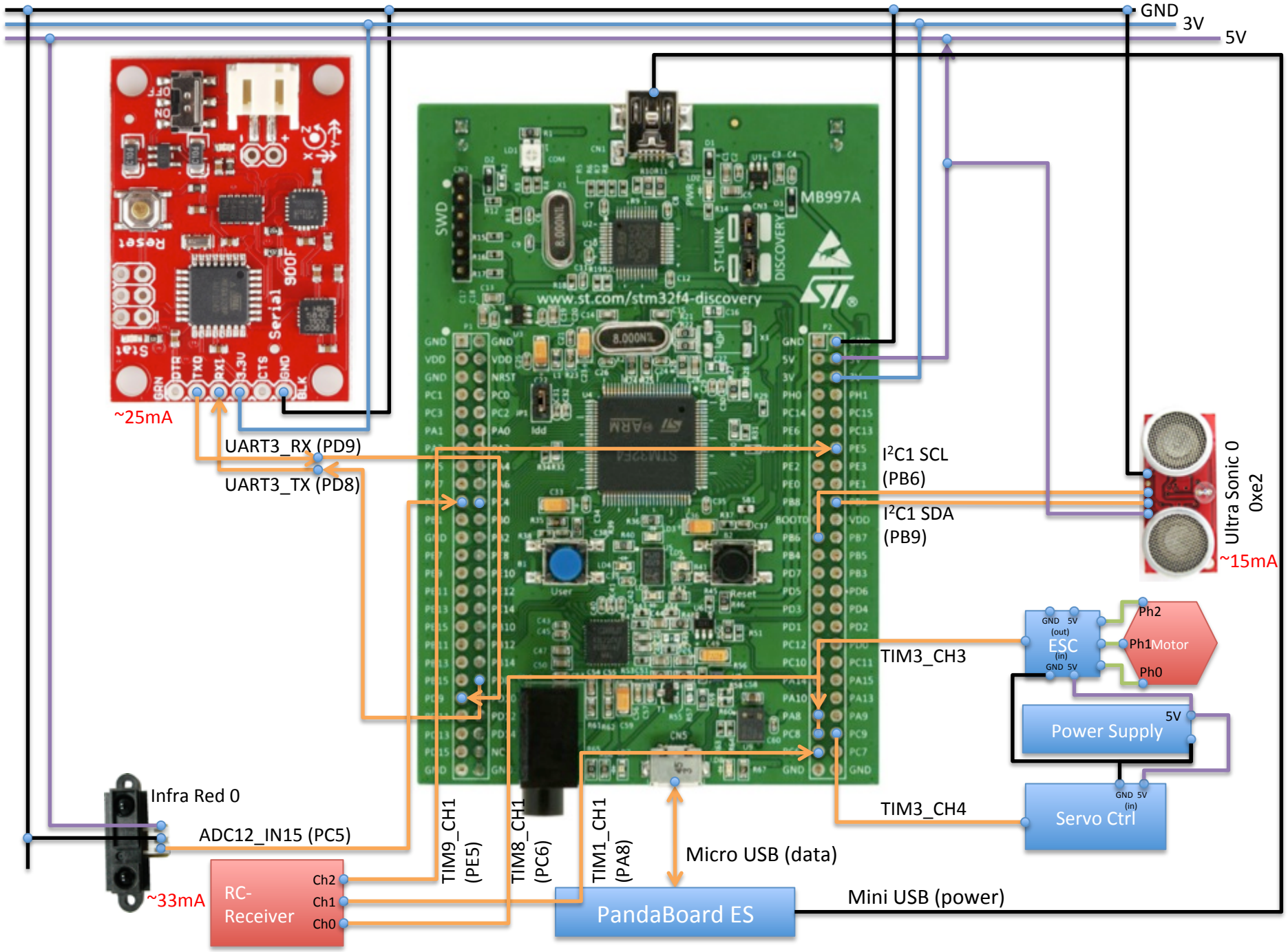
In the following, you'll find a proposal for connecting sensors and motors to the STM32F4 Discovery.

You are required to check your planned connections with the manuals of the involved components to avoid injuries, short-circuits, and damages of the involved components!

