GLOBAL_EN
SHDN/BOOT(GPIO3)
V_SHDN(電圧監視SHDN)

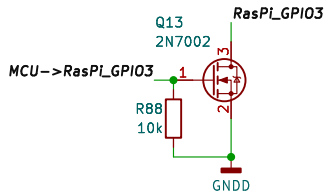
Power
V_Meas. — V_Meas.
UV_SHDN — ResetIC->RasPi_SHDN
File: Power.kicad_sch

RingNW
V_Meas. — V_Meas.
H723VG->RasPi_GPIO3 — MCU->RasPi_GPIO3
MOSIx — RasPi->MCU_MOSI
MISOx — RasPi->MCU_MISO
SCLKx — RasPi->MCU_SCLK
CSx — RasPi->MCU_CS
File: RingNW.kicad_sch

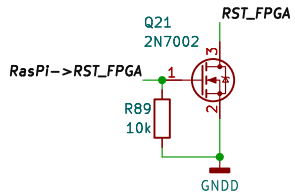
RasPi_CM4
RasPi_SHDN — V_SHDN
RasPi_GPIO3 — SHDN/BOOT
RasPi->MCU_MOSI — MOSI0
RasPi->MCU_MISO — MISO0
RasPi->MCU_SCLK — SCLK0
RasPi->MCU_CS — CS0_MCU
RasPi->RST_FPGA — RasPi->RST_FPGA
MOSI4 — RasPi->FPGA_MOSI
MISO4 — RasPi->FPGA_MISO
SCLK4 — RasPi->FPGA_SCLK
CS4_FPGA — RasPi->FPGA_CS
DSI1_CK_P — DSI_CK_P
DSI1_CK_N — DSI_CK_N
DSI1_D0_P — DSI_D0_P
DSI1_D0_N — DSI_D0_N
DSI1_D1_P — DSI_D1_P
DSI1_D1_N — DSI_D1_N
DSI1_D2_P — DSI_D2_P
DSI1_D2_N — DSI_D2_N
DSI1_D3_P — DSI_D3_P
DSI1_D3_N — DSI_D3_N
PCM_CLK — PCM_CLK
PCM_FS — PCM_FS
PCM_DIN — PCM_DIN
PCM_DOUT — PCM_DOUT
File: RasPi_CM4.kicad_sch

FPGA_TangPrimerCore
RST_FPGA — nRECONFIG
RasPi->FPGA_MOSI — MOSI
RasPi->FPGA_MISO — MISO
RasPi->FPGA_SCLK — SCLK
RasPi->FPGA_CS — CS
DSI_CK_P — MIPI_CK_P
DSI_CK_N — MIPI_CK_N
DSI_D0_P — MIPI_D0_P
DSI_D0_N — MIPI_D0_N
DSI_D1_P — MIPI_D1_P
DSI_D1_N — MIPI_D1_N
DSI_D2_P — MIPI_D2_P
DSI_D2_N — MIPI_D2_N
DSI_D3_P — MIPI_D3_P
DSI_D3_N — MIPI_D3_N
PCM_CLK — PCM_CLK
PCM_FS — PCM_FS
PCM_DIN — PCM_DIN
PCM_DOUT — PCM_DOUT
File: FPGA_TangPrimerCore.kicad_sch

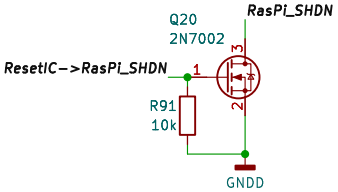
H723VG to RasPi Reset



RasPi to TangPrimer Reset

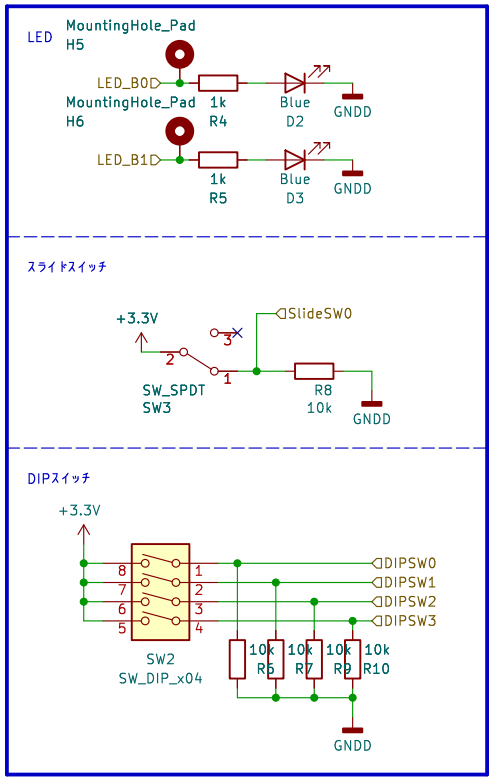


Reset IC to RasPi SHDN

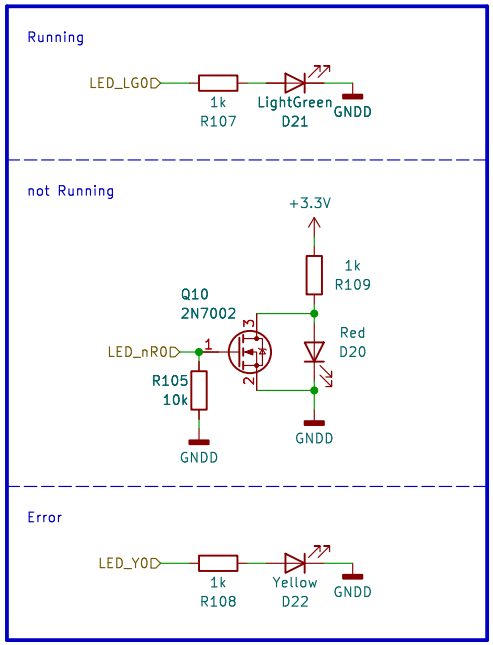


Sheet: /
File: RasPi.kicad_sch
Title:
Size: A4 | Date: | Rev:
KiCad E.D.A. eeschema 7.0.11 | Id: 1/16

