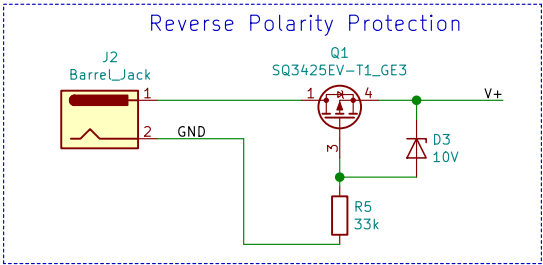
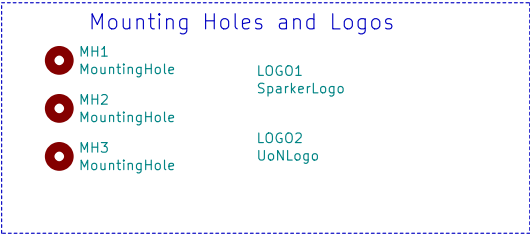
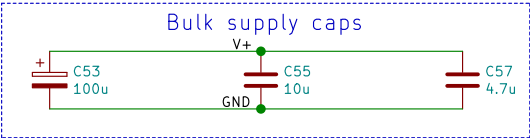
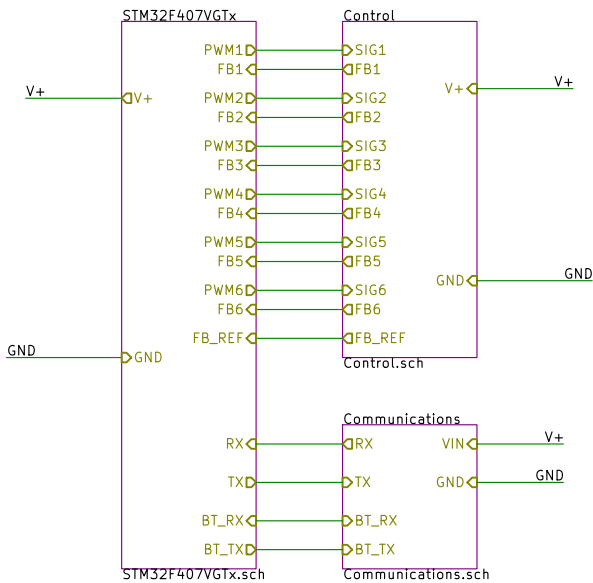
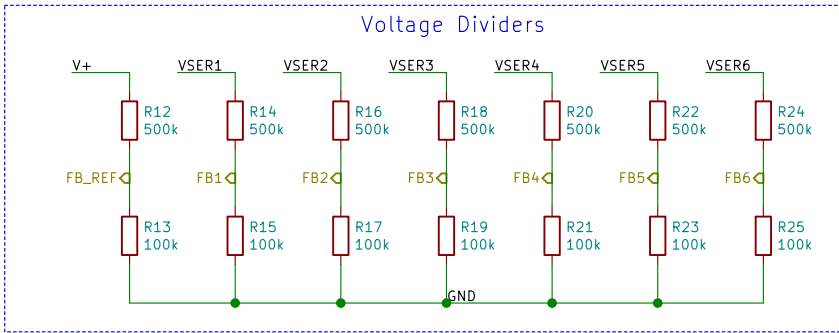
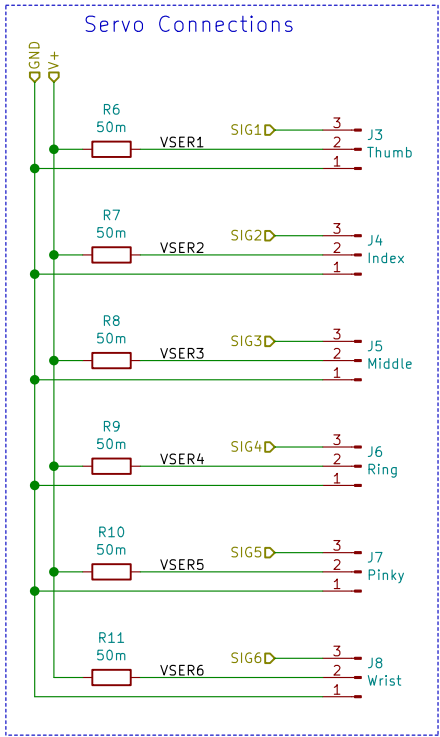


