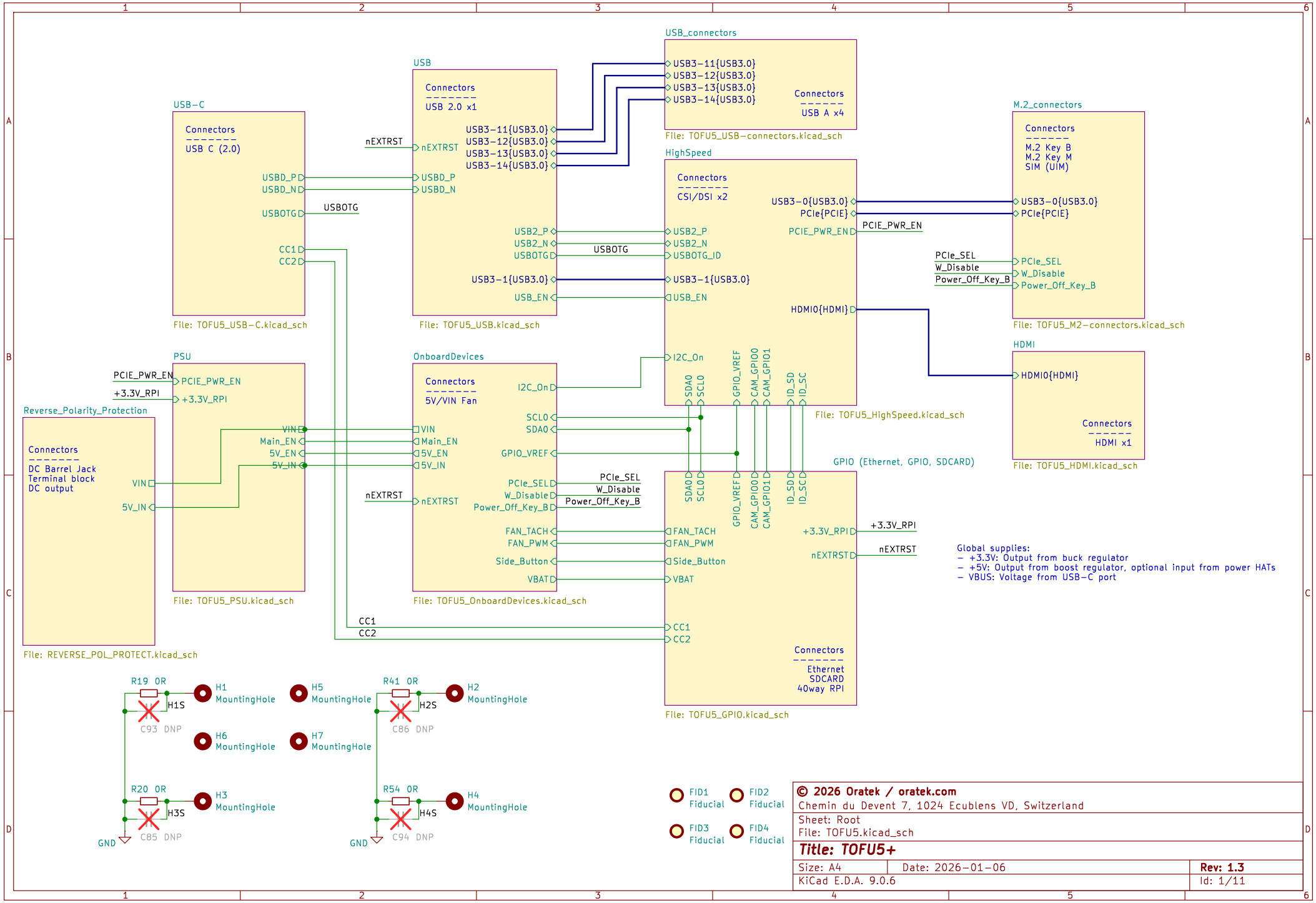
USB_connectors
USB3-11{USB3.0}
USB3-12{USB3.0}
USB3-13{USB3.0}
USB3-14{USB3.0}
Connectors
USB A x4
File: TOFU5_USB-connectors.kicad_sch
USB
Connectors
USB 2.0 x1
USB3-11{USB3.0}
USB3-12{USB3.0}
USB3-13{USB3.0}
USB3-14{USB3.0}
nEXTRST
USBD_P
USBD_N
USBOTG
USB2_P
USB2_N
USBOTG
USB3-1{USB3.0}
USB_EN
File: TOFU5_USB.kicad_sch
USB-C
Connectors
USB C (2.0)
USBD_P
USBD_N
USBOTG
CC1
CC2
File: TOFU5_USB-C.kicad_sch
HighSpeed
Connectors
CSI/DSI x2
USB3-0{USB3.0}
PCIe{PCIE}
PCIE_PWR_EN
USB2_P
USB2_N
USBOTG_ID
USB3-1{USB3.0}
USB_EN
HDMI0{HDMI}
I2C_On
SDA0
SCL0
GPIO_VREF
CAM_GPIO00
CAM_GPIO01
ID_SD
ID_SC
File: TOFU5_HighSpeed.kicad_sch
M.2_connectors
Connectors
M.2 Key B
M.2 Key M
SIM (UIM)
USB3-0{USB3.0}
PCIe{PCIE}
PCIe_SEL
W_Disable
Power_Off_Key_B
File: TOFU5_M2-connectors.kicad_sch
HDMI
HDMI0{HDMI}
Connectors
HDMI x1
File: TOFU5_HDMI.kicad_sch
PSU
PCIE_PWR_EN
+3.3V_RPI
VIN
Main_EN
5V_EN
5V_IN
File: TOFU5_PSU.kicad_sch
Reverse_Polarity_Protection
Connectors
DC Barrel Jack
Terminal block
DC output
VIN
5V_IN
File: REVERSE_POL_PROTECT.kicad_sch
OnboardDevices
Connectors
5V/VIN Fan
I2C_On
SCL0
SDA0
GPIO_VREF
PCIe_SEL
W_Disable
Power_Off_Key_B
FAN_TACH
FAN_PWM
Side_Button
VBAT
File: TOFU5_OnboardDevices.kicad_sch
GPIO (Ethernet, GPIO, SDCARD)
FAN_TACH
FAN_PWM
Side_Button
VBAT
CC1
CC2
+3.3V_RPI
nEXTRST
Connectors
Ethernet
SDCARD
40way RPI
File: TOFU5_GPIO.kicad_sch
Global supplies:
- +3.3V: Output from buck regulator
- +5V: Output from boost regulator, optional input from power HATs
- VBUS: Voltage from USB-C port
R19 0R
H1S
C93 DNP
H1 MountingHole
H5 MountingHole
H6 MountingHole
H7 MountingHole
R41 0R
H2S
C86 DNP
H2 MountingHole
R20 0R
H3S
C85 DNP
H3 MountingHole
R54 0R
H4S
C94 DNP
H4 MountingHole
GND
FID1 Fiducial
FID2 Fiducial
FID3 Fiducial
FID4 Fiducial
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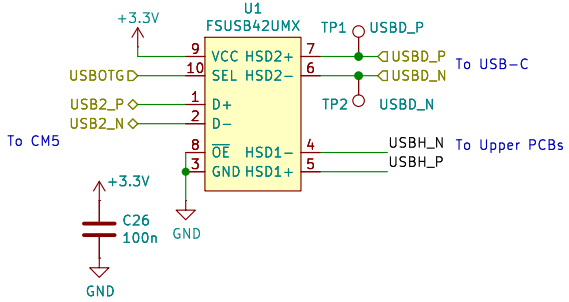
Chemin du Devent 7, 1024 Ecublens VD, Switzerland
Sheet: Root
File: TOFU5.kicad_sch
Title: TOFU5+
Size: A4
Date: 2026-01-06
Rev: 1.3
KiCad E.D.A. 9.0.6
Id: 1/11