I/O



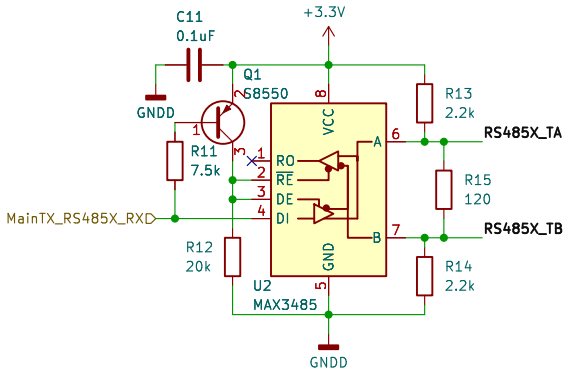
Indicator



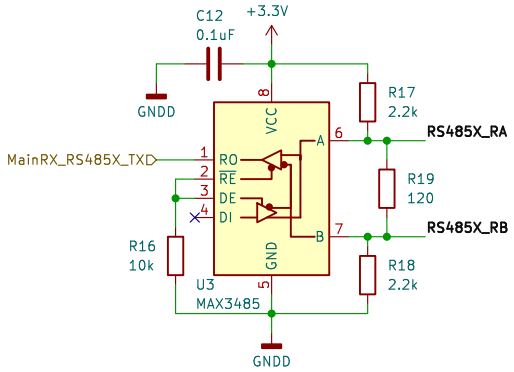
Sheet: /RingNW/UI_RingNW/		
File: UI_RingNW.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 2/16

RS485_RingNW_X

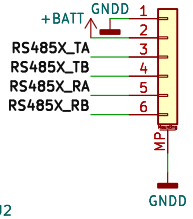
MAX3485_Tx(3,4Pin)



MAX3485_Rx(5,6Pin)



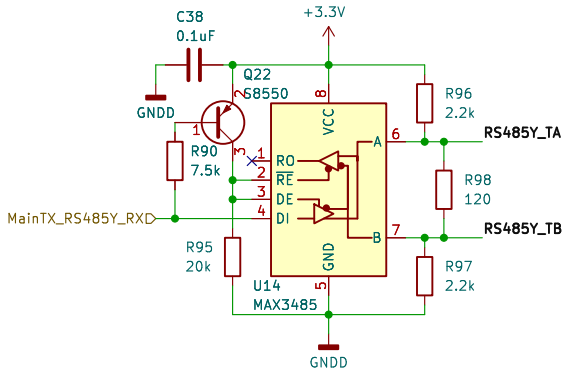
Conn



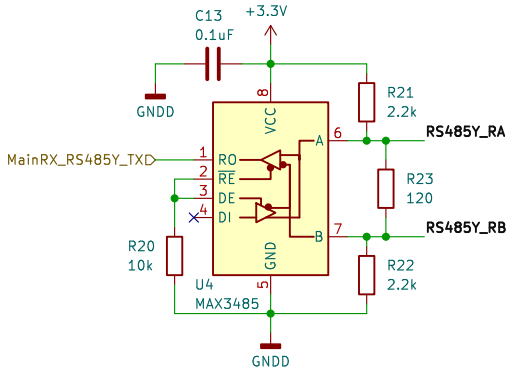
J2
Conn_01x06_MountingPin

RS485_RingNW_Y

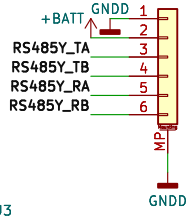
MAX3485_Tx(3,4Pin)



MAX3485_Rx(5,6Pin)