Classification and Control Board



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Control



50mOhm current sense resistors.
Voltage before and after resistor passed through 1/6th voltage divider.
Voltage measured at FBx points by 16-bit ADC.
Voltage drop across resistor given by $FB_Ref - Value$.
Voltage drop across resistor $\times 6 / (50 \times 10^{-3})$ gives current consumed by each servo.
Voltage supply drop to servo should be minimal (and we are supplying near maximum end of rated voltage)

Sheet: /Control/
File: Control.sch

Title:

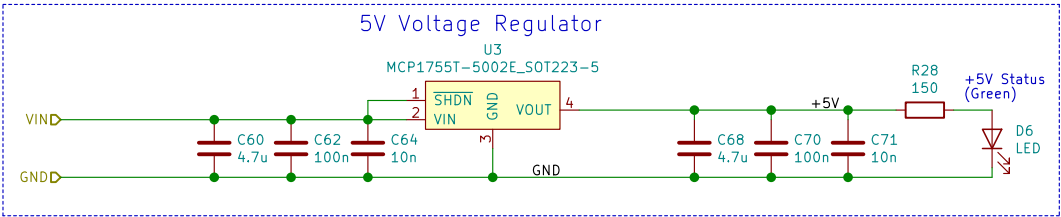
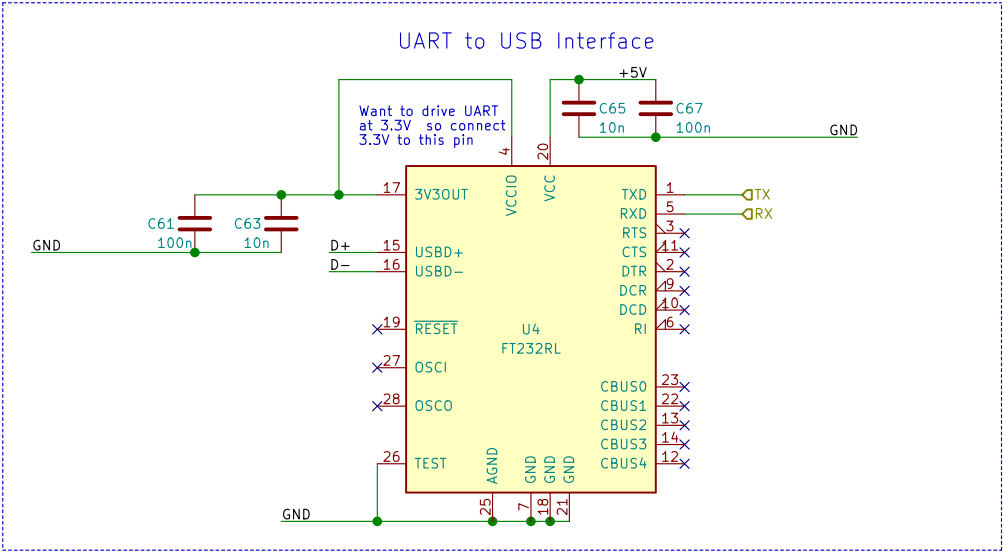
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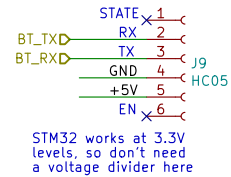
Rev:

Id: 2/4

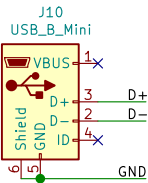
Communications



Bluetooth Module



USB Port



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File: Communications.sch

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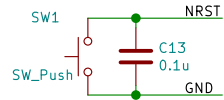
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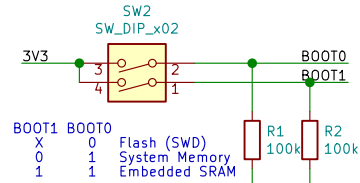
Id: 3/4

STM32F407VGTx

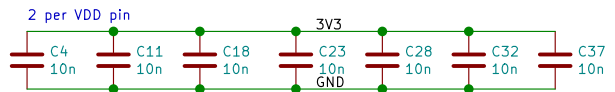
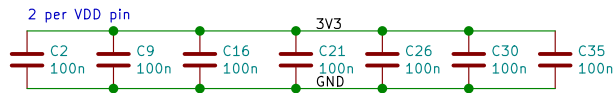
Reset Button



