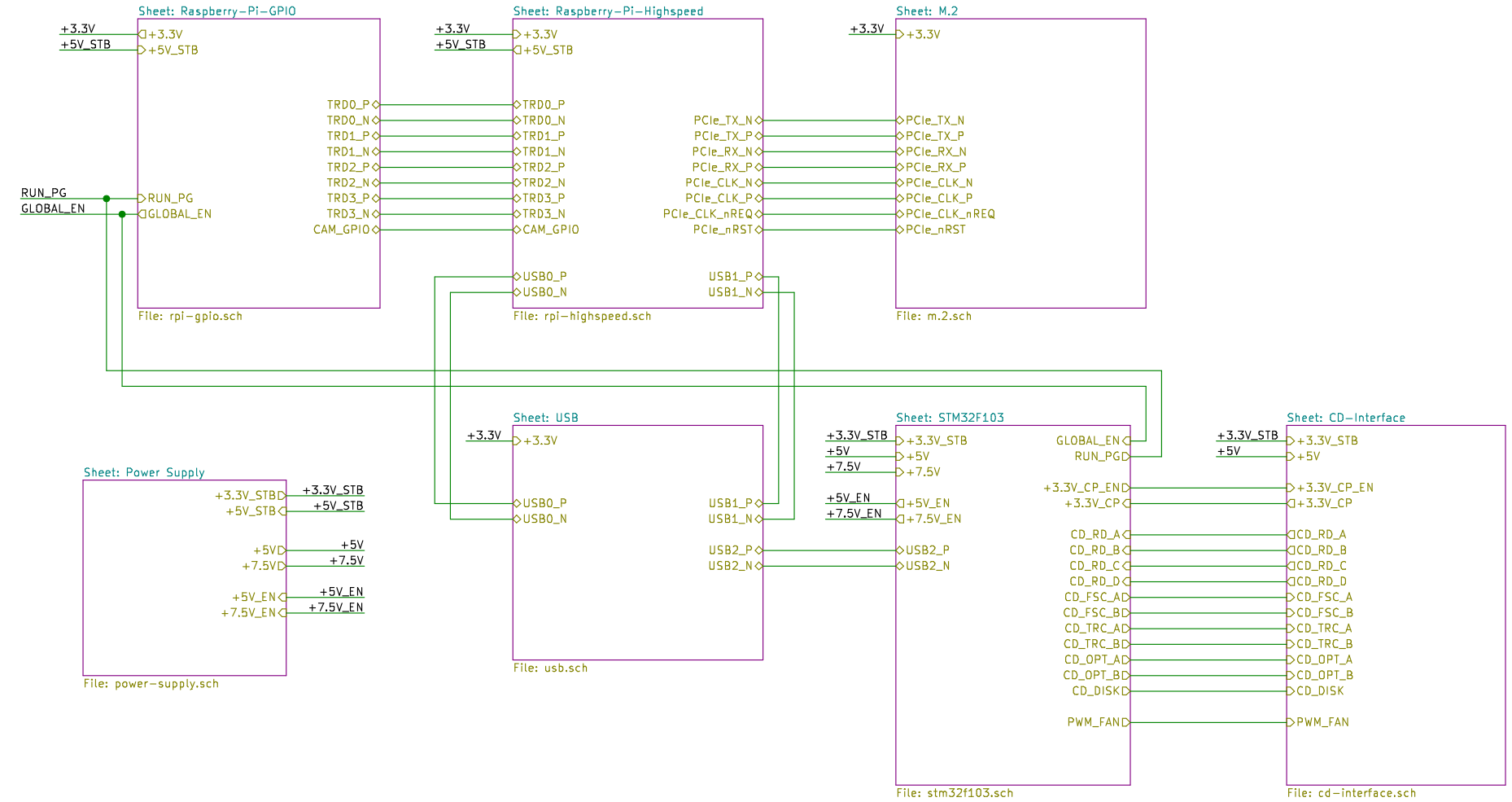


LAYOUT1
PSOne-Board-Layout

Standby power:

+3.3V_STB → +3.3V_STB

+5V_STB → +5V_STB

PSOne peripheral power (controlled by STM32):

