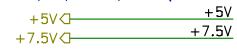


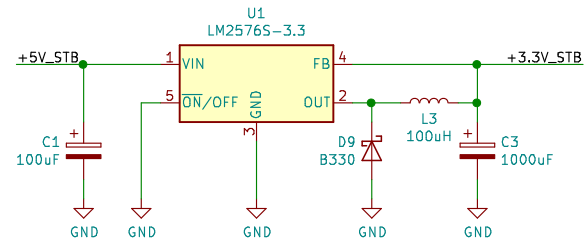
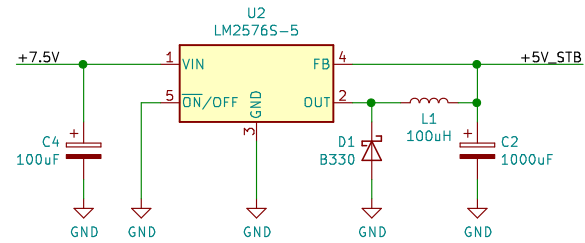
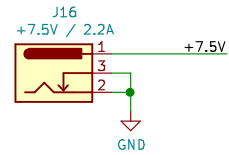
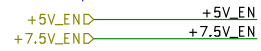
Standby power:

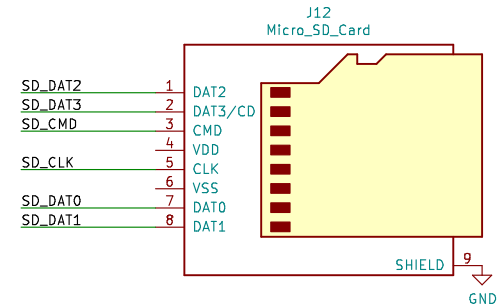
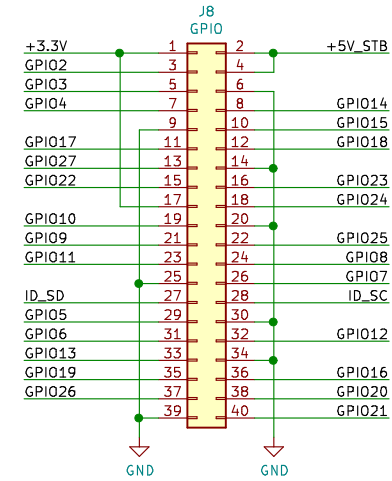
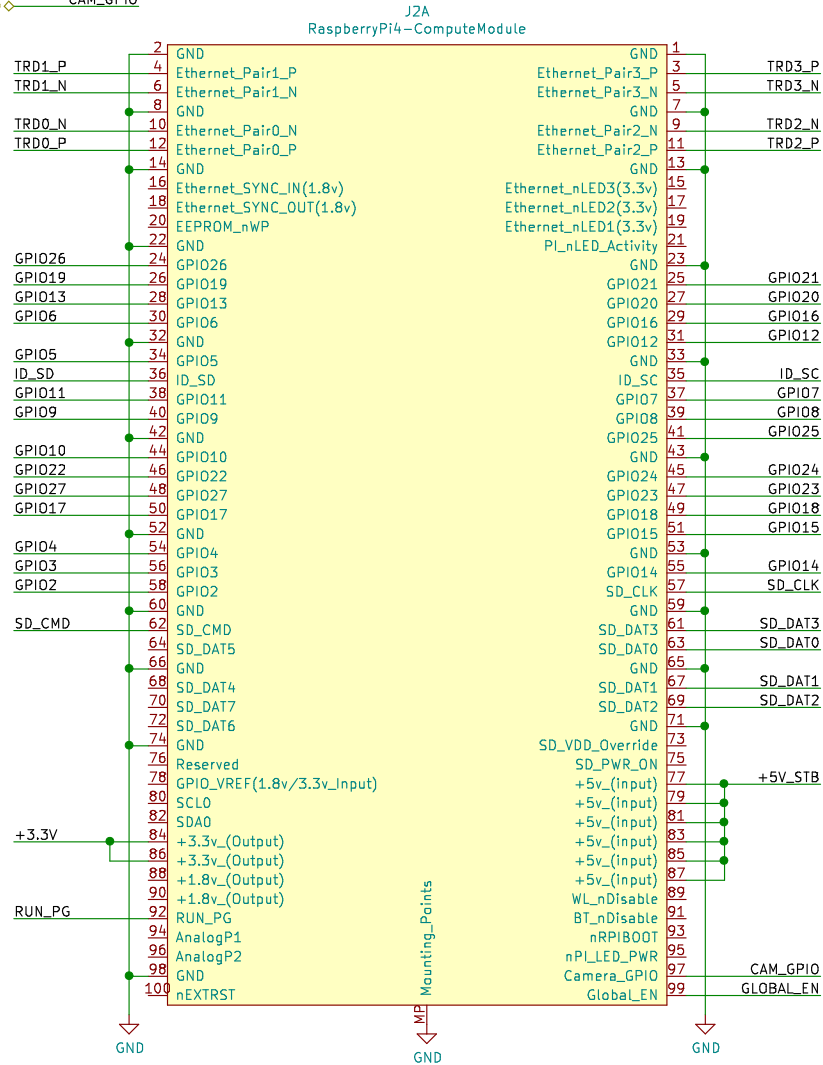
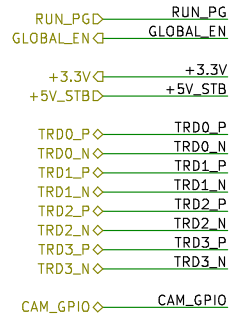