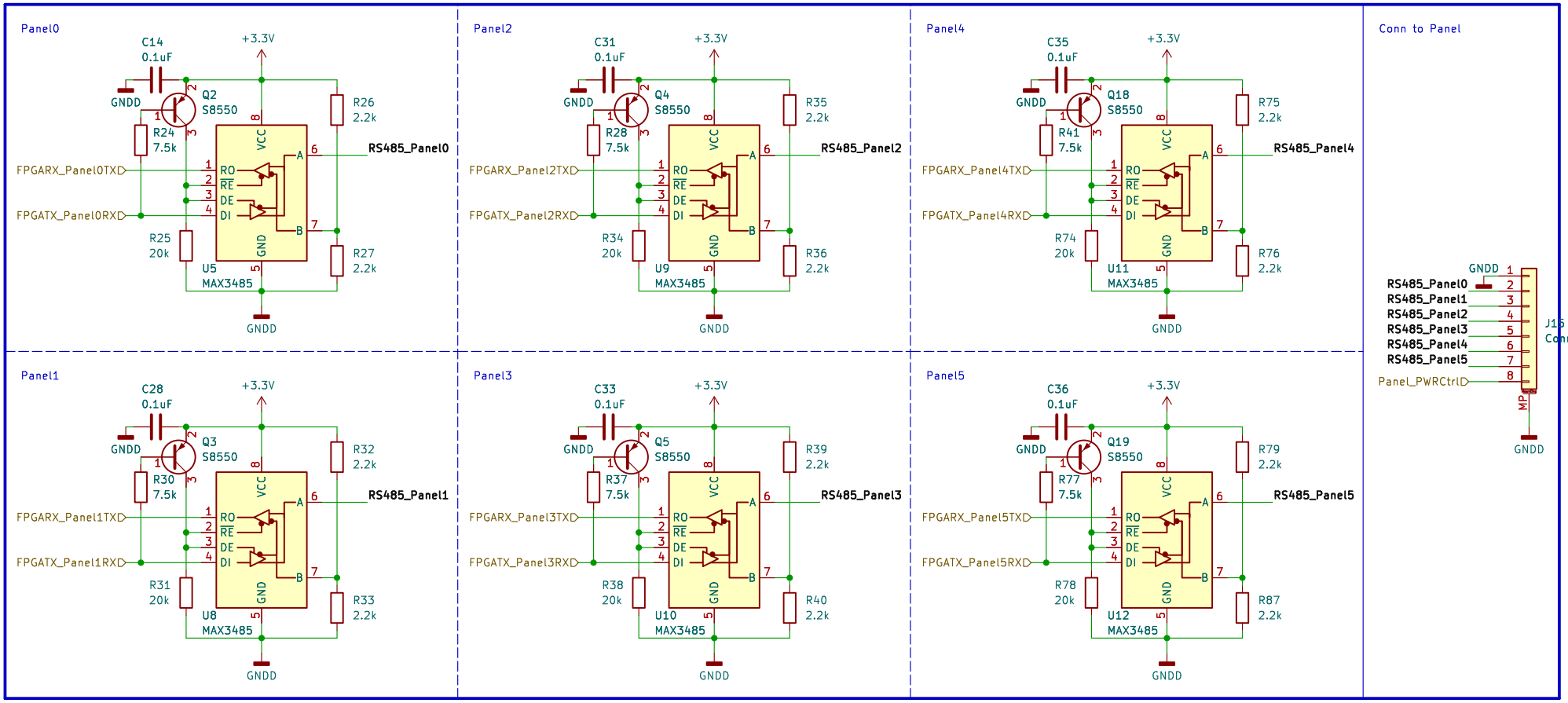
Conn



J3
Conn_01x06_MountingPin

Sheet: /RingNW/RS485_RingNW/		
File: RS485_RingNW.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 3/16

Trans to RS485



Sheet: /FPGA_TangPrimerCore/RS485_Panel/
File: RS485_Panel.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 4/16

MOSI/MISOはいつものとおんなじでいいのか
いつもはマスターだけど今回はスレーブ

ネットワークマイコン

HSE

C4 22pF
Y1 16MHz
C5 22pF
HSE_IN
HSE_OUT
GNDD

NRST

SW1 SW_SPST
C2 0.1uF
GNDD

BOOT0

R2 10k
GNDD

書き込み

J1 Conn_01x14_Pin
D1 1N5819WS
R1 1k
+3.3V
SWDIO
SWCLK
SWO
NRST
GNDD

パスコン

+3.3V
C1 0.1uF
C3 0.1uF
C6 0.1uF
C7 0.1uF
C8 0.1uF
C22 0.1uF
GNDD

H723VG

+3.3V
C20 4.7uF
GNDD
C63 1uF
C19 2.2uF
C62 2.2uF
U15 STM32H723VGTx

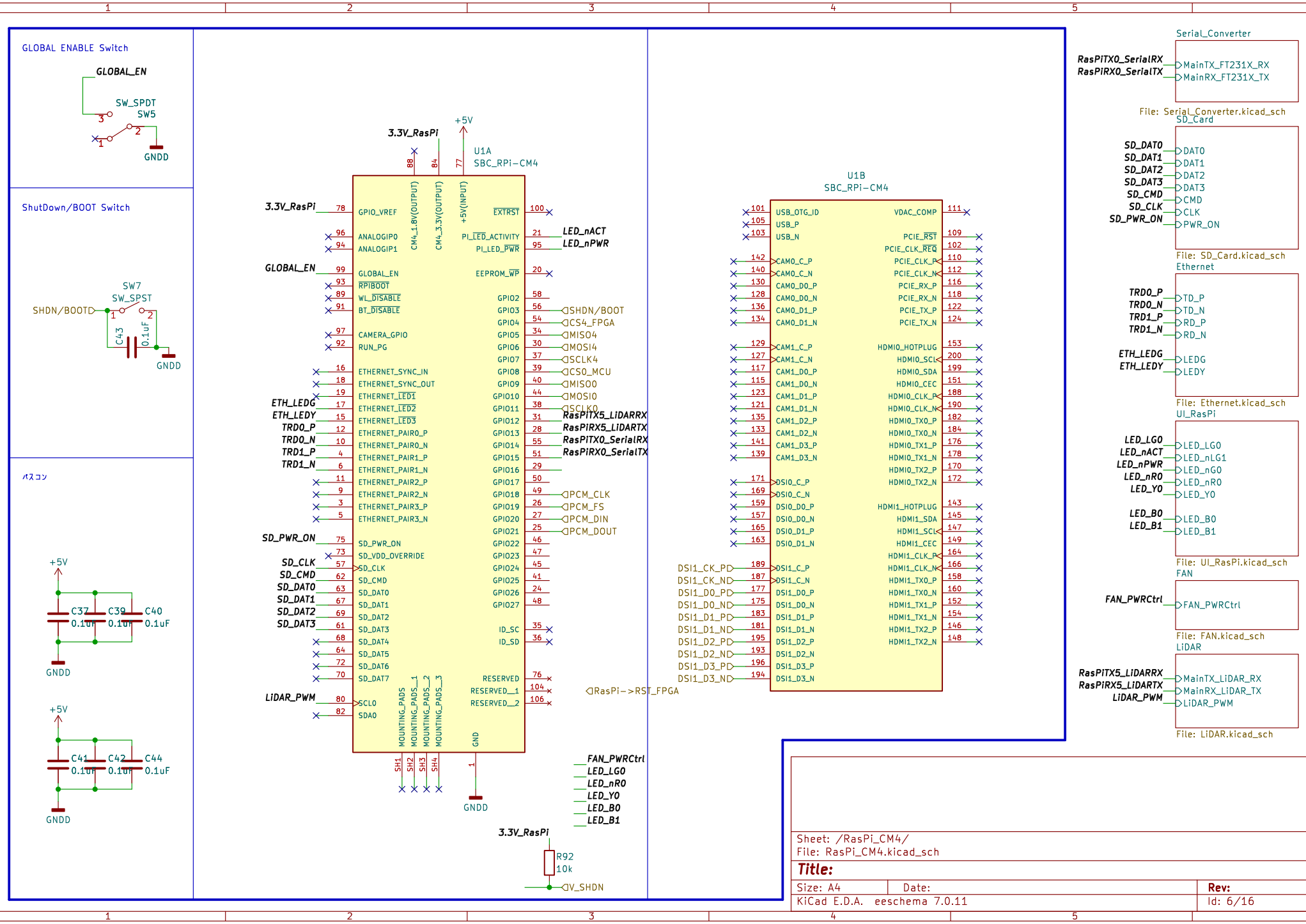
NRST
BOOT0
HSE_IN
HSE_OUT
VREF+
VBAT
VDD
VDDA
VCAP
VSS
VSSA
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13(JTMS)
PA14(JTCK)
PA15(JTDI)
PB0
PB1
PB2
PB3(JTDO)
PB4(NJTRST)
PB5
PB6
PB7
PB8
PB9
PB10
PB11
PB12
PB13
PB14
PB15
PC0
PC1
PC2_C
PC3_C
PC4
PC5
PC6
PC7
PC8
PC9
PC10
PC11
PC12
PC13
PC14
PC15
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
PD8
PD9
PD10
PD11
PD12
PD13
PD14
PD15
SWDIO
SWCLK
SWO