+5V → +5V

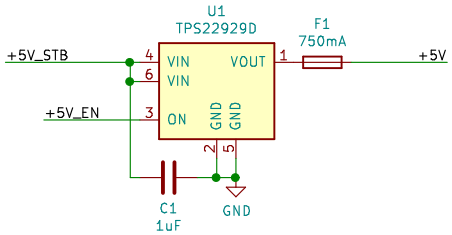
+7.5V → +7.5V

Control inputs from STM32

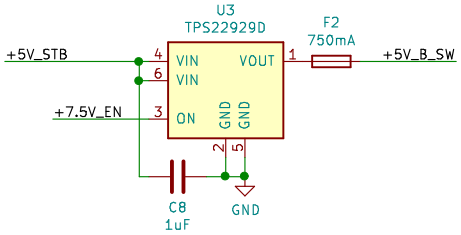
+5V_EN → +5V_EN

+7.5V_EN → +7.5V_EN

+5V power switch for PSOne peripherals

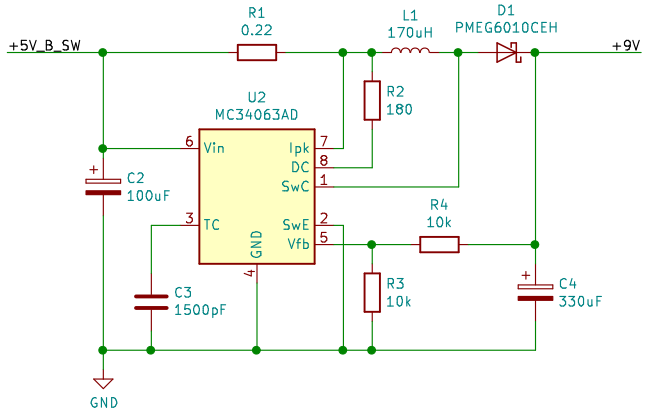


+5V power switch to +7.5V boost converter for cd drive and rumble



+9V boost converter

TODO: R3, R4 and output should be changed for 7.5V (Playstation 1 uses 9V, PSOne only 7.5V)