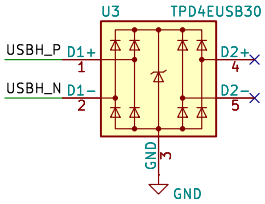
USB3.0 Hub (4x)

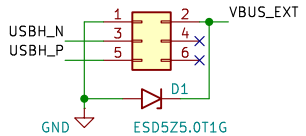
USB as device or host
Automatic selection or host only (selection through switch)

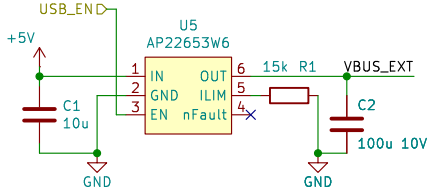
USB switch:



Optional USB breakout

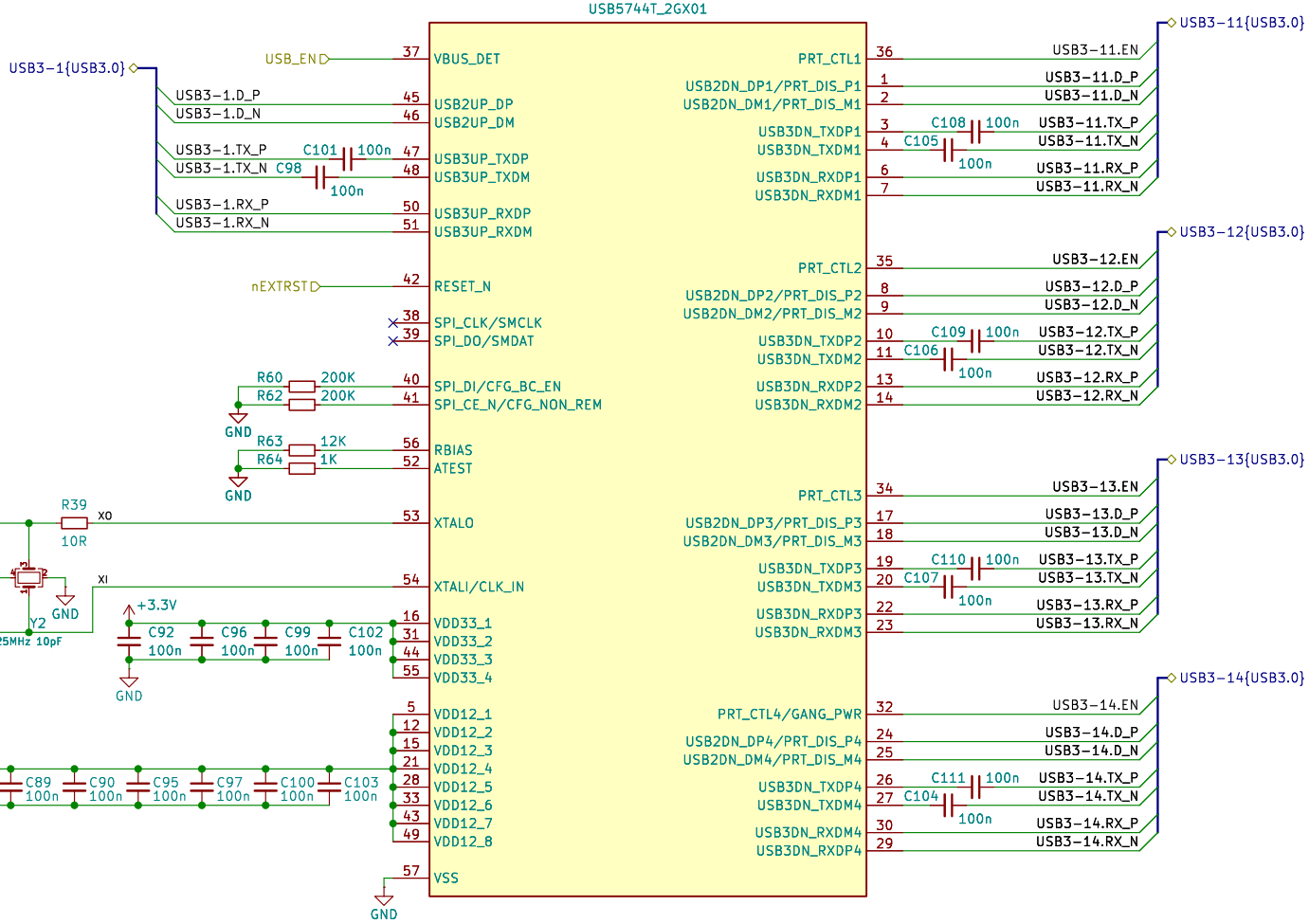




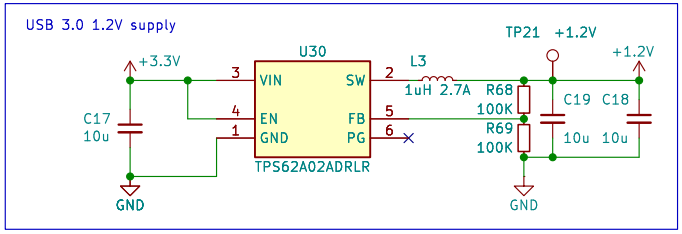


USB power limiter:

U2
USB5744T_2GX01



USB 3.0 1.2 V supply:



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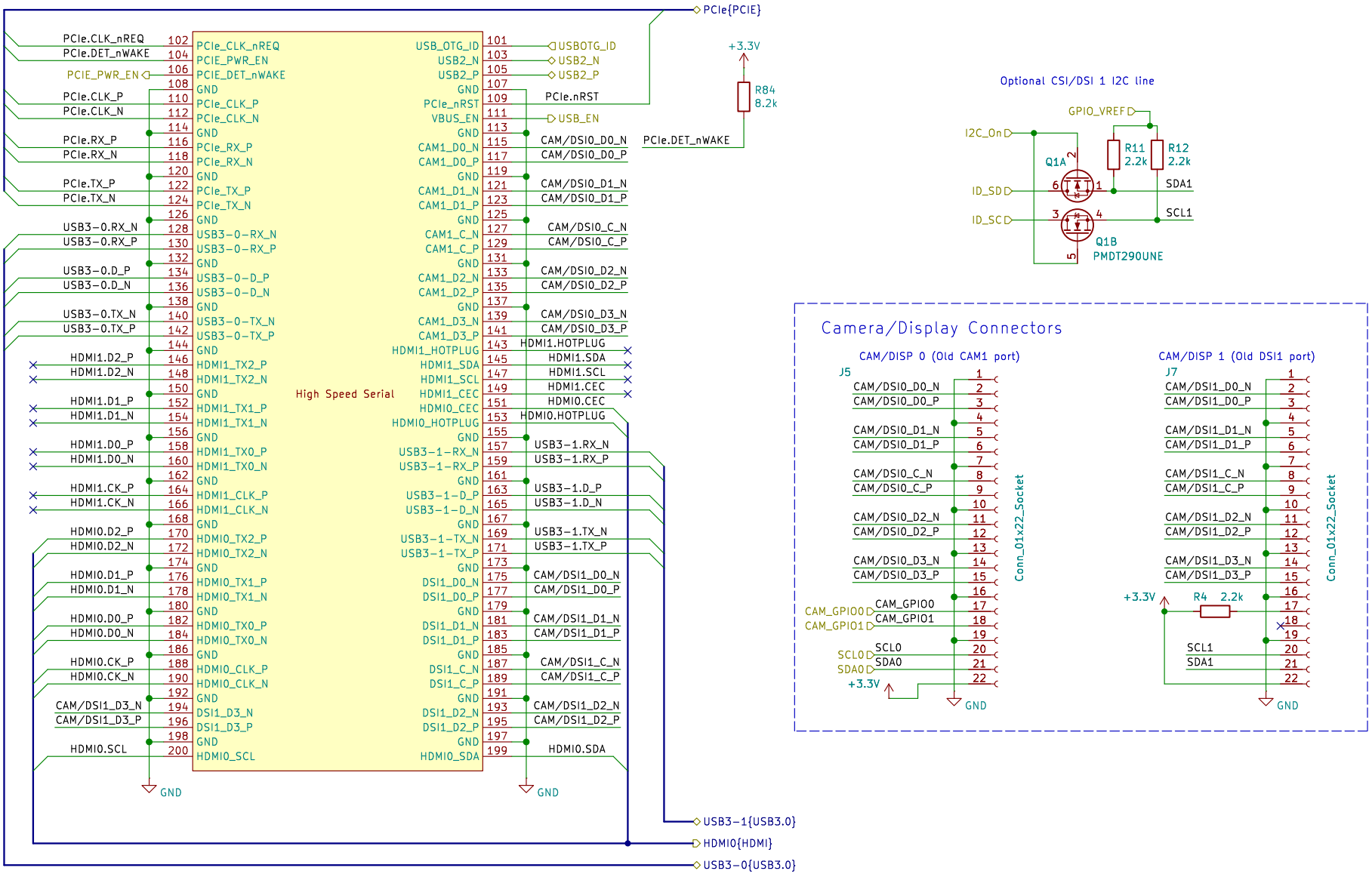
Sheet: USB
File: TOFU5_USB.kicad_sch

Title: TOFU5+

Size: A4	Date: 2026-01-06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 2/11



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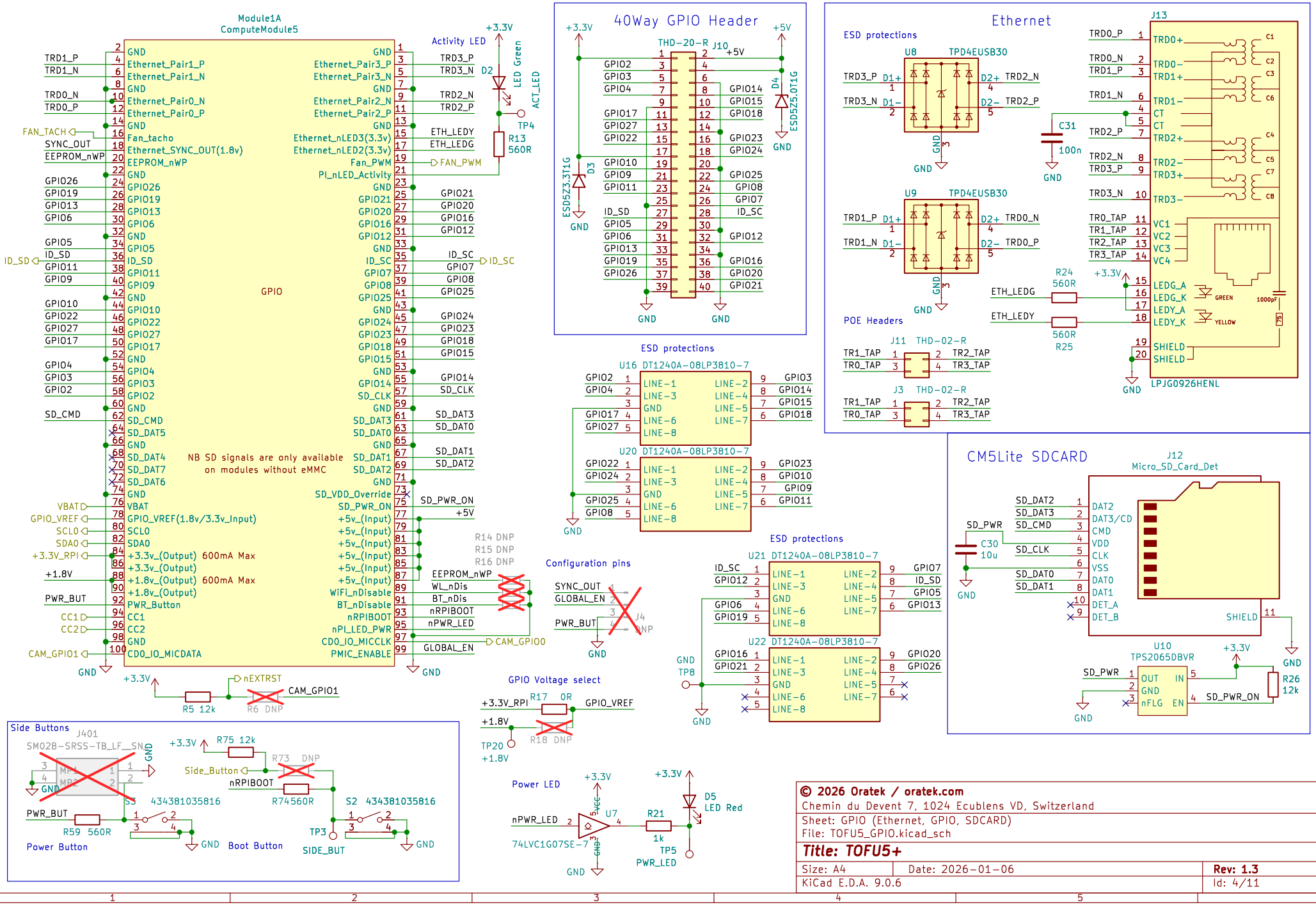
Sheet: HighSpeed		
File: TOFU5_HighSpeed.kicad_sch		
Title: TOFU5+		
Size: A4	Date: 2026-01-06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 3/11


