# Linux based scout UAV

# Linuxベースのスカウト UAV

Sheetname: osd32mp1-1-power

File: osd32mp1-1-power.kicad_sch

Sheetname: osd32mp1-2

File: osd32mp1-2.kicad_sch

Sheetname: osd32mp1-3

File: osd32mp1-3.kicad_sch

Sheetname: battery-power

File: battery-power.kicad_sch

Sheetname: power-section-1

File: power-section-1.kicad_sch

storage

File: storage.kicad_sch

long-range-radio-1

File: long-range-radio-1.kicad_sch

quectel-m65-1

File: quectel-m65-1.kicad_sch

GNSS

File: gnss.kicad_sch

sensors-1

File: sensors-1.kicad_sch

google-tpu-coral-1

File: google-coral-tpu-1.kicad_sch

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File: linux-based-scout-uav.kicad_sch

**Title:**

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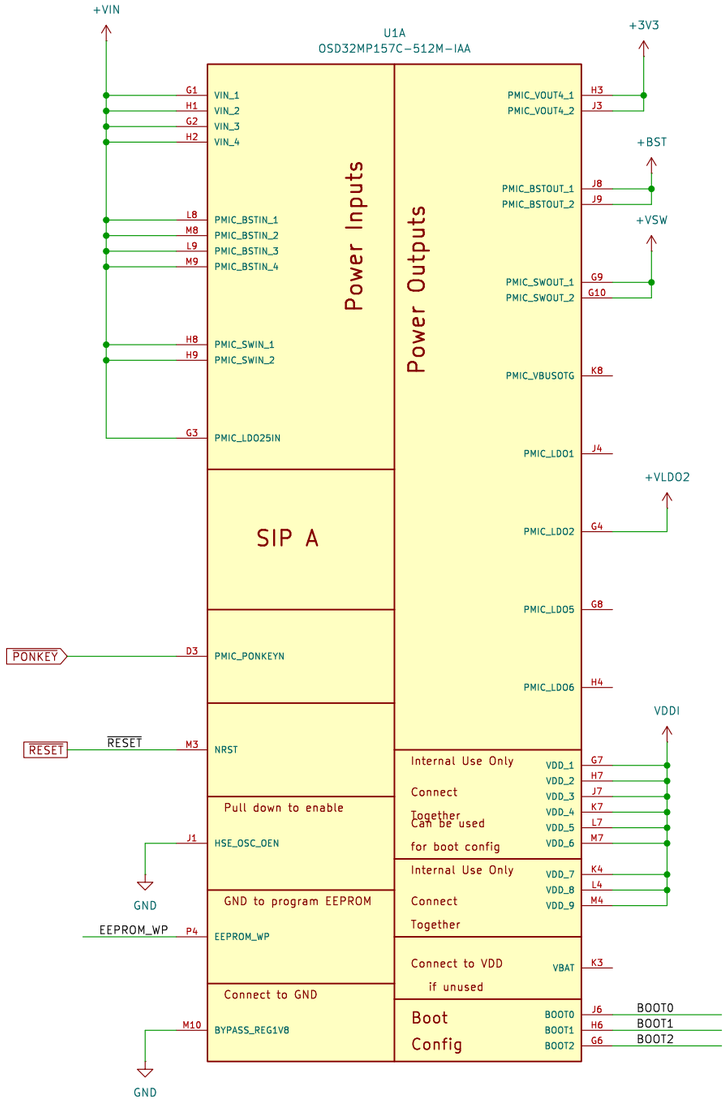
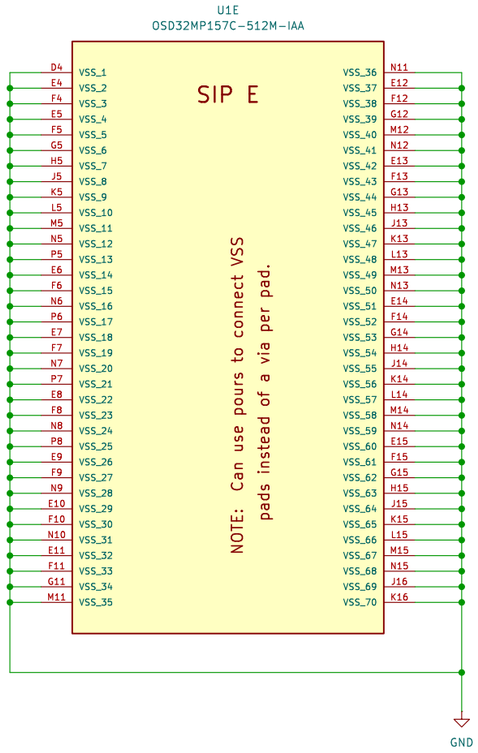
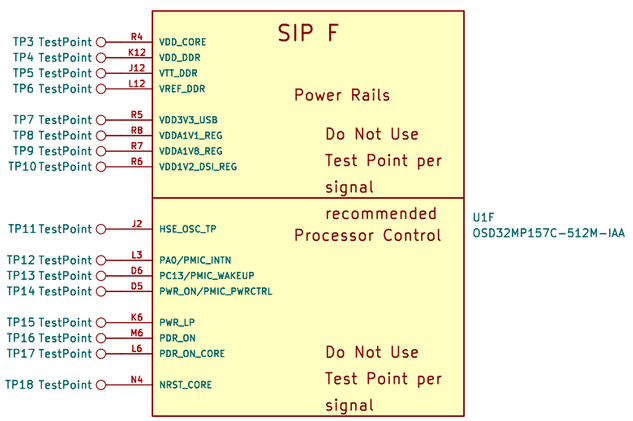
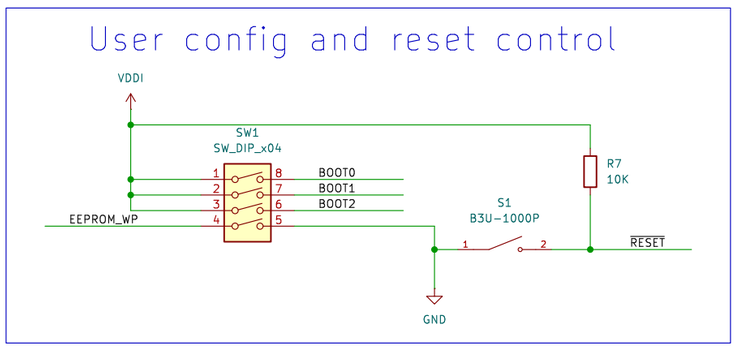
| KiCad E.D.A. 8.0.7 | | Id: 1/12 |