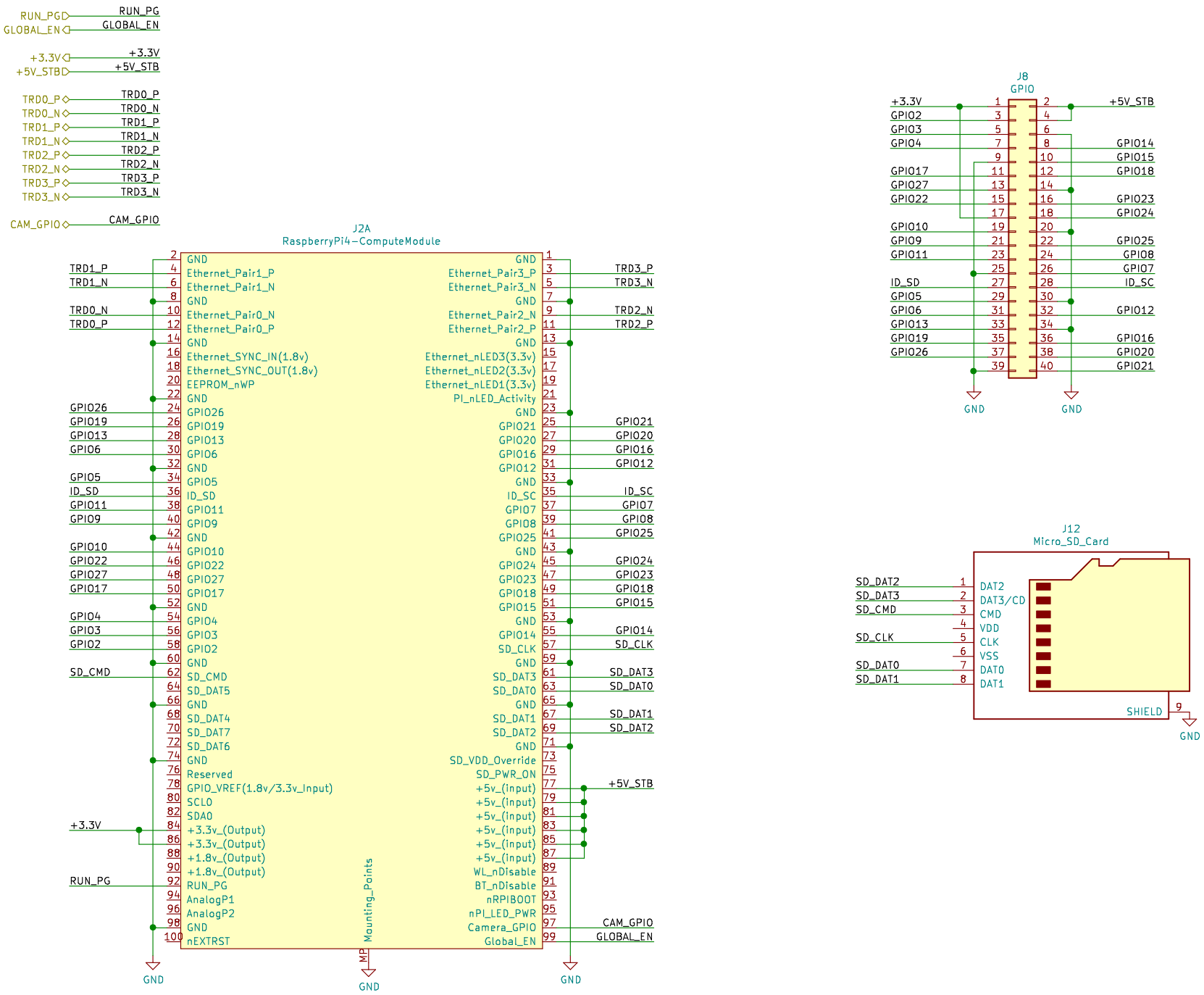


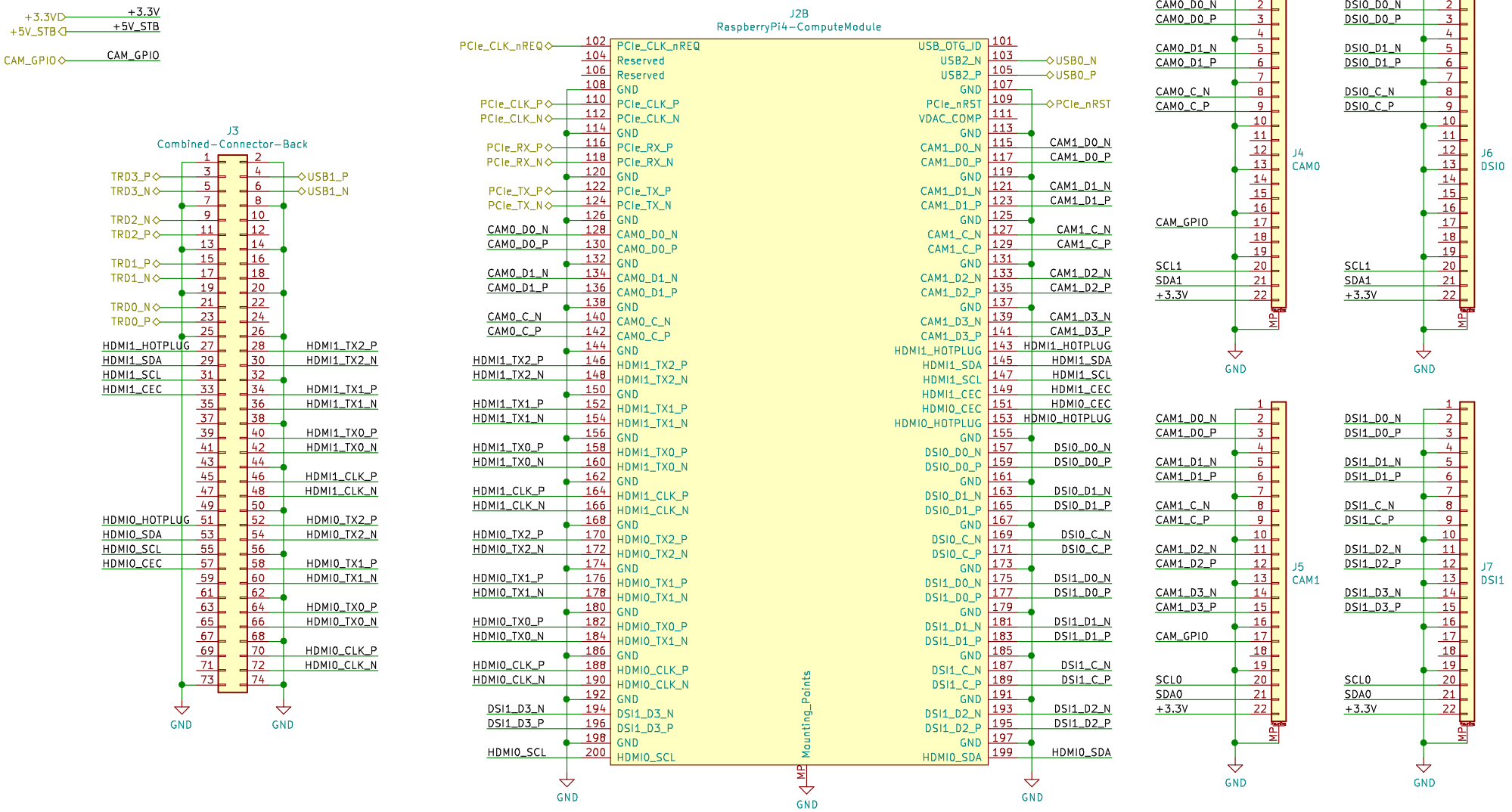
TODO: +5V_STB to +3.3V_STB converter for STM32F103 and eventually M.2