Module1A
ComputeModule5
GPIO
NB SD signals are only available on modules without eMMC
40Way GPIO Header
THD-20-R J10
Ethernet
ESD protections
U8 TPD4EUSB30
U9 TPD4EUSB30
POE Headers
J11 THD-02-R
J3 THD-02-R
J13
LPJG0926HENL
CM5Lite SDCARD
J12
Micro_SD_Card_Det
U10 TPS2065DBVR
ESD protections
U16 DT1240A-08LP3810-7
U20 DT1240A-08LP3810-7
ESD protections
U21 DT1240A-08LP3810-7
U22 DT1240A-08LP3810-7
Configuration pins
GPIO Voltage select
Activity LED
Side Buttons
J401
SM02B-SRSS-TB_LF__SN
Power Button
Boot Button
Power LED
74LVC1G07SE-7
D5
LED Red
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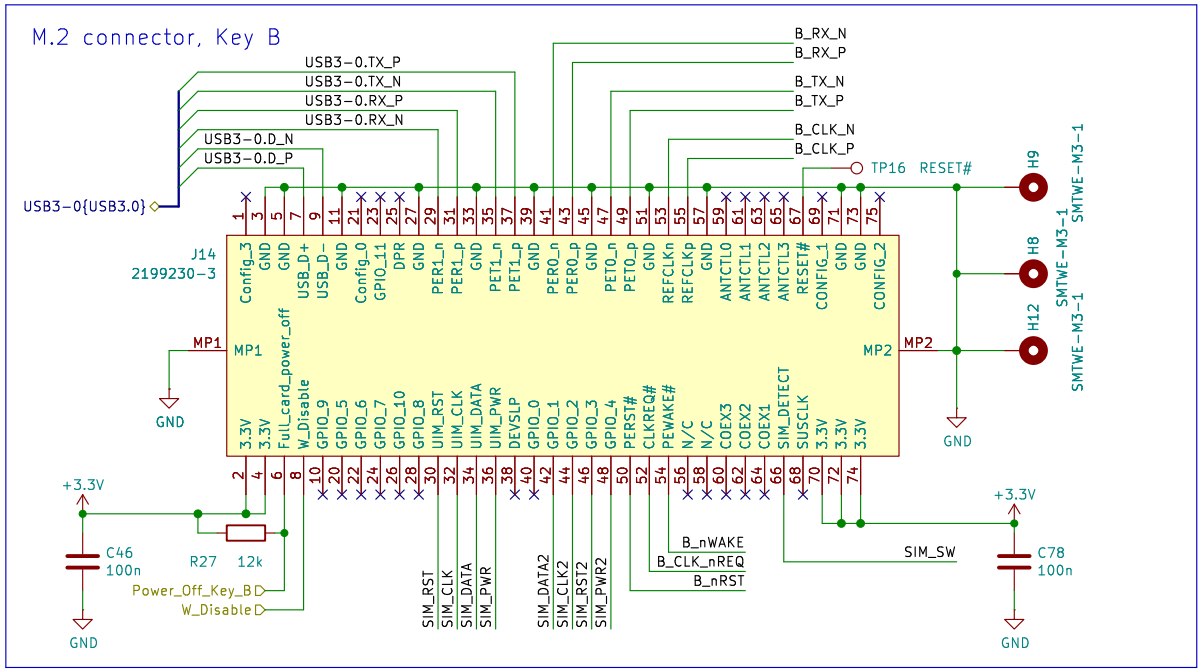
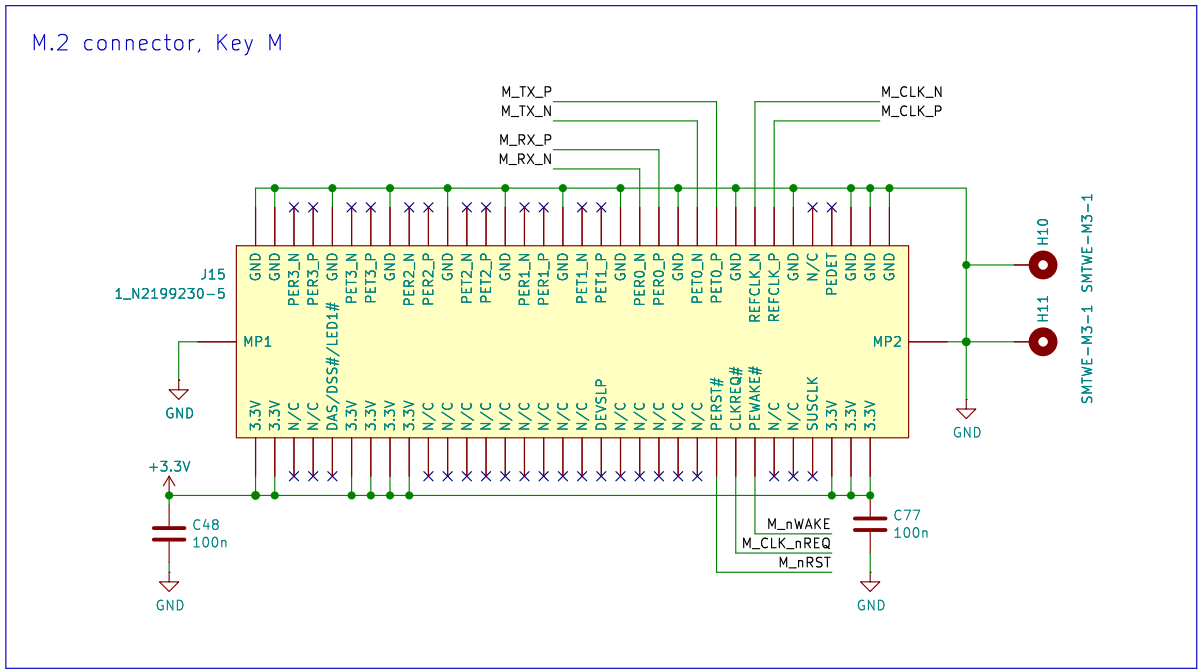
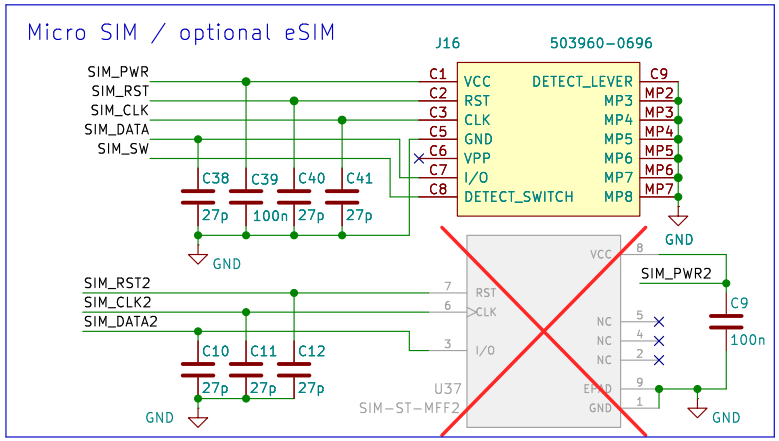
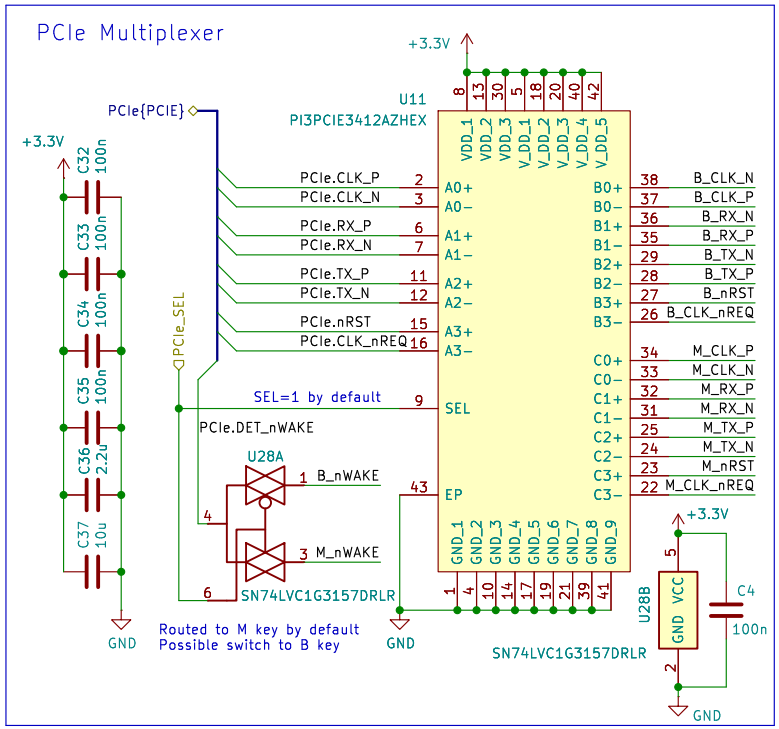
Chemin du Devent 7, 1024 Ecublens VD, Switzerland
Sheet: GPIO (Ethernet, GPIO, SDCARD)
File: TOFU5_GPIO.kicad_sch
Title: TOFU5+
Size: A4
Date: 2026-01-06
Rev: 1.3
KiCad E.D.A. 9.0.6
Id: 4/11