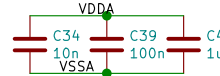
Bootloader Configuration



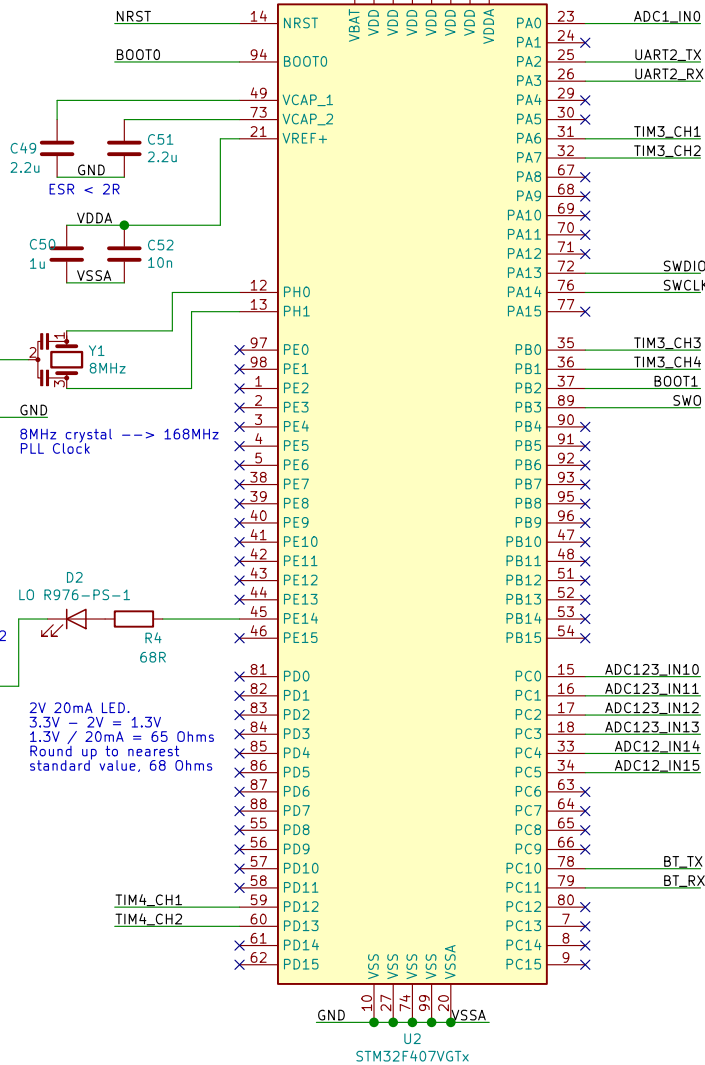
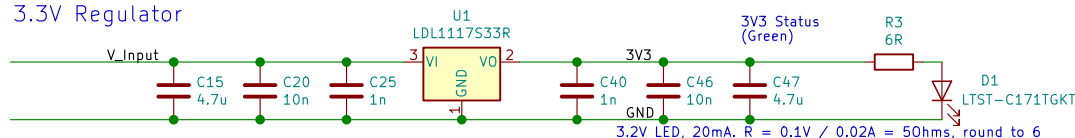
Decoupling Caps



Analog Decoupling Caps



3.3V Regulator



SWD Programming Header

SWO	6
NRST	5
SWDIO	4
GND	3
SWCLK	2
3V3	1

UART

UART2_TX	TX
UART2_RX	RX
BT_TX	BT_TX
BT_RX	BT_RX

Control

TIM3_CH1	PWM1
TIM3_CH2	PWM2
TIM3_CH3	PWM3
TIM3_CH4	PWM4
TIM4_CH1	PWM5
TIM4_CH2	PWM6
ADC123_IN10	QFB4
ADC123_IN11	QFB3
ADC123_IN12	QFB2
ADC123_IN13	QFB1
ADC12_IN14	QFB5
ADC12_IN15	QFB6
ADC1_IN0	QFB_REF

Power

V_Input	V+
GND	GND

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