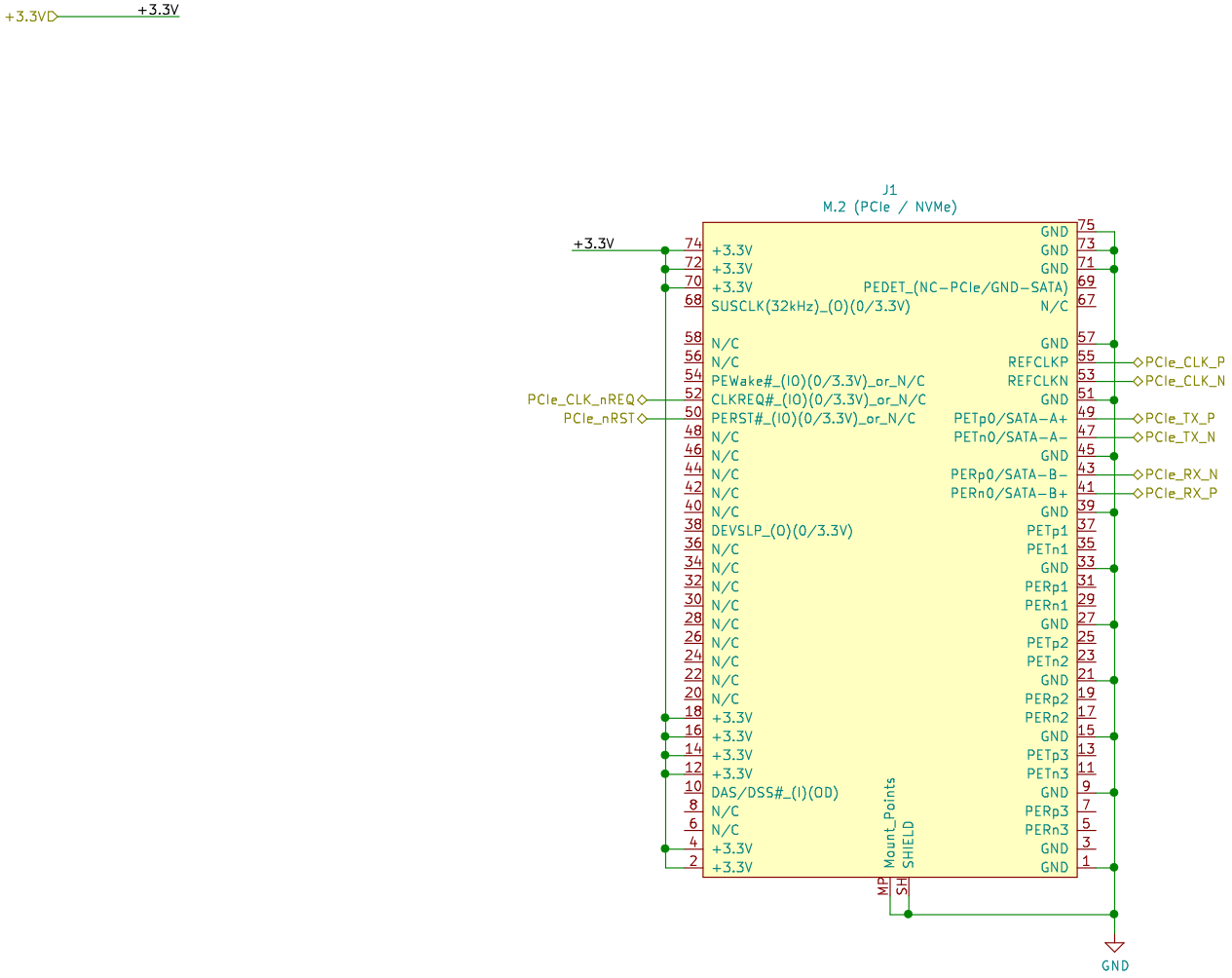
Or use the +3.3V from the Compute Module?