PS0ne peripheral power (controlled by STM32):

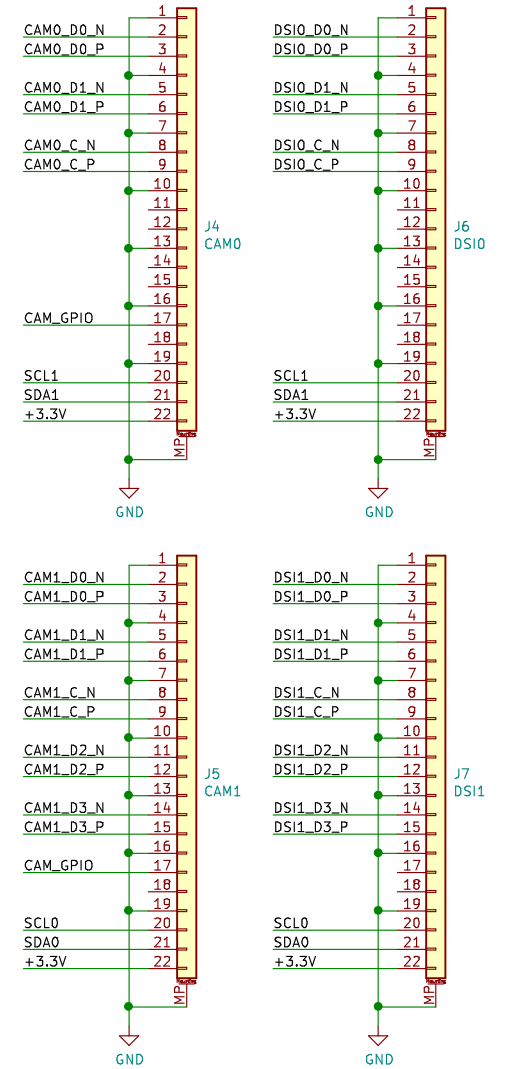