H723TXx_RS485XRX
H723RXx_RS485XTX
H723TXx_RS485YRX
H723RXx_RS485YTX
MOSIx
MISOx
SCLKx
CSx
H723VG->RasPi_GPIO3
LED_LG0
LED_nR0
LED_Y0
LED_B0
LED_B1
SlideSW0
DIPSW0
DIPSW1
DIPSW2
DIPSW3
V_Meas.

RS485_RingNW
H723TXx_RS485XRX
H723RXx_RS485XTX
H723TXx_RS485YRX
H723RXx_RS485YTX
MainTX_RS485X_RX
MainRX_RS485X_TX
MainTX_RS485Y_RX
MainRX_RS485Y_TX
File: RS485_RingNW.kicad_sch

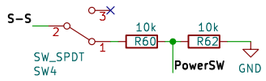
UI_RingNW
LED_LG0
LED_nR0
LED_Y0
LED_B0
LED_B1
SlideSW0
DIPSW0
DIPSW1
DIPSW2
DIPSW3
File: UI_RingNW.kicad_sch

Sheet: /RingNW/
File: RingNW.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. eeschema 7.0.11
Id: 5/16

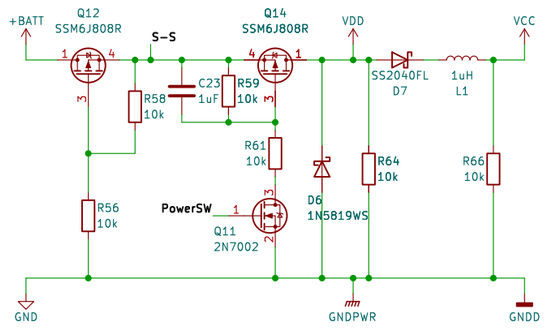

GLOBAL ENABLE Switch
GLOBAL_EN
SW_SPDT
SW5
GNDD
ShutDown/BOOT Switch
SW7
SW_SPST
SHDN/BOOT
C43
0.1uF
GNDD
パスコン
+5V
C37
C39
C40
0.1uF
GNDD
C41
C42
C44
U1A
SBC_RPi-CM4
3.3V_RasPi
+5V
U1B
SBC_RPi-CM4
Serial_Converter
RasPiTX0_SerialRX
RasPiRX0_SerialTX
MainTX_FT231X_RX
MainRX_FT231X_TX
File: Serial_Converter.kicad_sch
SD_Card
SD_DAT0
SD_DAT1
SD_DAT2
SD_DAT3
SD_CMD
SD_CLK
SD_PWR_ON
DAT0
DAT1
DAT2
DAT3
CMD
CLK
PWR_ON
File: SD_Card.kicad_sch
Ethernet
TRD0_P
TRD0_N
TRD1_P
TRD1_N
ETH_LEDG
ETH_LEDY
TD_P
TD_N
RD_P
RD_N
LEDG
LEDY
File: Ethernet.kicad_sch
UI_RasPi
LED_LG0
LED_nACT
LED_nPWR
LED_nR0
LED_Y0
LED_B0
LED_B1
LED_nLG1
LED_nG0
File: UI_RasPi.kicad_sch
FAN
FAN_PWRCtrl
File: FAN.kicad_sch
LiDAR
RasPiTX5_LiDARRX
RasPiRX5_LiDARTX
LiDAR_PWM
MainTX_LiDAR_RX
MainRX_LiDAR_TX
LiDAR_PWM
File: LiDAR.kicad_sch
R92
10k
V_SHDN
RasPi->RST_FPGA
Sheet: /RasPi_CM4/
File: RasPi_CM4.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. eeschema 7.0.11
Id: 6/16