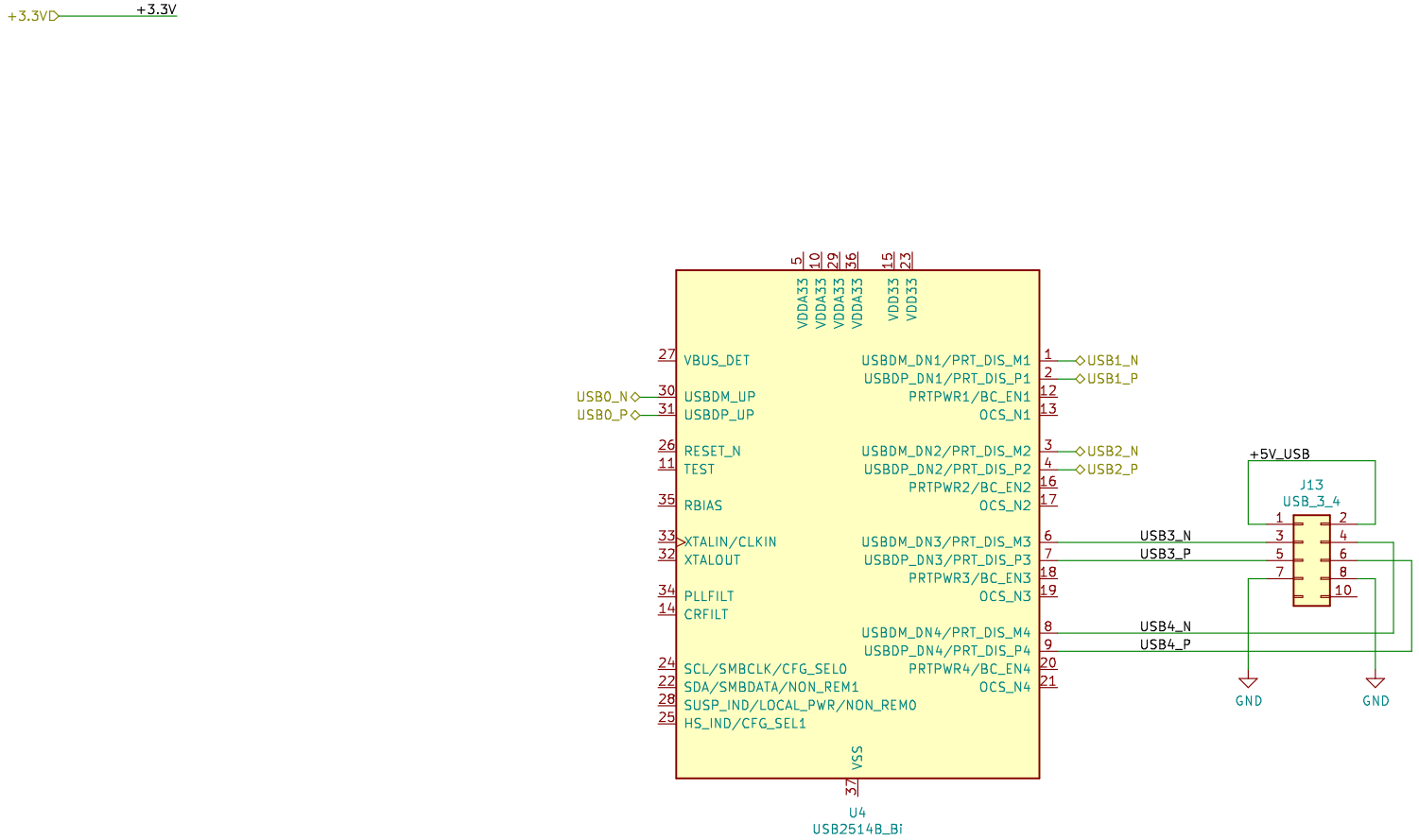
+5V_STB

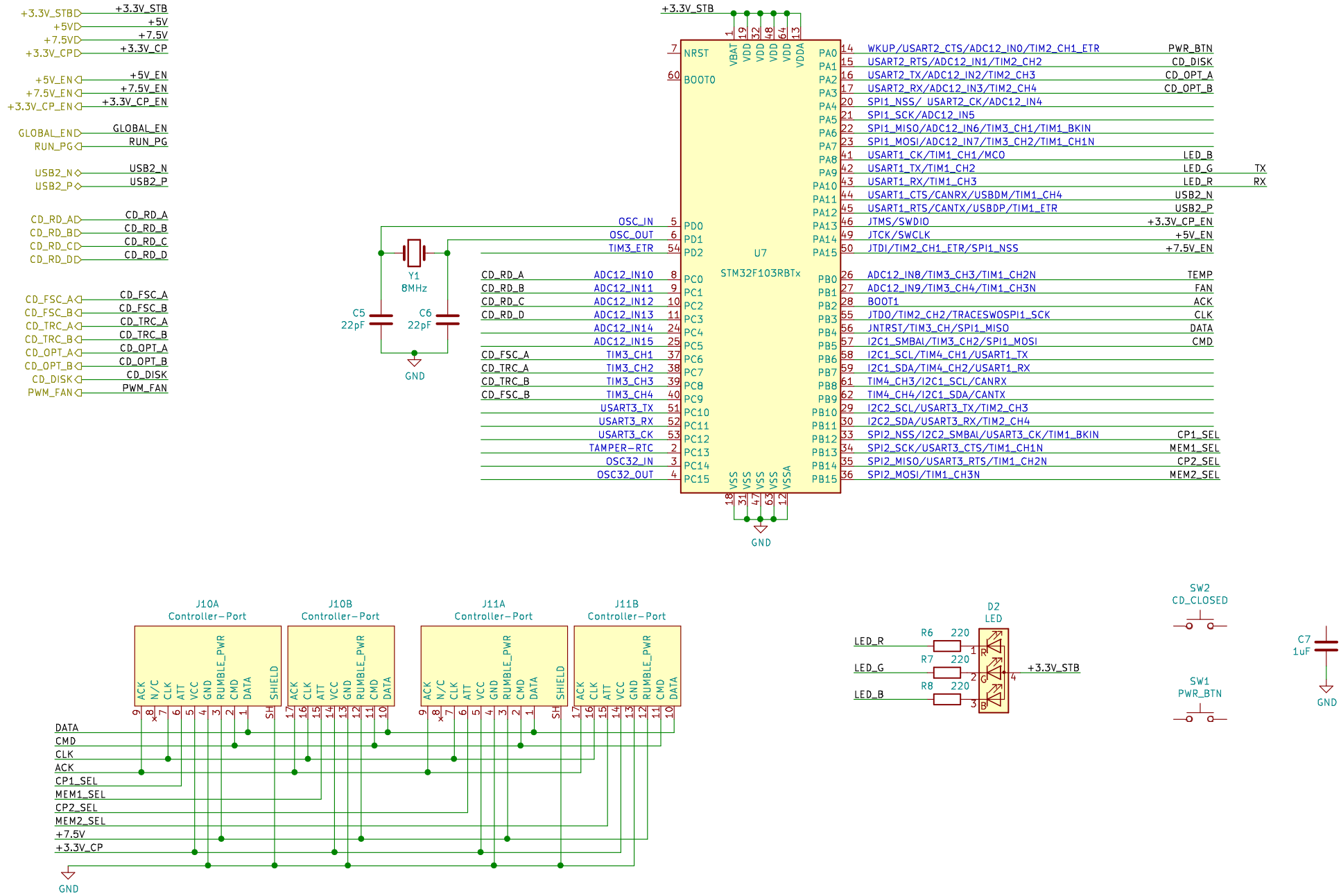
+3.3V_STB

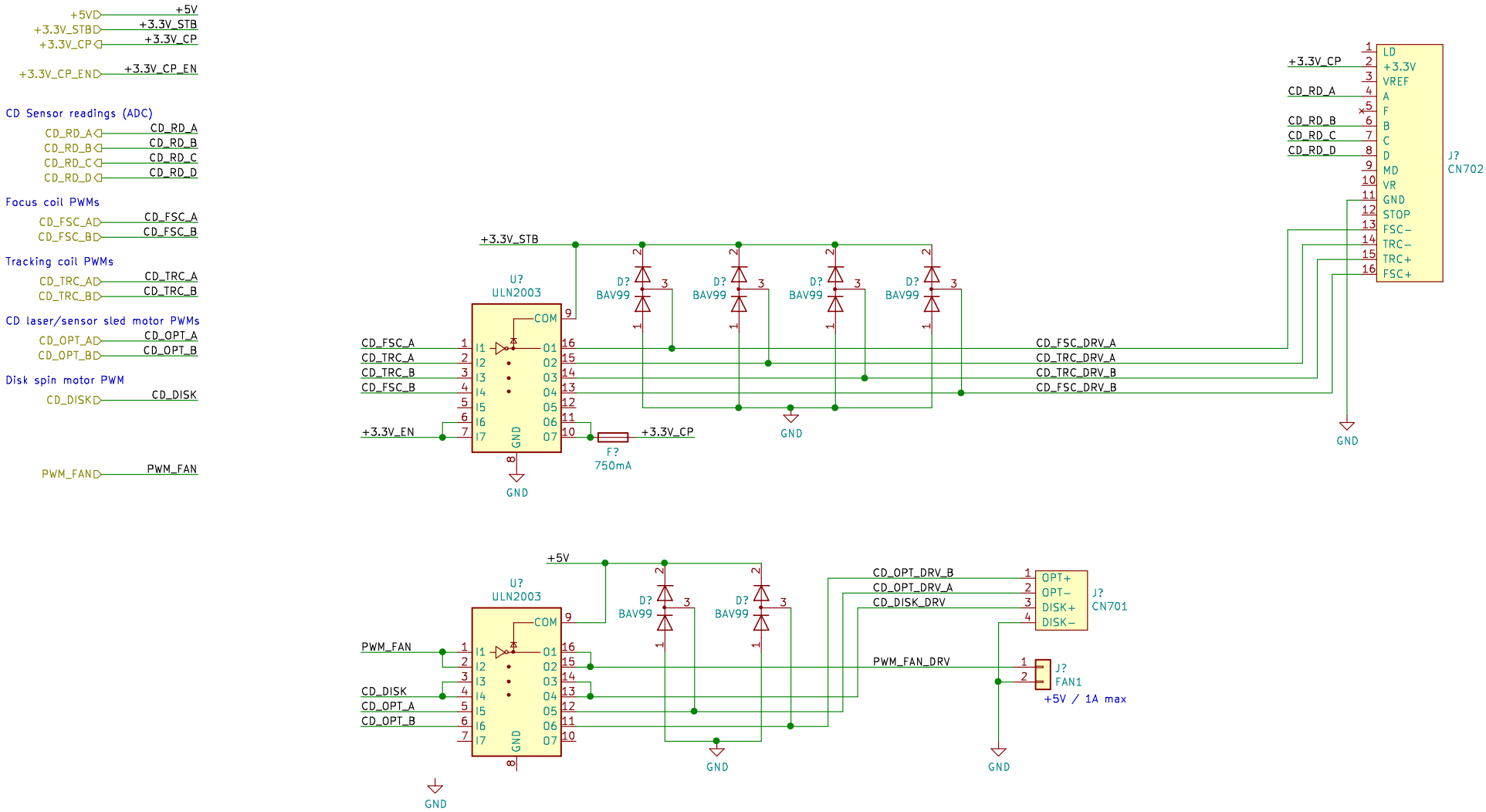

RUN_PG
GLOBAL_EN
+3.3V
+5V_STB
TRD0_P
TRD0_N
TRD1_P
TRD1_N
TRD2_P
TRD2_N
TRD3_P
TRD3_N
CAM_GPIO
J2A
RaspberryPi4-ComputeModule
GND
Ethernet_Pair1_P
Ethernet_Pair1_N
Ethernet_Pair0_N
Ethernet_Pair0_P
Ethernet_SYNC_IN(1.8v)
Ethernet_SYNC_OUT(1.8v)
EEPROM_nWP
GPIO26
GPIO19
GPIO13
GPIO6
GPIO5
ID_SD
GPIO11
GPIO9
GPIO10
GPIO22
GPIO27
GPIO17
GPIO4
GPIO3
GPIO2
SD_CMD
SD_DAT5
SD_DAT4
SD_DAT7
SD_DAT6
Reserved
GPIO_VREF(1.8v/3.3v_Input)
SCL0
SDA0
+3.3v_(Output)
+1.8v_(Output)
RUN_PG
AnalogP1
AnalogP2
nEXTRST
Ethernet_Pair3_P
Ethernet_Pair3_N