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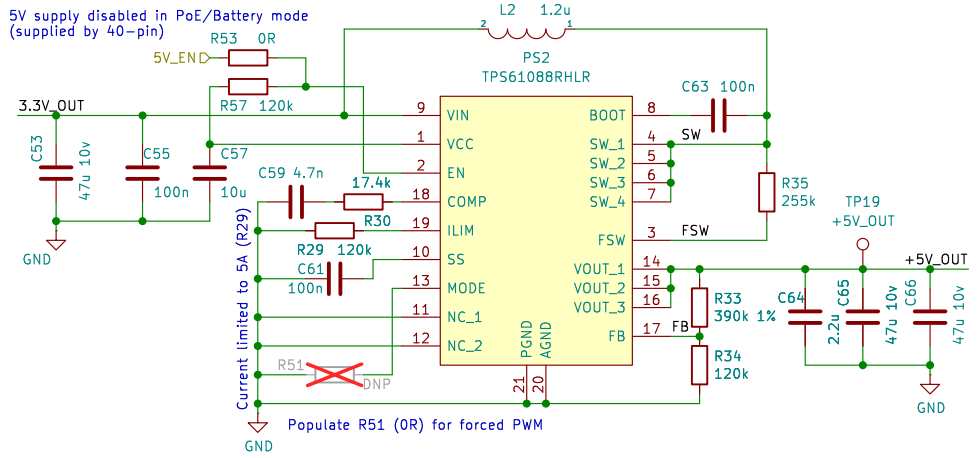
Sheet: M.2_connectors
File: TOFU5_M2-connectors.kicad_sch

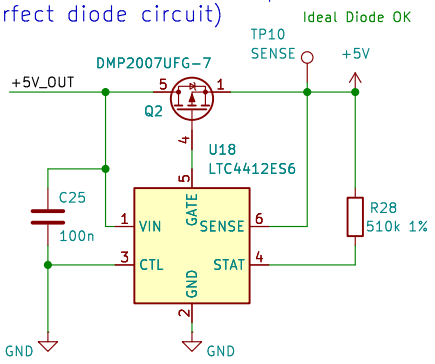
Title: TOFU5+

Size: A4	Date: 2026-01-06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 5/11

5V @ 5A PSU (Boost converter, 3.3V input)

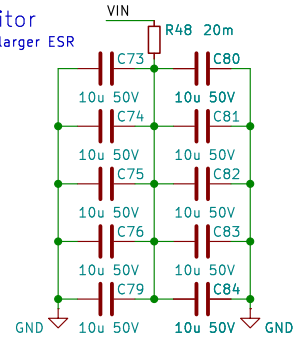


5V Boost reverse current protection (Perfect diode circuit)