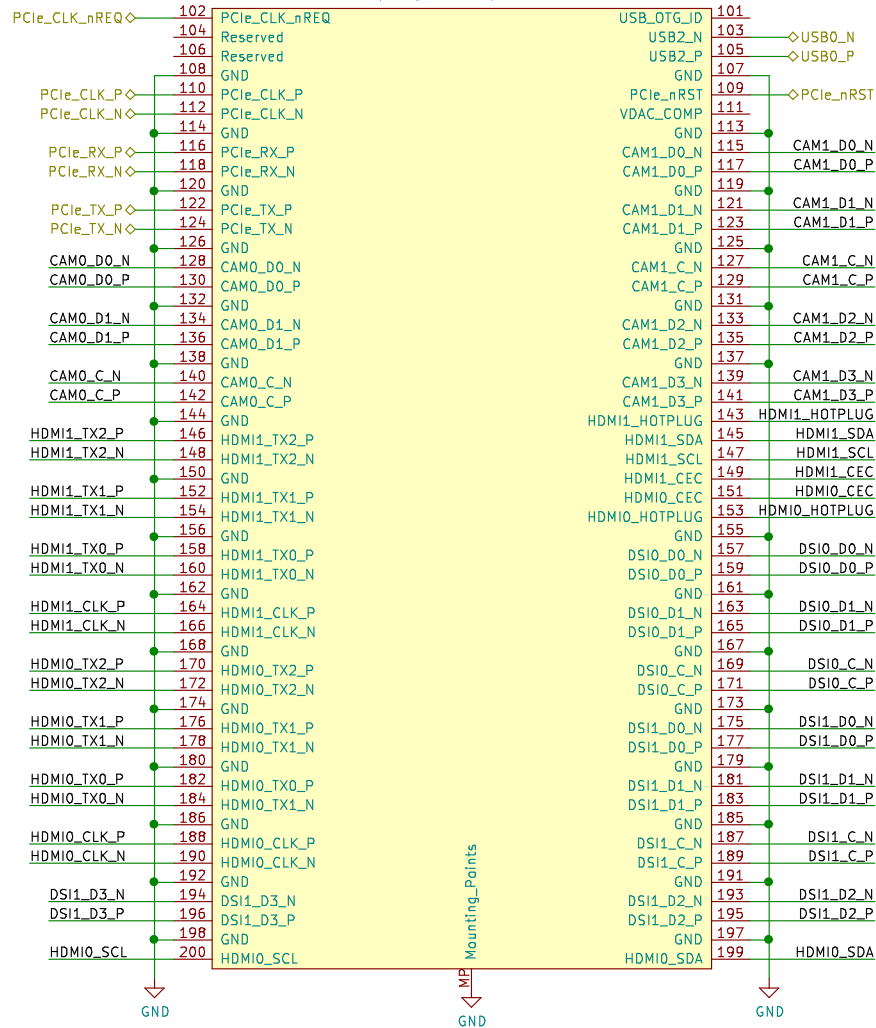
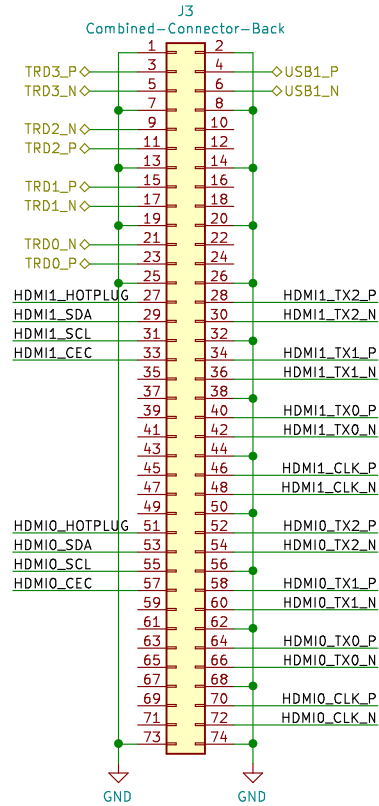