Ethernet_Pair2_N
Ethernet_Pair2_P
Ethernet_nLED3(3.3v)
Ethernet_nLED2(3.3v)
Ethernet_nLED1(3.3v)
PI_nLED_Activity
GPIO21
GPIO20
GPIO16
GPIO12
ID_SC
GPIO7
GPIO8
GPIO25
GPIO24
GPIO23
GPIO18
GPIO15
GPIO14
SD_CLK
SD_DAT3
SD_DAT0
SD_DAT1
SD_DAT2
SD_VDD_Override
SD_PWR_ON
+5v_(input)
WL_nDisable
BT_nDisable
nRPIBOOT
nPI_LED_PWR
Camera_GPIO
Global_EN
Mounting_Points
MP
J8
GPIO
+3.3V
+5V_STB
GPIO2
GPIO3
GPIO4
GPIO14
GPIO15
GPIO17
GPIO18
GPIO27
GPIO23
GPIO22
GPIO24
GPIO10
GPIO25
GPIO9
GPIO8
GPIO11
GPIO7
ID_SD
ID_SC
GPIO5
GPIO12
GPIO6
GPIO13
GPIO16
GPIO19
GPIO20
GPIO26
GPIO21
J12
Micro_SD_Card
SD_DAT2
SD_DAT3
SD_CMD
SD_CLK
SD_DAT0
SD_DAT1
DAT2
DAT3/CD
CMD
VDD
CLK
VSS
DAT0
DAT1
SHIELD
GND