# OSD32MP1 power

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| Size: A3 | Date: | **Rev:** |
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# OSD32MP1

U1C
OSD32MP157C-512M-IAA

SIP D

DSI
P17 DSI_D0P
P18 DSI_D0N
N17 DSI_D1P
N18 DSI_D1N
N16 DSI_CKP
P16 DSI_CKN

Analog Power
M1 VDDA
M2 VREF+
K2 VREF-
K1 VSSA

Analog
L1 ANA0
L2 ANA1

USB
K9 OTG_VBUS
K18 USB_DM1
K17 USB_DP1
J17 USB_DM2
J18 USB_DP2
USB_DN
USB_DP
USB_2_DN
USB_2_DP

JTAG
R14 JTMS-SWDIO
R15 JTCK-SWCLK
R13 JTDI
R12 JTDO-TRACESWO
R11 NJTRST
SWDIO/TMS
SWCLK/TCK
TDI
SWO/TDO
TRST

R8
Jumper
R9
Jumper
TP1
TestPoint
TP2
TestPoint

U1B
OSD32MP157C-512M-IAA

SIP B

PA1 C16
PA2 A15
PA3 A5
PA4 B16
PA5 A16
PA6 B17
PA7 A12
PA8 T17 MMC2_D4
PA9 U12 MMC2_D5
PA10 L16
PA11 L17
PA12 L18
PA13 A3
PA14 B3
PA15 T15