Control inputs from STM32

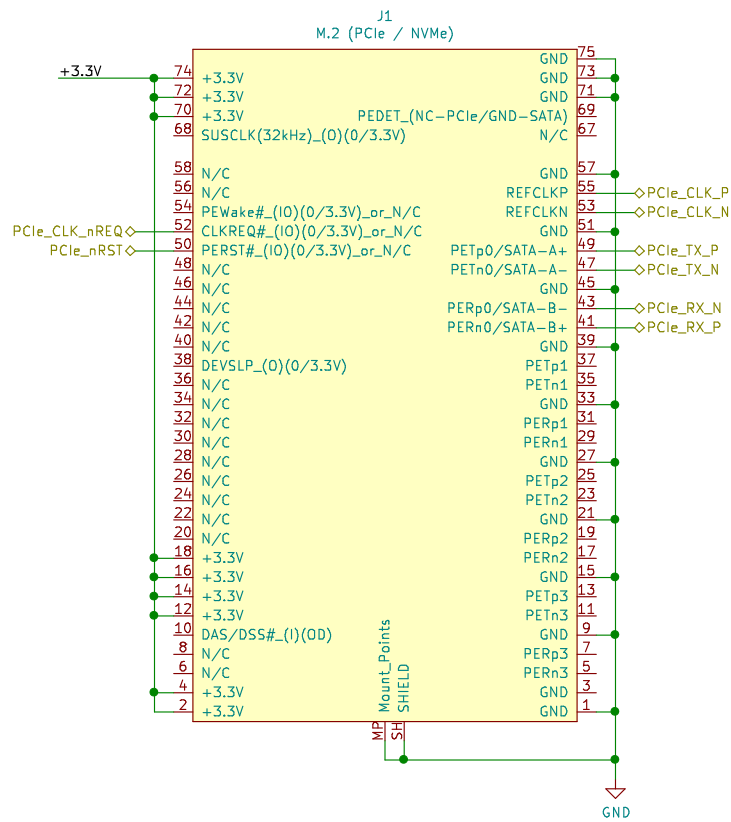




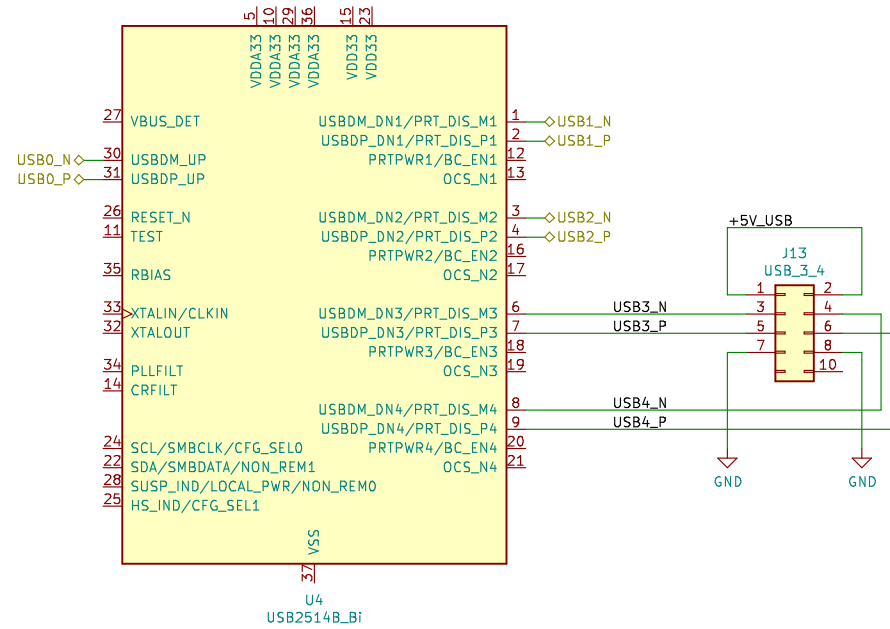
+3.3V  $\rightarrow$  +3.3V  
+5V\_STB  $\rightarrow$  +5V\_STB  
CAM\_GPIO  $\rightarrow$  CAM\_GPIO