+3.3V
+5V_STB
CAM_GPIO
J3
Combined-Connector-Back
TRD3_P
TRD3_N
TRD2_N
TRD2_P
TRD1_P
TRD1_N
TRD0_N
TRD0_P
USB1_P
USB1_N
HDMI1_HOTPLUG
HDMI1_SDA
HDMI1_SCL
HDMI1_CEC
HDMI1_TX2_P
HDMI1_TX2_N
HDMI1_TX1_P
HDMI1_TX1_N
HDMI1_TX0_P
HDMI1_TX0_N
HDMI1_CLK_P
HDMI1_CLK_N
HDMI0_HOTPLUG
HDMI0_SDA
HDMI0_SCL
HDMI0_CEC
HDMI0_TX2_P
HDMI0_TX2_N
HDMI0_TX1_P
HDMI0_TX1_N
HDMI0_TX0_P
HDMI0_TX0_N
HDMI0_CLK_P
HDMI0_CLK_N
GND
GND
J2B
RaspberryPi4-ComputeModule
PCIe_CLK_nREQ
PCIe_CLK_P
PCIe_CLK_N
PCIe_RX_P
PCIe_RX_N
PCIe_TX_P
PCIe_TX_N
CAM0_D0_N
CAM0_D0_P
CAM0_D1_N
CAM0_D1_P
CAM0_C_N
CAM0_C_P
DSI1_D3_N
DSI1_D3_P
HDMI0_SCL
Reserved
Reserved
USB_OTG_ID
USB2_N
USB2_P
PCIe_nRST
VDAC_COMP
CAM1_D0_N
CAM1_D0_P
CAM1_D1_N
CAM1_D1_P
CAM1_C_N
CAM1_C_P
CAM1_D2_N
CAM1_D2_P
CAM1_D3_N
CAM1_D3_P
HDMI1_HOTPLUG
HDMI1_SDA
HDMI1_SCL
HDMI1_CEC
HDMI0_CEC
HDMI0_HOTPLUG
DSI0_D0_N
DSI0_D0_P
DSI0_D1_N
DSI0_D1_P
DSI0_C_N
DSI0_C_P
DSI1_D0_N
DSI1_D0_P
DSI1_D1_N
DSI1_D1_P
DSI1_C_N
DSI1_C_P
DSI1_D2_N
DSI1_D2_P
HDMI0_SDA
USB0_N
USB0_P
PCIe_nRST
Mounting_Points
MP
GND
GND
GND
J4
CAM0
CAM0_D0_N
CAM0_D0_P
CAM0_D1_N
CAM0_D1_P
CAM0_C_N
CAM0_C_P
CAM_GPIO
SCL1
SDA1
+3.3V
J6
DSI0
DSI0_D0_N
DSI0_D0_P
DSI0_D1_N
DSI0_D1_P
DSI0_C_N
DSI0_C_P
SCL1
SDA1
+3.3V
J5
CAM1
CAM1_D0_N
CAM1_D0_P
CAM1_D1_N
CAM1_D1_P
CAM1_C_N
CAM1_C_P
CAM1_D2_N
CAM1_D2_P
CAM1_D3_N
CAM1_D3_P
CAM_GPIO
SCL0
SDA0
+3.3V
J7
DSI1
DSI1_D0_N
DSI1_D0_P
DSI1_D1_N
DSI1_D1_P
DSI1_C_N
DSI1_C_P
DSI1_D2_N
DSI1_D2_P
DSI1_D3_N
DSI1_D3_P
SCL0
SDA0
+3.3V


+3.3V
+3.3V
J1
M.2 (PCIe / NVMe)
+3.3V
PCIe_CLK_nREQ
PCIe_nRST
PCIe_CLK_P
PCIe_CLK_N
PCIe_TX_P
PCIe_TX_N
PCIe_RX_N
PCIe_RX_P
GND
Mount_Points
SHIELD
MP
SH


+3.3VD
+3.3V
5
10
29
36
15
23
VDDA33
VDDA33
VDDA33
VDDA33
VDD33
VDD33
27
VBUS_DET
30
USBDM_UP
31
USBDP_UP
26
RESET_N
11
TEST
35
RBIAS
33
XTALIN/CLKIN
32
XTALOUT
34
PLLFILT
14
CRFILT
24
SCL/SMBCLK/CFG_SEL0
22
SDA/SMBDATA/NON_REM1
28
SUSP_IND/LOCAL_PWR/NON_REMO
25
HS_IND/CFG_SEL1
37
VSS
USB0_N
USB0_P
USBDM_DN1/PRT_DIS_M1
USBDP_DN1/PRT_DIS_P1
PRTPWR1/BC_EN1
OCS_N1
USBDM_DN2/PRT_DIS_M2
USBDP_DN2/PRT_DIS_P2
PRTPWR2/BC_EN2
OCS_N2
USBDM_DN3/PRT_DIS_M3
USBDP_DN3/PRT_DIS_P3
PRTPWR3/BC_EN3
OCS_N3
USBDM_DN4/PRT_DIS_M4
USBDP_DN4/PRT_DIS_P4
PRTPWR4/BC_EN4
OCS_N4
1
2
12
13
3
4
16
17
6
7
18
19
8
9
20
21
USB1_N
USB1_P
USB2_N
USB2_P
USB3_N
USB3_P
USB4_N
USB4_P
U4
USB2514B_Bi
+5V_USB
J13
USB_3_4
1
2
3
4
5
6
7
8
10
GND
GND