PB0 A11
PB1 B11
PB2 M18 MMC2_D2
PB3 V14 MMC2_D3
PB4 U14
PB5 C17
PB6 H18 I2C1_SCL
PB7 V12 I2C1_SDA
PB8 T13
PB9 U13
PB10 A13
PB11 A9
PB12 B14
PB13 A14
PB14 T14 MMC2_D0
PB15 V13 MMC2_D1

PC0 A17
PC1 B15
PC2 C7
PC3 B6
PC4 B12
PC5 C12
PC6 R18
PC7 R16 MMC2_D7
PC8 T16 SDMMC1_D0
PC9 U16 SDMMC1_D1
PC10 V16 SDMMC1_D2
PC11 U17 SDMMC1_D3
PC12 V17 SDMMC1_CMD

PC14-OSC32_IN N2
PC15-OSC32_OUT N1

PD0 V11
PD1 U11
PD2 U18 SDMMC1_CMD
PD3 T11
PD4 V10
PD5 U10
PD6 T10
PD7 U9
PD8 B2
PD9 B1
PD10 V6
PD11 E18
PD12 F16
PD13 F17
PD14 C3
PD15 A2

Y1
ABS05-32.768KHZ-7-T
1 2
C2
12pF
C1
12pF
GND

JTAG

+3V3
J3
TC2050-IDC-NL
1 SWDIO/TMS
3
4 SWCLK/TCK
5
10 RESET
9 TRST
8 TDI
7
6 SWO/TDO
RESET
GND

MMC2_D[0..7] Bus

MMC2_D[0..7]
MMC2_D0
MMC2_D1
MMC2_D2
MMC2_D3
MMC2_D4
MMC2_D5
MMC2_D6
MMC2_D7

Do not connect

SIP G
All pins reserved
for future use
Do Not Connect

D7 RSVD_1
D8 RSVD_2
D9 RSVD_3
P9 RSVD_4
R9 RSVD_5
D10 RSVD_6
P10 RSVD_7
R10 RSVD_8
H12 RSVD_9
M16 RSVD_10

U1G
OSD32MP157C-512M-IAA

Sheet: /osd32mp1-2/
File: osd32mp1-2.kicad_sch
**Title:**
Size: A3 | Date: | **Rev:**
KiCad E.D.A. 8.0.7 | Id: 3/12

# OSD32MP1

U1D
OSD32MP157C-512M-IAA

SIP C

| | | | |
|---|---|---|---|
| U7 | PE0 | PH2 | B13 |
| T7 | PE1 | PH3 | C13 |
| A6 | PE2 | PH4 | U6 |
| T12 | PE3 | PH5 | T6 |
| R17 | PE4 | PH6 | B5 |
| V15 | PE5 | PH7 | C5 |
| T9 | PE6 | PH8 | T4 |
| D17 | PE7 | PH9 | V3 |
| D18 | PE8 | PH10 | U3 |
| E16 | PE9 | PH11 | V2 |
| E17 | PE10 | PH12 | U2 |
| V5 | PE11 | PH13 | U1 |
| U5 | PE12 | PH14 | T1 |
| T5 | PE13 | PH15 | T2 |
| V4 | PE14 | | |
| U4 | PE15 | | |
| U8 | PF0 | PI0 | T3 |
| V8 | PF1 | PI1 | R1 |
| T18 | PF2 | PI2 | R2 |
| C6 | PF3 | PI3 | R3 |
| V7 | PF4 | PI4 | P1 |
| T8 | PF5 | PI5 | P2 |
| F18 | PF6 | PI6 | P3 |
| G16 | PF7 | PI7 | N3 |
| G17 | PF8 | PI8 | C1 |
| G18 | PF9 | PI9 | C2 |
| H16 | PF10 | PI10 | B4 |
| B18 | PF11 | PI11 | C4 |
| C11 | PF12 | | |
| A10 | PF13 | | |
| B10 | PF14 | | |
| C10 | PF15 | | |
| C8 | PG0 | PZ0 | F1 |
| B8 | PG1 | PZ1 | F2 |
| A8 | PG2 | PZ2 | F3 |
| C9 | PG3 | PZ3 | E1 |
| B9 | PG4 | PZ4/PMIC_SCL | E2 |
| C15 | PG5 | PZ5/PMIC_SDA | E3 |
| U15 | PG6 | PZ6 | D1 |
| H17 | PG7 | PZ7 | D2 |
| D16 | PG8 | | |
| M17 | PG9 | | |
| C18 | PG10 | | |
| C14 | PG11 | | |
| A4 | PG12 | | |
| B7 | PG13 | | |
| A7 | PG14 | | |
| V9 | PG15 | | |