+3.3V  +3.3V



+3.3V  +3.3V



+3.3V\_STB D +3.3V\_STB  
+5V D +5V  
+7.5V D +7.5V  
+3.3V\_CPD D +3.3V\_CP

+5V\_EN D +5V\_EN  
+7.5V\_EN D +7.5V\_EN  
+3.3V\_CP\_EN D +3.3V\_CP\_EN

GLOBAL\_EN D GLOBAL\_EN  
RUN\_PG D RUN\_PG

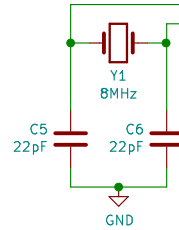
USB2\_N D USB2\_N  
USB2\_P D USB2\_P

CD\_RD\_AD D CD\_RD\_A  
CD\_RD\_BD D CD\_RD\_B  
CD\_RD\_CD D CD\_RD\_C  
CD\_RD\_DD D CD\_RD\_D

CD\_FSC\_AD D CD\_FSC\_A  
CD\_FSC\_BD D CD\_FSC\_B  
CD\_TRC\_AD D CD\_TRC\_A  
CD\_TRC\_BD D CD\_TRC\_B  
CD\_OPT\_AD D CD\_OPT\_A  
CD\_OPT\_BD D CD\_OPT\_B  
CD\_DISK D CD\_DISK

CD\_MD D CD\_MD  
CD\_STOP D CD\_STOP  
CD\_LD D CD\_LD

PWM\_FAN D PWM\_FAN



OSC\_IN 5  
OSC\_OUT 6  
TIM3\_ETR 54  
ADC12\_IN10 8  
ADC12\_IN11 9  
ADC12\_IN12 10  
ADC12\_IN13 11  
ADC12\_IN14 24  
ADC12\_IN15 29  
TIM3\_CH1 37  
TIM3\_CH2 38  
TIM3\_CH3 39  
TIM3\_CH4 40  
USART3\_TX 51  
USART3\_RX 52  
USART3\_CK 53  
TAMPER-RTC 2  
OSC32\_IN 3  
OSC32\_OUT 4

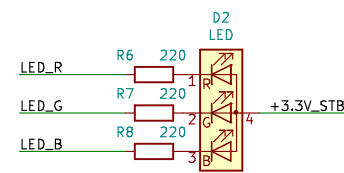
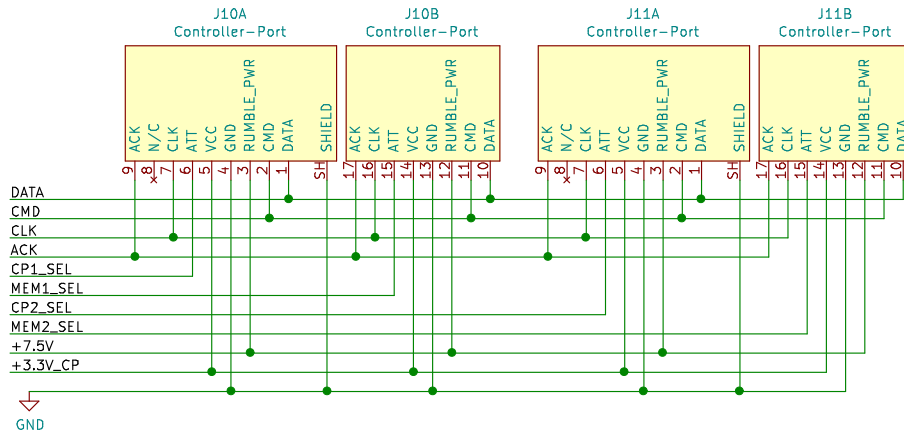
+3.3V\_STB  
1  
19  
32  
48  
64  
13