PowerModule

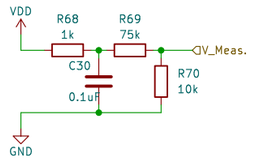
主電源スイッチ



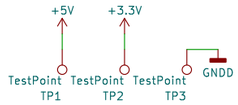
保護回路・スイッチ



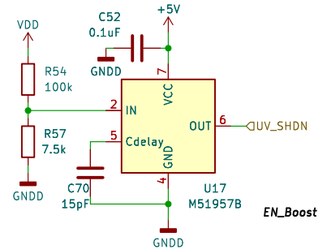
電源電圧測定



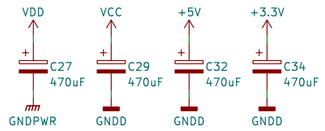
TestPoint



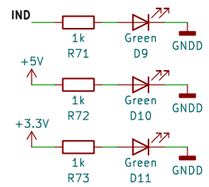
電圧監視



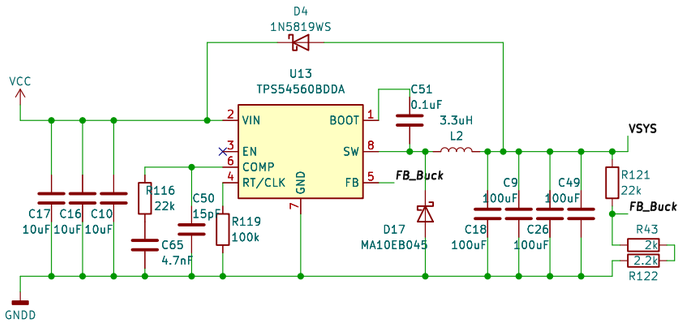
Capacitor



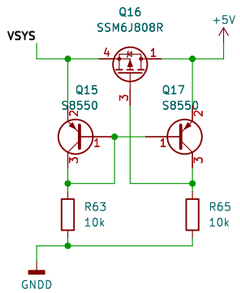
インジケーターLED



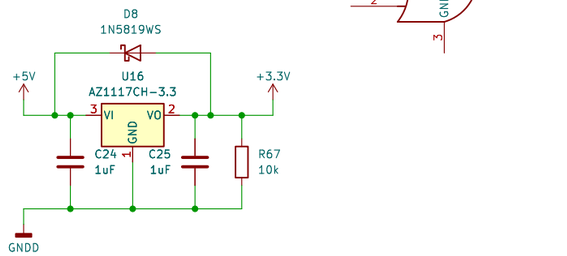
5V生成

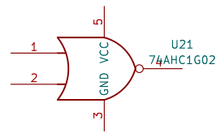


理想ダイオード/5VSYS

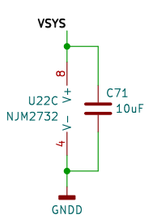


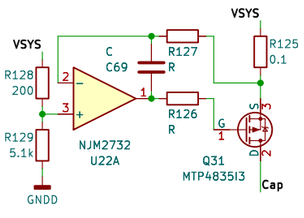
3.3V生成

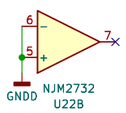




定電流回路

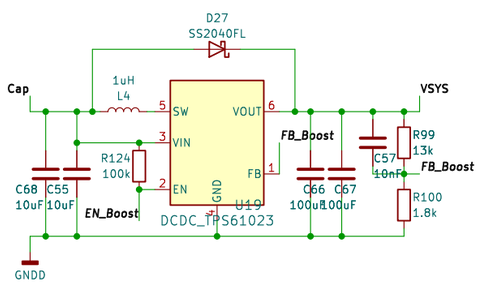






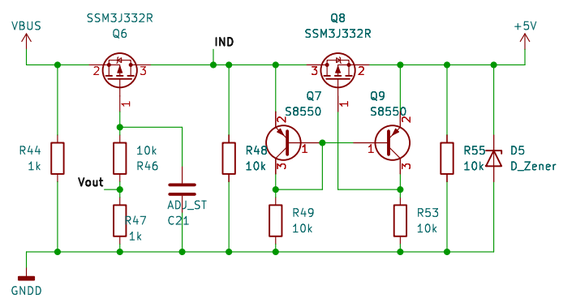
電気二重層キャパシタへ

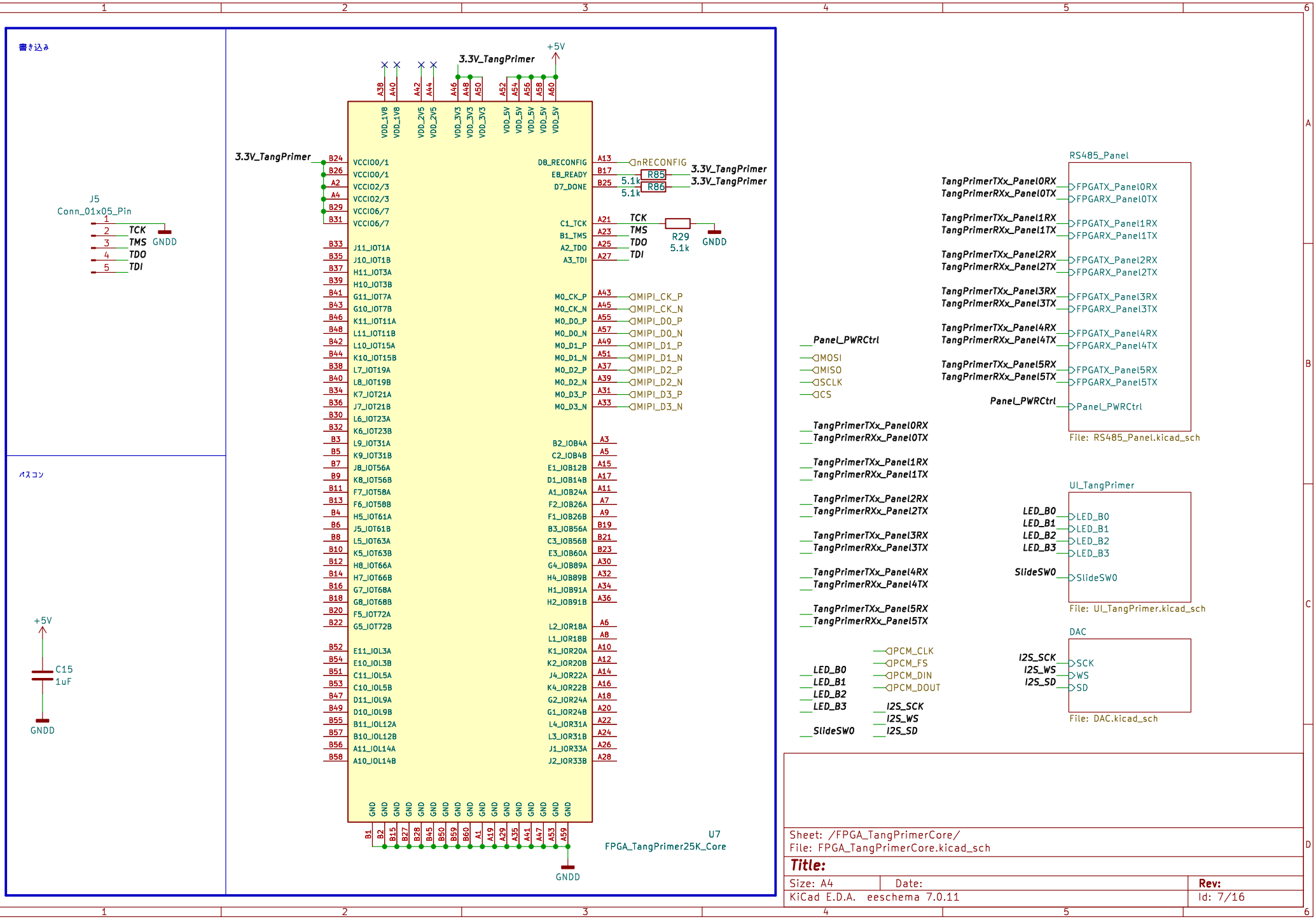
昇圧回路



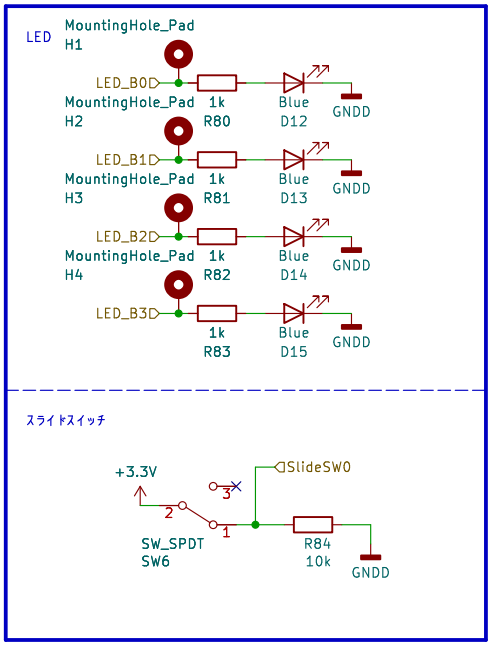
電源切替/USB

ダイオード変更



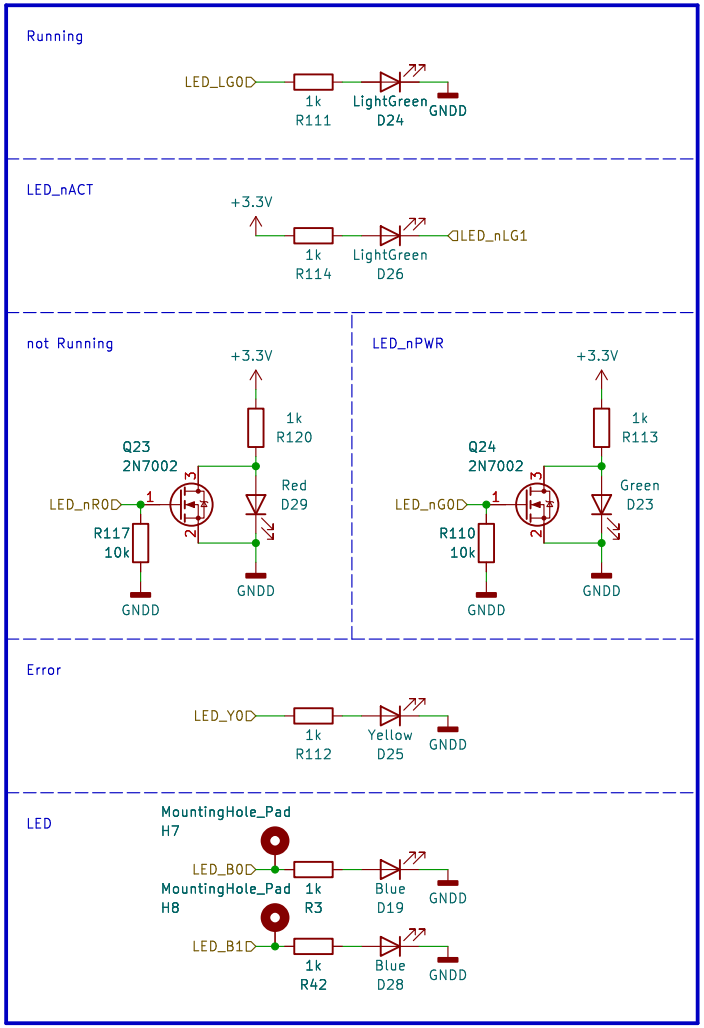

書き込み
J5
Conn_01x05_Pin
TCK
TMS
TDO
TDI
GNDD
パスコン
+5V
C15
1uF
GNDD
3.3V_TangPrimer
+5V
VDD_1V8
VDD_2V5
VDD_3V3
VDD_5V
3.3V_TangPrimer
VCCIO0/1
VCCIO2/3
VCCIO6/7
J11_IOT1A
J10_IOT1B
H11_IOT3A
H10_IOT3B
G11_IOT7A
G10_IOT7B
K11_IOT11A
L11_IOT11B
L10_IOT15A
K10_IOT15B
L7_IOT19A