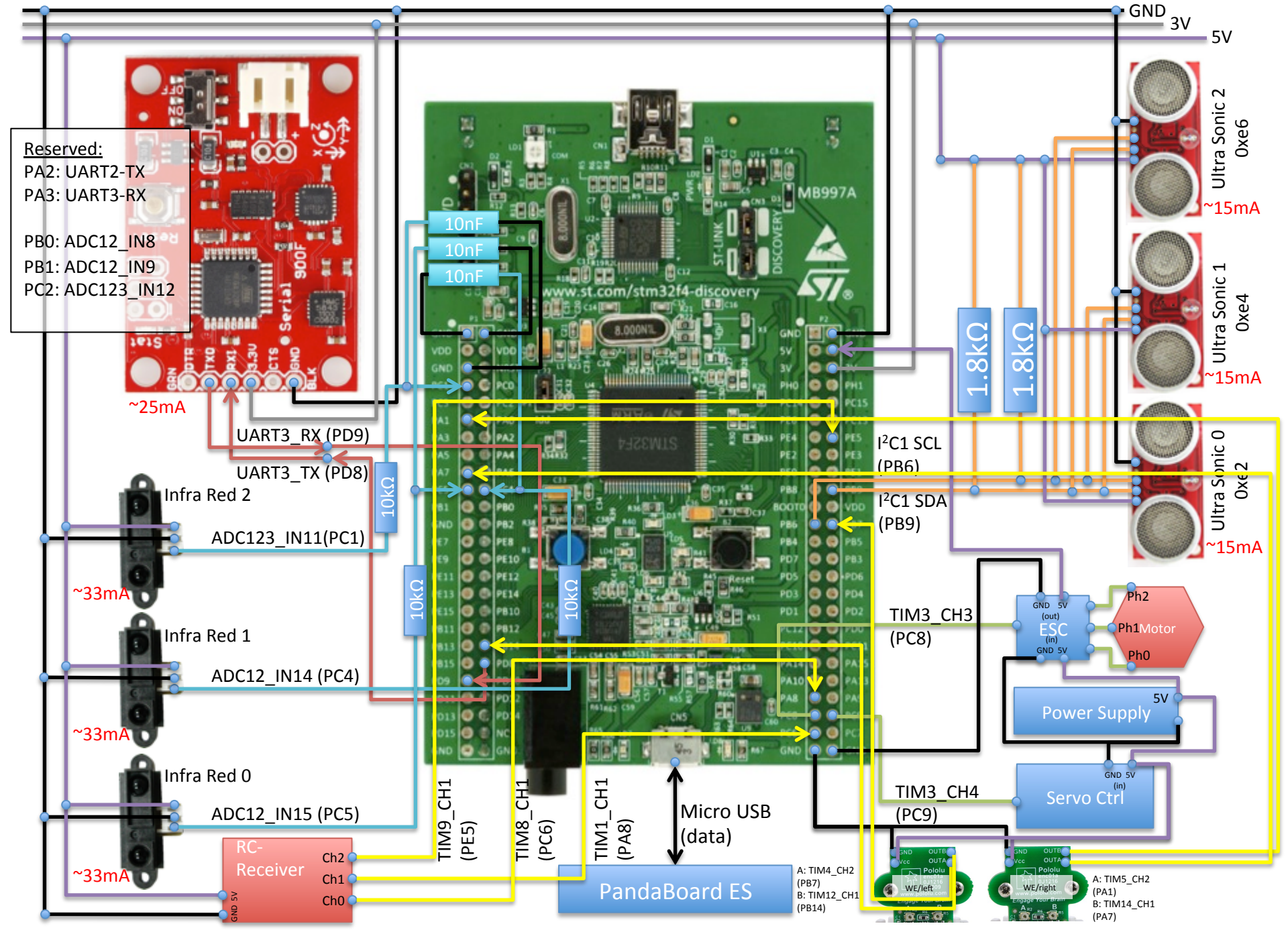
Check:

- STM32F4 Discovery Board manual
- Manuals or specifications of the sensors
- Manuals or specifications of the motors