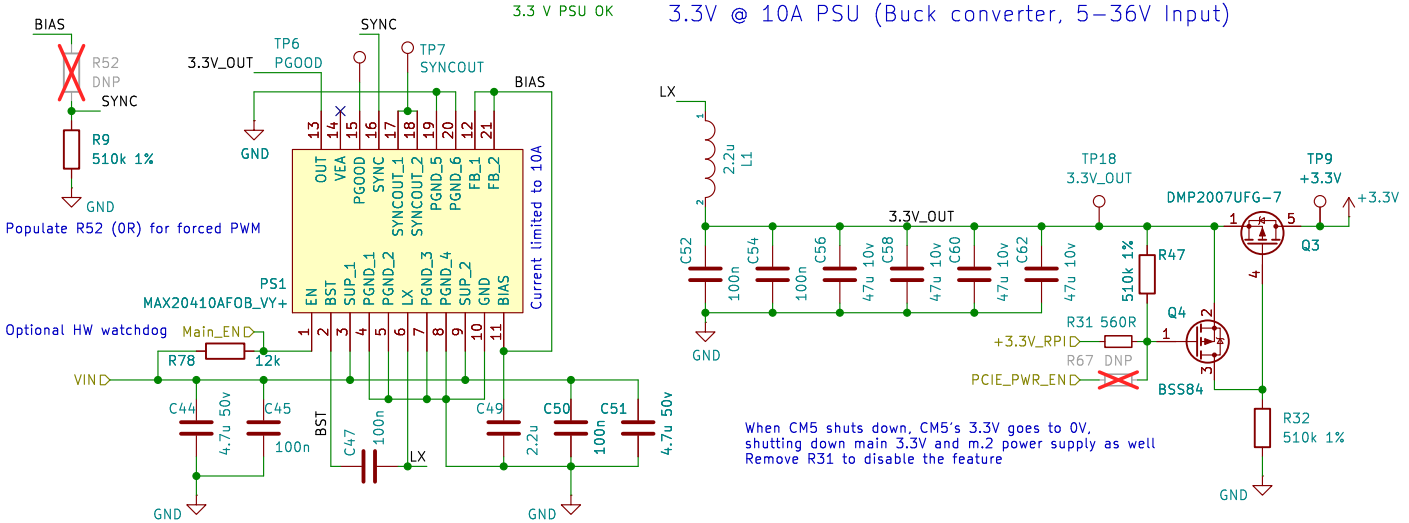
Input Capacitor

Series resistor for larger ESR



3.3V @ 10A PSU (Buck converter, 5-36V Input)

3.3 V PSU OK



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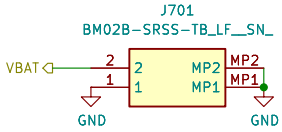
Sheet: PSU
File: TOFU5_PSU.kicad_sch

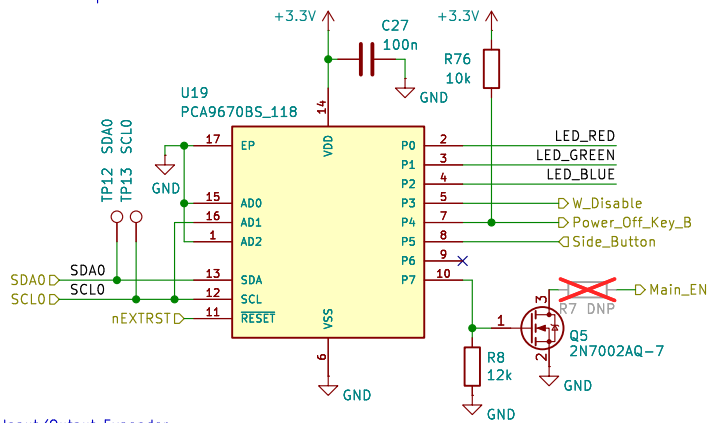
Title: TOFU5+

Size: A4	Date: 2026-01-06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 6/11

RTC Battery connector



GPIO expander

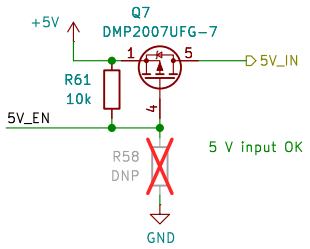


Input/Output Expander
I2C address : 0x10

PCIe switch software (logic OR), IOs on pins?

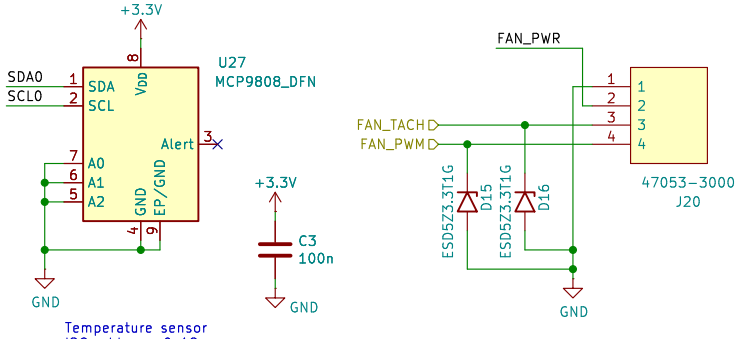
5V Input / Output mode

During normal operation, the 5V on the 40-pin header is a power output only. When in Input mode (switch in position 'on'), the internal 5V supply is cut and the board is powered from the 40-pin header (5V input)



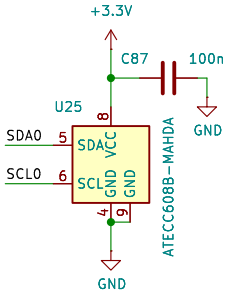
5V_EN pulled high with 120k to 5V supply's VCC pin

Fan controller, 1A max, 5V (default) or VIN Temperature sensor



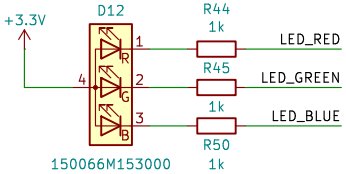
Temperature sensor
I2C address: 0x18

Device authentication

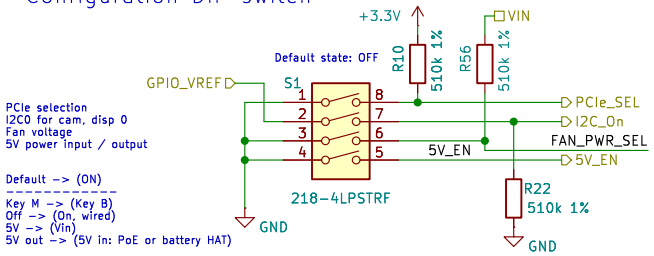


Crypto authentication
Default I2C address: 0x60

RGB LED



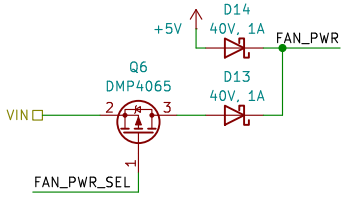
Configuration DIP switch



IMPORTANT: Check fan voltage before switching to Vin!

Fan Power Selection

- 5V (Default)
- Vin (Or highest voltage)



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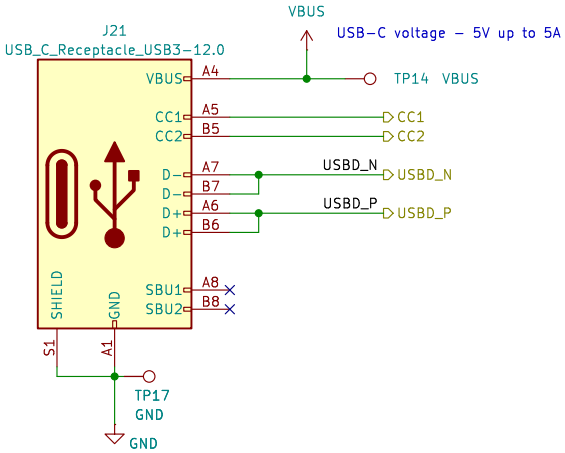
Sheet: OnboardDevices
File: TOFU5_OnboardDevices.kicad_sch