L8_IOT19B
K7_IOT21A
J7_IOT21B
L6_IOT23A
K6_IOT23B
L9_IOT31A
K9_IOT31B
J8_IOT56A
K8_IOT56B
F7_IOT58A
F6_IOT58B
H5_IOT61A
J5_IOT61B
L5_IOT63A
K5_IOT63B
H8_IOT66A
H7_IOT66B
G7_IOT68A
G8_IOT68B
F5_IOT72A
G5_IOT72B
E11_IOL3A
E10_IOL3B
C11_IOL5A
C10_IOL5B
D11_IOL9A
D10_IOL9B
B11_IOL12A
B10_IOL12B
A11_IOL14A
A10_IOL14B
D8_RECONFIG
E8_READY
D7_DONE
nRECONFIG
R85
5.1k
R86
5.1k
3.3V_TangPrimer
3.3V_TangPrimer
C1_TCK
B1_TMS
A2_TDO
A3_TDI
TCK
TMS
TDO
TDI
R29
5.1k
GNDD
M0_CK_P
M0_CK_N
M0_D0_P
M0_D0_N
M0_D1_P
M0_D1_N
M0_D2_P
M0_D2_N
M0_D3_P
M0_D3_N
MIPI_CK_P
MIPI_CK_N
MIPI_D0_P
MIPI_D0_N
MIPI_D1_P
MIPI_D1_N
MIPI_D2_P
MIPI_D2_N
MIPI_D3_P
MIPI_D3_N
B2_IOB4A
C2_IOB4B
E1_IOB12B
D1_IOB14B
A1_IOB24A
F2_IOB26A
F1_IOB26B
B3_IOB56A
C3_IOB56B
E3_IOB60A
G4_IOB89A
H4_IOB89B
H1_IOB91A
H2_IOB91B
L2_IOR18A
L1_IOR18B
K1_IOR20A
K2_IOR20B
J4_IOR22A
K4_IOR22B
G2_IOR24A
G1_IOR24B
L4_IOR31A
L3_IOR31B
J1_IOR33A
J2_IOR33B
GND
GNDD
U7
FPGA_TangPrimer25K_Core
RS485_Panel
TangPrimerTXx_Panel0RX
TangPrimerRXx_Panel0TX
TangPrimerTXx_Panel1RX
TangPrimerRXx_Panel1TX
TangPrimerTXx_Panel2RX
TangPrimerRXx_Panel2TX
TangPrimerTXx_Panel3RX
TangPrimerRXx_Panel3TX
TangPrimerTXx_Panel4RX