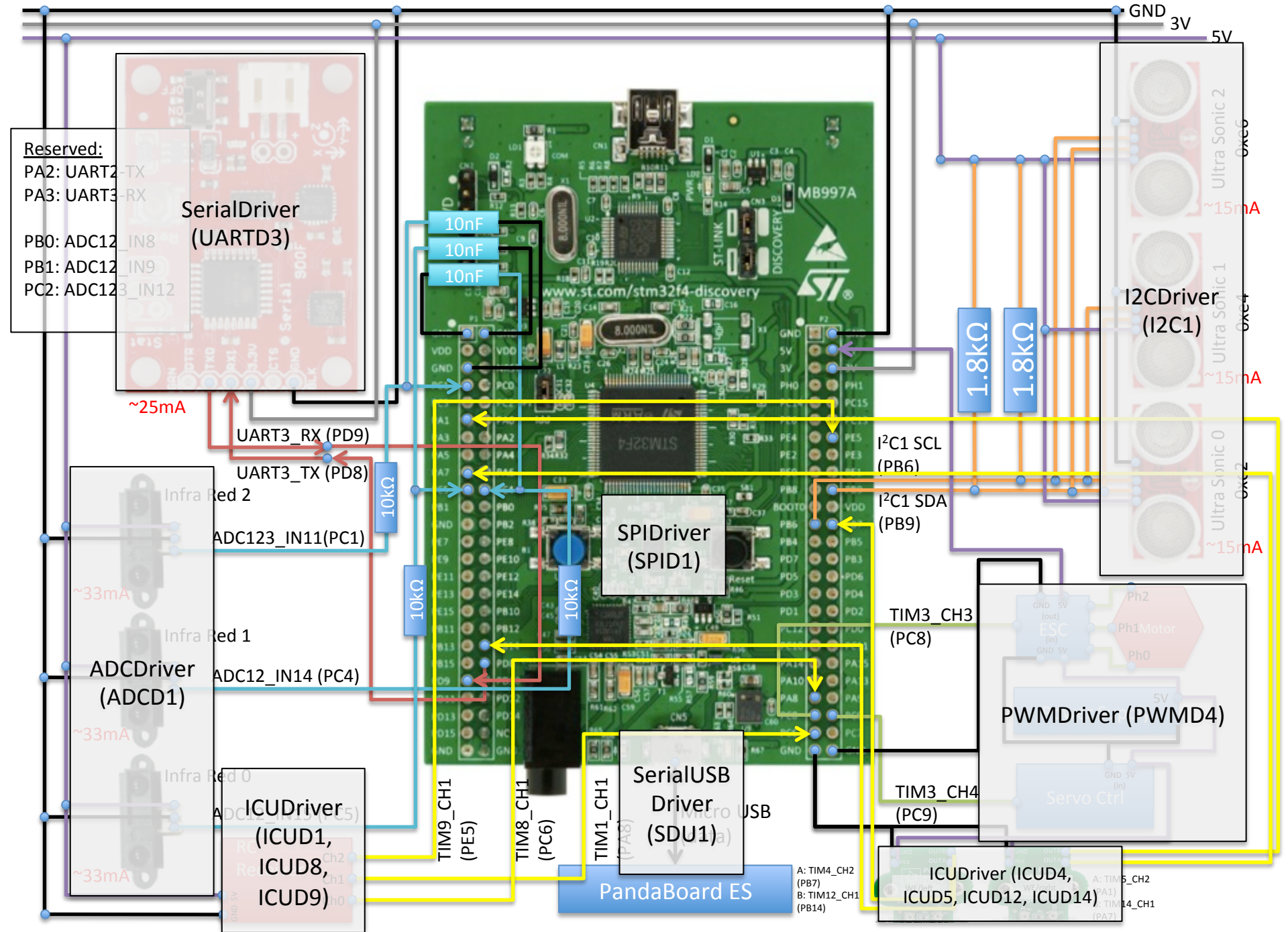
Proposal: Possible STM32F4 – Light setup



Proposal: STM32F4 – Full setup



Proposal: STM32F4 – Full setup



- PA8: TIM1_CH1 – RC-Receiver Ch0
- PC6: TIM8_CH1 – RC-Receiver Ch1
- PE5: TIM9_CH1 – RC-Receiver Ch2

- PB6: I2C – SCL
- PB9: I2C – SDA

- PC1: ADC123_IN11 – IR2
- PC4: ADC12_IN14 – IR1
- PC5: ADC12_IN15 – IR0
- PB0: ADC12_IN8 – reserved for analog IN
- PB1: ADC12_IN9 – reserved for analog IN
- PC2: ADC123_IN12 – reserved for analog IN

- PC8: TIM3_CH3 – PWM – Motor
- PC9: TIM3_CH4 – PWM – Servo

- PD8: UART3_TX – Razor
- PD9: UART3_RX – Razor

- PA2: UART2_TX – reserved for Faulhaber ESC RS232-RX
- PA3: UART2_RX – reserved for Faulhaber ESC RS232-TX

- PB7: TIM4_CH2 – Wheel encoder, left wheel, first sensor
- PB14: TIM12_CH1 – Wheel encoder, left wheel, second sensor
- PA1: TIM5_CH2 – Wheel encoder, right wheel, first sensor
- PA7: TIM14_CH1 – Wheel encoder, right wheel, second sensor