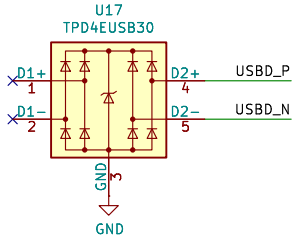
Title: TOFU5+

Size: A4	Date: 2026-01-06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 7/11

USB-C Port

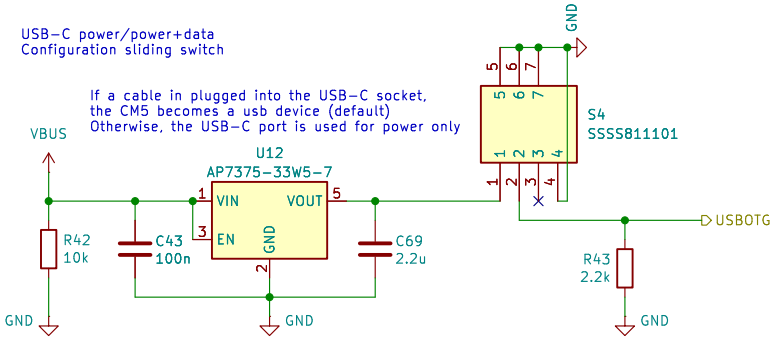


ESD protection



USB-C power/power+data Configuration sliding switch

If a cable in plugged into the USB-C socket,
the CM5 becomes a usb device (default)
Otherwise, the USB-C port is used for power only



The only consumers are:
- U1 SEL input
- the CM5 USB_OTG_ID input
... current consumption is 3V3/2k2=1.5mA (no U12 quiescent)
... which means a max 50mW U12 thermal dissipation

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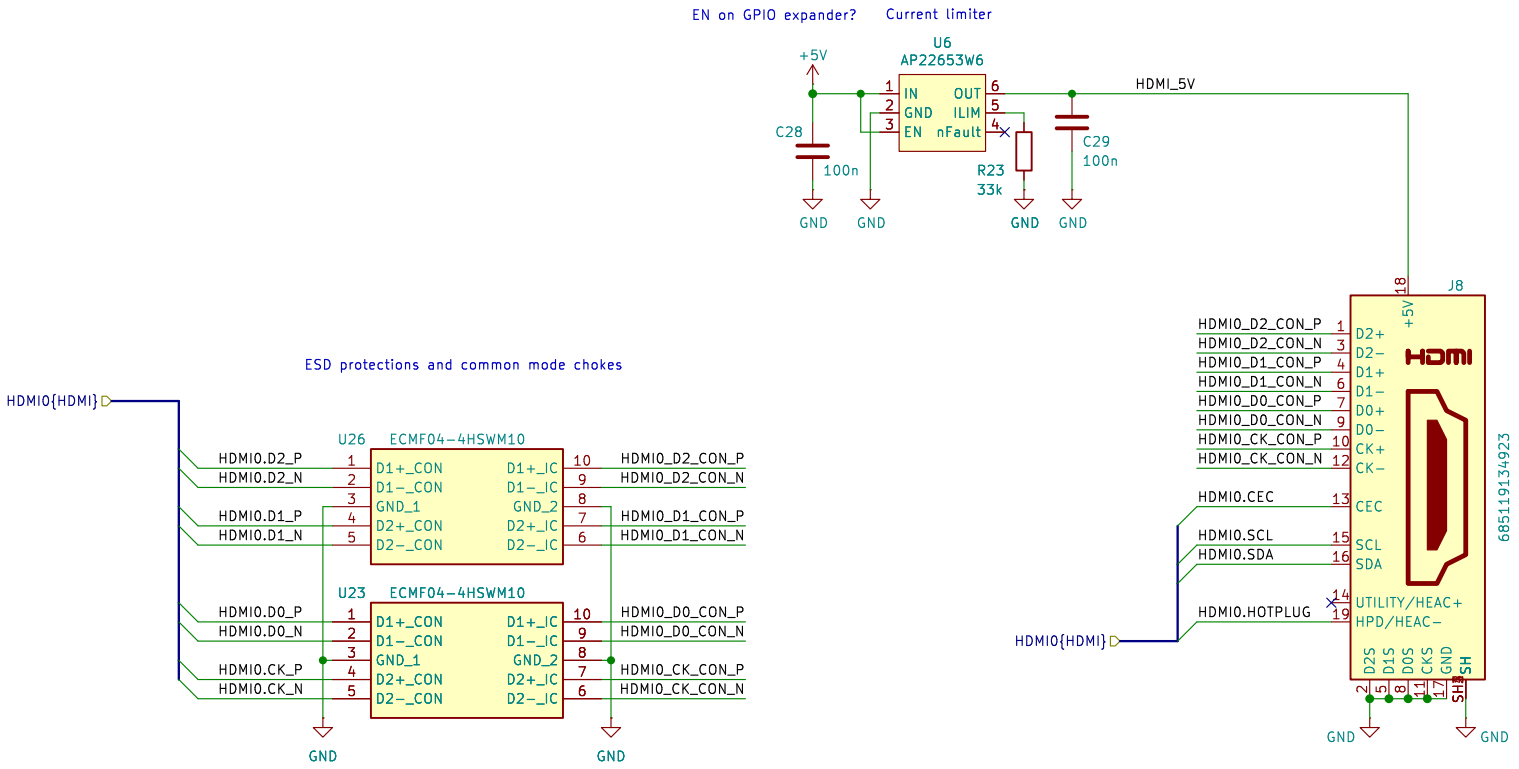
Sheet: USB-C
File: TOFU5_USB-C.kicad_sch

Title: TOFU5+

Size: A4	Date: 2026-01-06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 8/11