TangPrimerRXx_Panel4TX
TangPrimerTXx_Panel5RX
TangPrimerRXx_Panel5TX
Panel_PWRCtrl
FPGATX_Panel0RX
FPGARX_Panel0TX
FPGATX_Panel1RX
FPGARX_Panel1TX
FPGATX_Panel2RX
FPGARX_Panel2TX
FPGATX_Panel3RX
FPGARX_Panel3TX
FPGATX_Panel4RX
FPGARX_Panel4TX
FPGATX_Panel5RX
FPGARX_Panel5TX
Panel_PWRCtrl
File: RS485_Panel.kicad_sch
Panel_PWRCtrl
MOSI
MISO
SCLK
CS
TangPrimerTXx_Panel0RX
TangPrimerRXx_Panel0TX
TangPrimerTXx_Panel1RX
TangPrimerRXx_Panel1TX
TangPrimerTXx_Panel2RX
TangPrimerRXx_Panel2TX
TangPrimerTXx_Panel3RX
TangPrimerRXx_Panel3TX
TangPrimerTXx_Panel4RX
TangPrimerRXx_Panel4TX
TangPrimerTXx_Panel5RX
TangPrimerRXx_Panel5TX
UI_TangPrimer
LED_B0
LED_B1
LED_B2
LED_B3
SlideSW0
LED_B0
LED_B1
LED_B2
LED_B3
SlideSW0
File: UI_TangPrimer.kicad_sch
PCM_CLK
PCM_FS
PCM_DIN
PCM_DOUT
I2S_SCK
I2S_WS
I2S_SD
DAC
I2S_SCK
I2S_WS
I2S_SD
SCK
WS
SD
File: DAC.kicad_sch
Sheet: /FPGA_TangPrimerCore/
File: FPGA_TangPrimerCore.kicad_sch
Title:
Size: A4
Date:
Rev:
KiCad E.D.A. eeschema 7.0.11
Id: 7/16

I/O



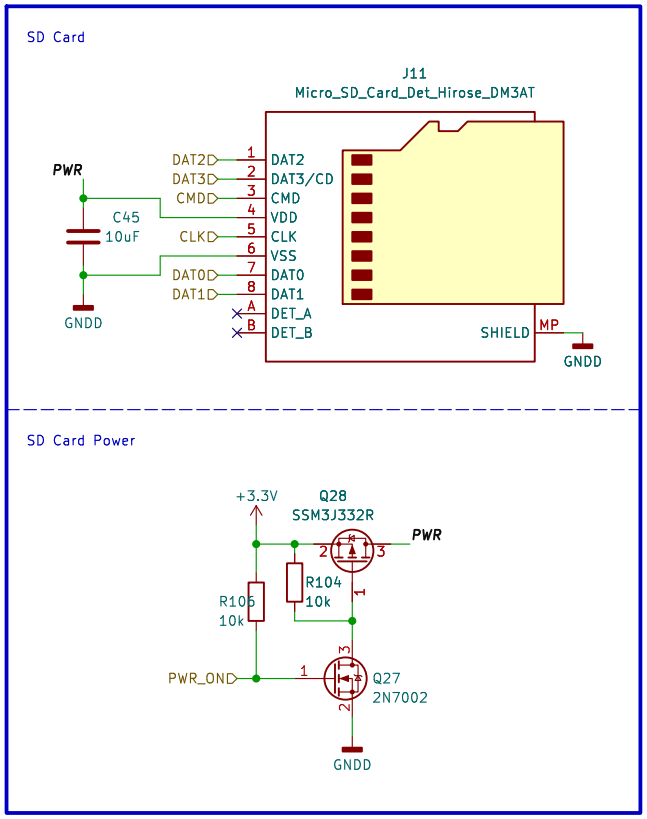
Sheet: /FPGA_TangPrimerCore/UI_TangPrimer/		
File: UI_TangPrimer.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 8/16