7 NRST  
60 BOOT0

STM32F103RBTx

18 VSS  
31 VSS  
47 VSS  
63 VSS  
12 VSSA  
GND

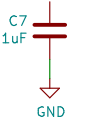
PA0 14 WKUP/USART2\_CTS/ADC12\_IN0/TIM2\_CH1\_ETR PWR\_BTN  
PA1 15 USART2\_RTS/ADC12\_IN1/TIM2\_CH2 CD\_DISK  
PA2 16 USART2\_TX/ADC12\_IN2/TIM2\_CH3 CD\_OPT\_A  
PA3 17 USART2\_RX/ADC12\_IN3/TIM2\_CH4 CD\_OPT\_B  
PA4 20 SPI1\_NSS/ USART2\_CK/ADC12\_IN4 CD\_STOP  
PA5 21 SPI1\_SCK/ADC12\_IN5 CD\_LD  
PA6 22 SPI1\_MISO/ADC12\_IN6/TIM3\_CH1/TIM1\_BKIN CD\_MD  
PA7 23 SPI1\_MOSI/ADC12\_IN7/TIM3\_CH2/TIM1\_CH1N  
PA8 41 USART1\_CK/TIM1\_CH1/MCO LED\_B  
PA9 42 USART1\_TX/TIM1\_CH2 LED\_G TX  
PA10 43 USART1\_RX/TIM1\_CH3 LED\_R RX  
PA11 44 USART1\_CTS/CANRX/USBDM/TIM1\_CH4 USB2\_N  
PA12 45 USART1\_RTS/CANTX/USBDP/TIM1\_ETR USB2\_P  
PA13 46 JTMS/SWDIO +3.3V\_CP\_EN  
PA14 49 JTCK/SWCLK +5V\_EN  
PA15 50 JTDI/TIM2\_CH1\_ETR/SPI1\_NSS +7.5V\_EN  
PB0 26 ADC12\_IN8/TIM3\_CH3/TIM1\_CH2N TEMP  
PB1 27 ADC12\_IN9/TIM3\_CH4/TIM1\_CH3N PWM\_FAN  
PB2 28 BOOT1  
PB3 55 JTD0/TIM2\_CH2/TRACESW/SPI1\_SCK CLK  
PB4 56 JNTRST/TIM3\_CH/SPI1\_MISO DATA  
PB5 57 I2C1\_SMBAL/TIM3\_CH2/SPI1\_MOSI CMD  
PB6 58 I2C1\_SCL/TIM4\_CH1/USART1\_TX ACK  
PB7 59 I2C1\_SDA/TIM4\_CH2/USART1\_RX  
PB8 61 TIM4\_CH3/I2C1\_SCL/CANRX  
PB9 62 TIM4\_CH4/I2C1\_SDA/CANTX  
PB10 29 I2C2\_SCL/USART3\_TX/TIM2\_CH3  
PB11 30 I2C2\_SDA/USART3\_RX/TIM2\_CH4  
PB12 33 SPI2\_NSS/I2C2\_SMBAL/USART3\_CK/TIM1\_BKIN MEM1\_SEL  
PB13 34 SPI2\_SCK/USART3\_CTS/TIM1\_CH1N CP1\_SEL  
PB14 35 SPI2\_MISO/USART3\_RTS/TIM1\_CH2N MEM2\_SEL  
PB15 36 SPI2\_MOSI/TIM1\_CH3N CP2\_SEL



SW2  
CD\_CLOSED



SW1  
PWR\_BTN



+5V → +5V  
 +3.3V\_STB → +3.3V\_STB  
 +3.3V\_CP → +3.3V\_CP  
 +3.3V\_CP\_END → +3.3V\_CP\_EN

#### CD Sensor readings (ADC)

CD\_RD\_A → CD\_RD\_A  
 CD\_RD\_B → CD\_RD\_B  
 CD\_RD\_C → CD\_RD\_C  
 CD\_RD\_D → CD\_RD\_D

#### Focus coil PWMs

CD\_FSC\_AD → CD\_FSC\_A  
 CD\_FSC\_BD → CD\_FSC\_B

#### Tracking coil PWMs

CD\_TRC\_AD → CD\_TRC\_A  
 CD\_TRC\_BD → CD\_TRC\_B

#### CD laser/sensor sled motor PWMs and endstop

CD\_OPT\_AD → CD\_OPT\_A  
 CD\_OPT\_BD → CD\_OPT\_B  
 CD\_STOP → CD\_STOP

#### Disk spin motor PWM

CD\_DISK → CD\_DISK

#### CD laser

CD\_LD → CD\_LD

#### ???

CD\_MD → CD\_MD

#### Fan PWM

PWM\_FAN → PWM\_FAN