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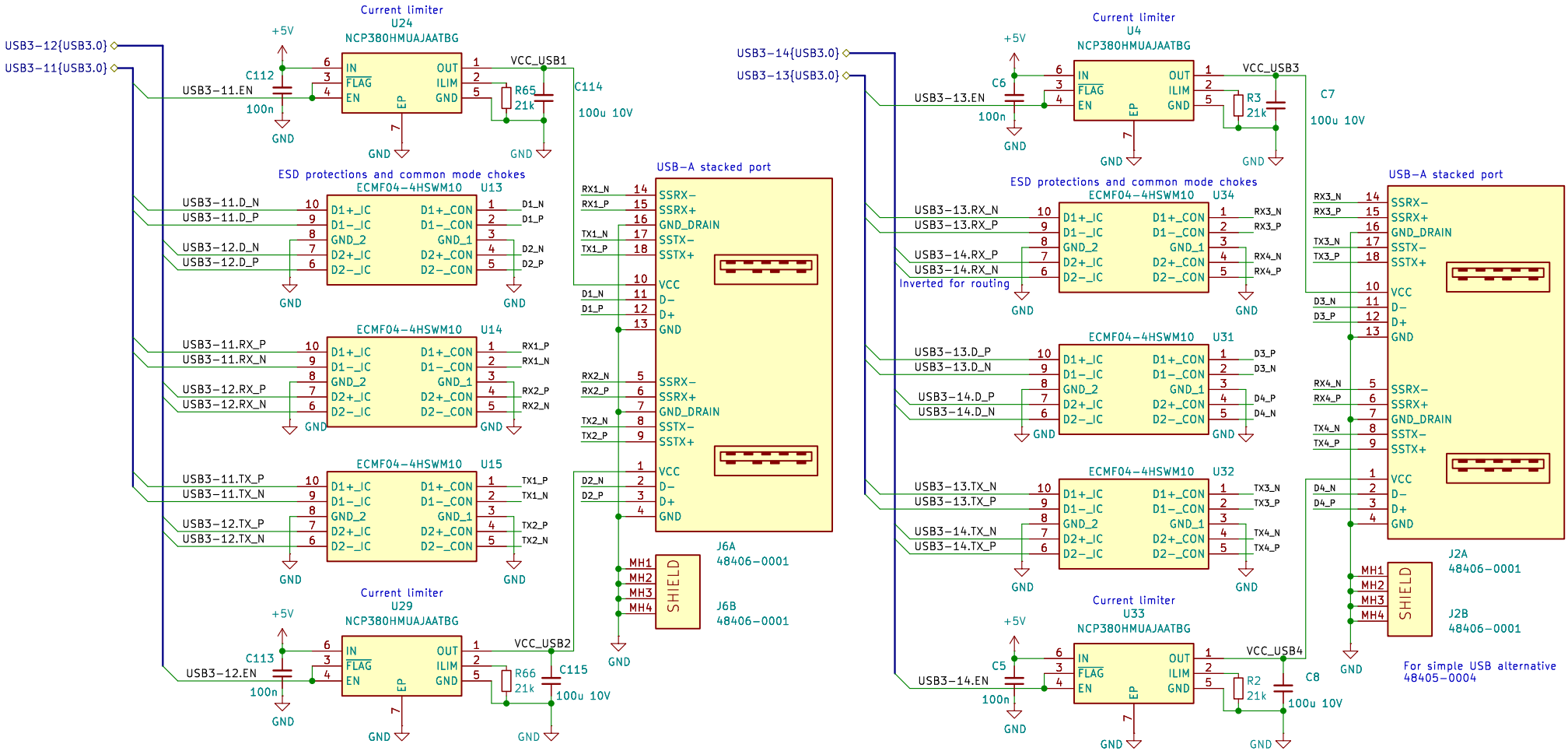
Sheet: HDMI
File: TOFU5_HDMI.kicad_sch

Title: TOFU5+

Size: A4	Date: 2026-01-06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 9/11



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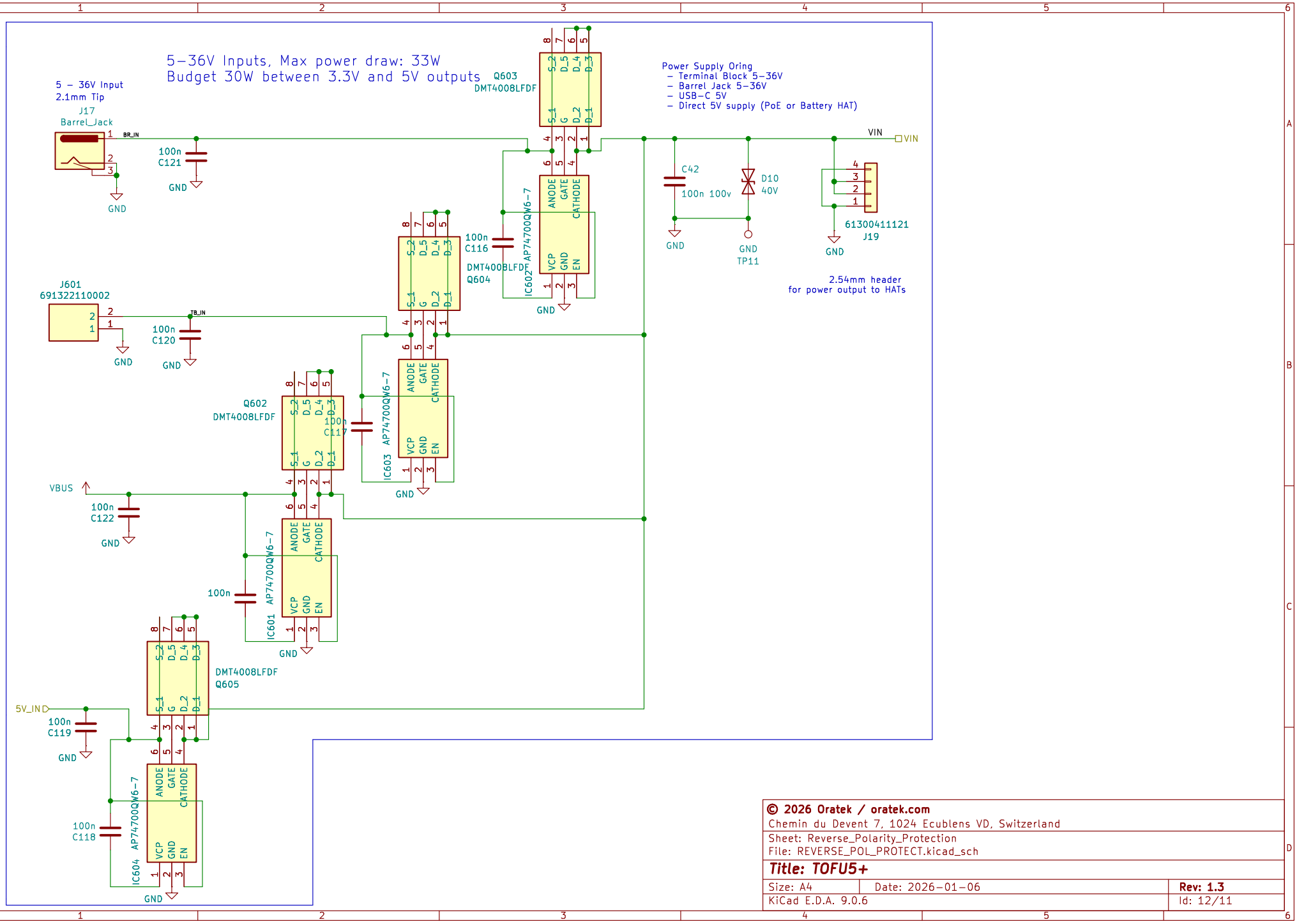
Sheet: USB_connectors
File: TOFU5_USB-connectors.kicad_sch

Title: TOFU5+

Size: A4	Date: 2026-01-06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 10/11



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Sheet: Reverse_Polarity_Protection
File: REVERSE_POL_PROTECT.kicad_sch

Title: TOFU5+

Size: A4	Date: 2026–01–06	**Rev: 1.3**
KiCad E.D.A. 9.0.6		Id: 12/11