Indicator



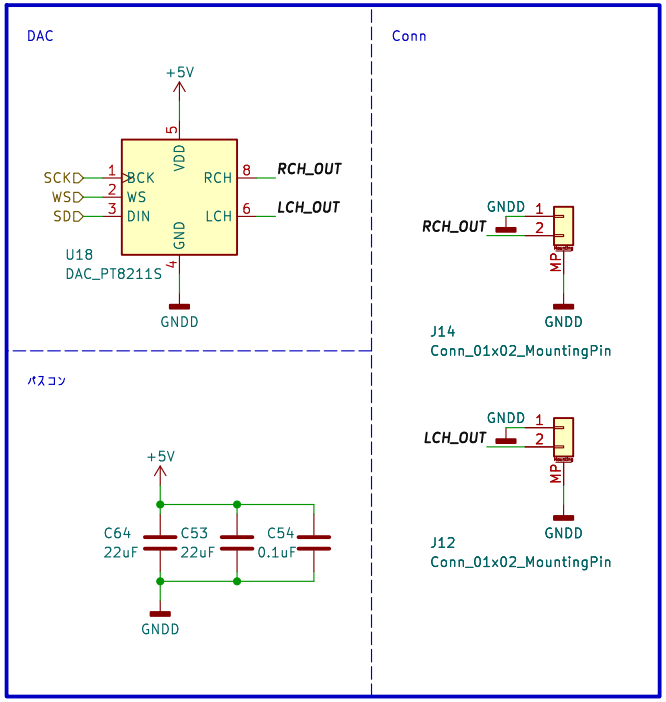
Sheet: /RasPi_CM4/UI_RasPi/		
File: UI_RasPi.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 9/16

SD Card



Sheet: /RasPi_CM4/SD_Card/		
File: SD_Card.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 10/16

DAC

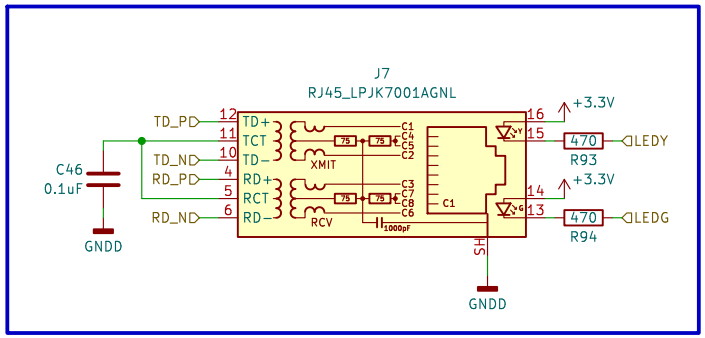


Sheet: /FPGA_TangPrimerCore/DAC/
File: DAC.kicad_sch

Title:

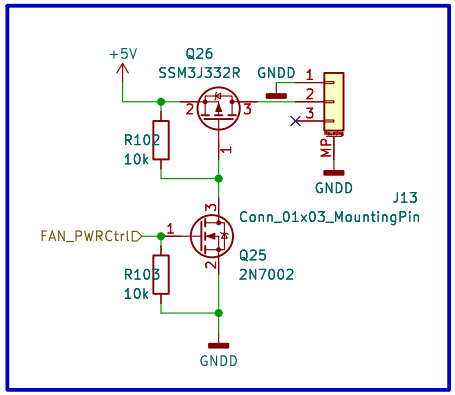
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 11/16

RJ45(Magjack)



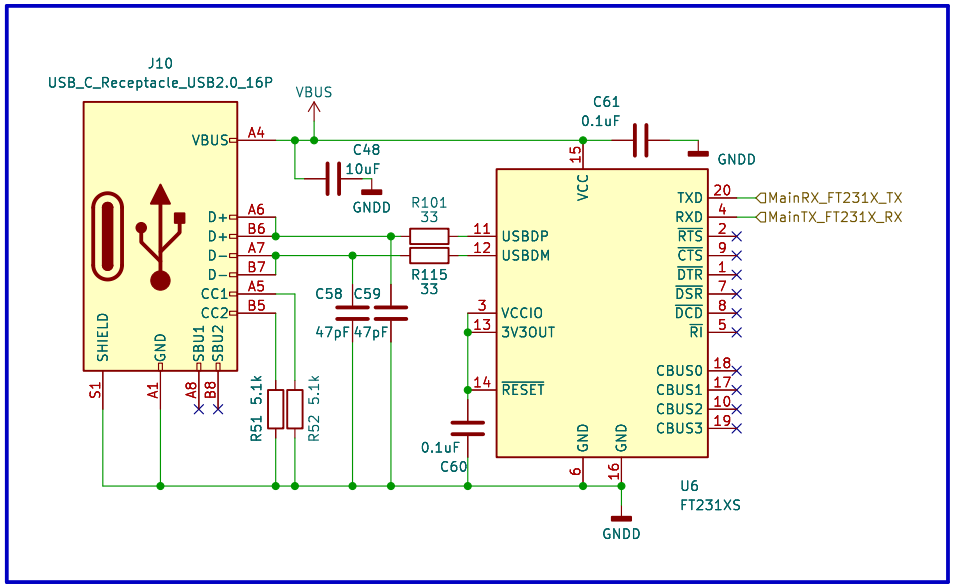
Sheet: /RasPi_CM4/Ethernet/		
File: Ethernet.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 12/16

FAN



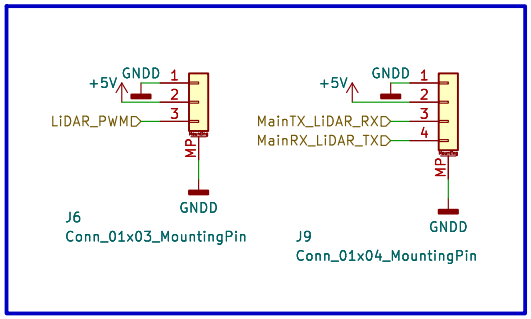
Sheet: /RasPi_CM4/FAN/		
File: FAN.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 13/16

USB-C



Sheet: /RasPi_CM4/Serial_Converter/		
File: Serial_Converter.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 15/16

Conn to LiDAR



Sheet: /RasPi_CM4/LiDAR/		
File: LiDAR.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. eeschema 7.0.11		Id: 16/16