+3.3V_STB
+5V
+7.5V
+3.3V_CP
+5V_EN
+7.5V_EN
+3.3V_CP_EN
GLOBAL_EN
RUN_PG
USB2_N
USB2_P
CD_RD_A
CD_RD_B
CD_RD_C
CD_RD_D
CD_FSC_A
CD_FSC_B
CD_TRC_A
CD_TRC_B
CD_OPT_A
CD_OPT_B
CD_DISK
PWM_FAN
U7
STM32F103RBTx
NRST
BOOT0
VBAT
VDD
VDDA
VSS
VSSA
PD0
PD1
PD2
PC0
PC1
PC2
PC3
PC4
PC5
PC6
PC7
PC8
PC9
PC10
PC11
PC12
PC13
PC14
PC15
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13
PA14
PA15
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PB8
PB9
PB10
PB11
PB12
PB13
PB14
PB15
OSC_IN
OSC_OUT
TIM3_ETR
ADC12_IN10
ADC12_IN11
ADC12_IN12
ADC12_IN13
ADC12_IN14
ADC12_IN15
TIM3_CH1
TIM3_CH2
TIM3_CH3
TIM3_CH4
USART3_TX
USART3_RX
USART3_CK
TAMPER-RTC
OSC32_IN
OSC32_OUT
WKUP/USART2_CTS/ADC12_IN0/TIM2_CH1_ETR
USART2_RTS/ADC12_IN1/TIM2_CH2
USART2_TX/ADC12_IN2/TIM2_CH3
USART2_RX/ADC12_IN3/TIM2_CH4
SPI1_NSS/ USART2_CK/ADC12_IN4
SPI1_SCK/ADC12_IN5
SPI1_MISO/ADC12_IN6/TIM3_CH1/TIM1_BKIN
SPI1_MOSI/ADC12_IN7/TIM3_CH2/TIM1_CH1N
USART1_CK/TIM1_CH1/MCO
USART1_TX/TIM1_CH2
USART1_RX/TIM1_CH3
USART1_CTS/CANRX/USBDM/TIM1_CH4
USART1_RTS/CANTX/USBDP/TIM1_ETR
JTMS/SWDIO
JTCK/SWCLK
JTDI/TIM2_CH1_ETR/SPI1_NSS
ADC12_IN8/TIM3_CH3/TIM1_CH2N
ADC12_IN9/TIM3_CH4/TIM1_CH3N
BOOT1
JTDO/TIM2_CH2/TRACESWOSPI1_SCK
JNTRST/TIM3_CH/SPI1_MISO
I2C1_SMBAI/TIM3_CH2/SPI1_MOSI
I2C1_SCL/TIM4_CH1/USART1_TX
I2C1_SDA/TIM4_CH2/USART1_RX
TIM4_CH3/I2C1_SCL/CANRX
TIM4_CH4/I2C1_SDA/CANTX
I2C2_SCL/USART3_TX/TIM2_CH3
I2C2_SDA/USART3_RX/TIM2_CH4
SPI2_NSS/I2C2_SMBAI/USART3_CK/TIM1_BKIN
SPI2_SCK/USART3_CTS/TIM1_CH1N
SPI2_MISO/USART3_RTS/TIM1_CH2N
SPI2_MOSI/TIM1_CH3N
PWR_BTN
CD_DISK
CD_OPT_A
CD_OPT_B
LED_B
LED_G
LED_R
TX
RX
CP1_SEL
MEM1_SEL
CP2_SEL
MEM2_SEL
TEMP
FAN
ACK
CLK
DATA
CMD
Y1
8MHz
C5
22pF
C6
22pF
GND
J10A
J10B
J11A
J11B
Controller-Port
ACK
N/C
CLK
ATT
VCC
GND
RUMBLE_PWR
CMD
DATA
SHIELD
D2
LED
R6
R7
R8
220
SW2
CD_CLOSED
SW1
PWR_BTN
C7
1uF


+5V
+3.3V_STB
+3.3V_CP
+3.3V_CP_EN
CD Sensor readings (ADC)
CD_RD_A
CD_RD_B
CD_RD_C
CD_RD_D
Focus coil PWMs
CD_FSC_A
CD_FSC_B
Tracking coil PWMs
CD_TRC_A
CD_TRC_B
CD laser/sensor sled motor PWMs
CD_OPT_A
CD_OPT_B
Disk spin motor PWM
CD_DISK
PWM_FAN
U?
ULN2003
COM
GND
D?
BAV99
F?
750mA
J?
CN702
LD
+3.3V
VREF
A
F
B
C
D
MD
VR
GND
STOP
FSC−
TRC−
TRC+
FSC+
CD_FSC_DRV_A
CD_TRC_DRV_A
CD_TRC_DRV_B
CD_FSC_DRV_B
J?
CN701
OPT+
OPT−
DISK+
DISK−
CD_OPT_DRV_B
CD_OPT_DRV_A
CD_DISK_DRV
PWM_FAN_DRV
J?
FAN1
+5V / 1A max