MMC2_CLK
MMC2_D6
MMC2_CMD

MMC2_D[0..7] Bus

MMC2_D[0..7]
MMC2_D0
MMC2_D1
MMC2_D2
MMC2_D3
MMC2_D4
MMC2_D5
MMC2_D6
MMC2_D7

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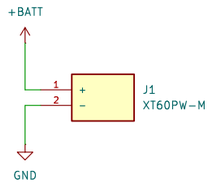
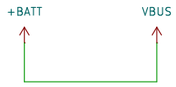
File: osd32mp1-3.kicad_sch
**Title:**
Size: A3 | Date: | **Rev:**
KiCad E.D.A. 8.0.7 | Id: 4/12

# Battery Power
# バッテリー電源

2S–6S LiPo battery

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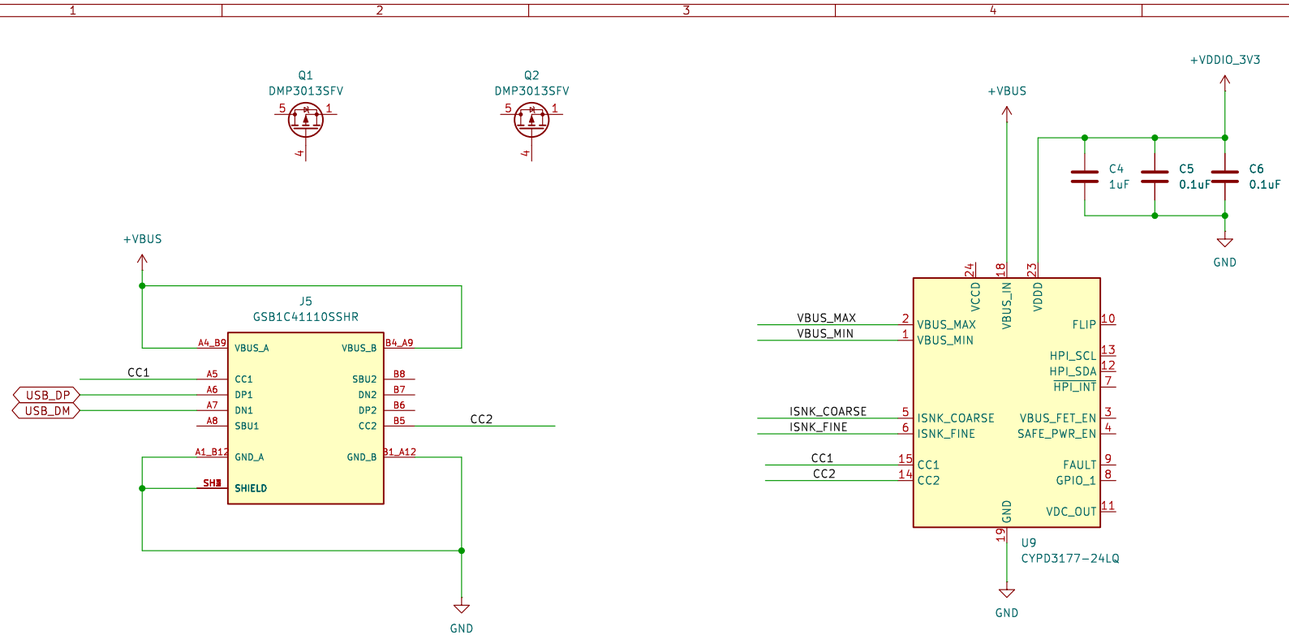
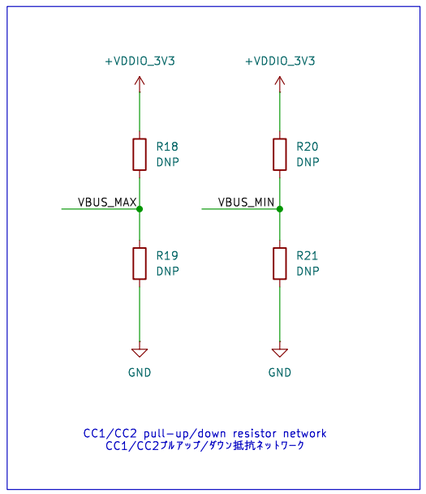
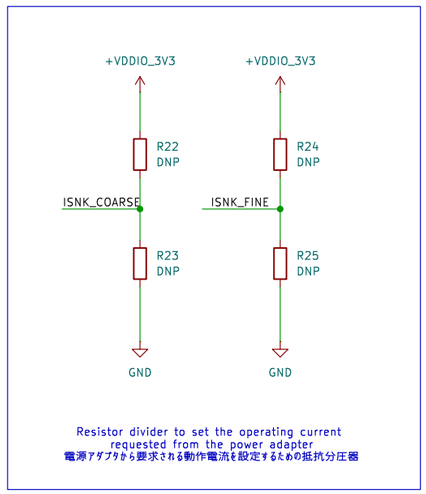
| KiCad E.D.A. 8.0.7 | | Id: 5/12 |

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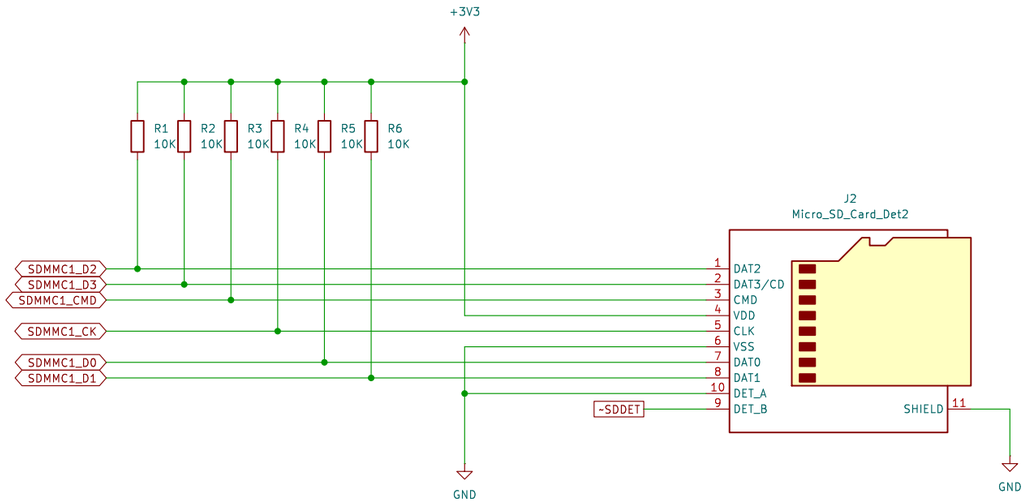
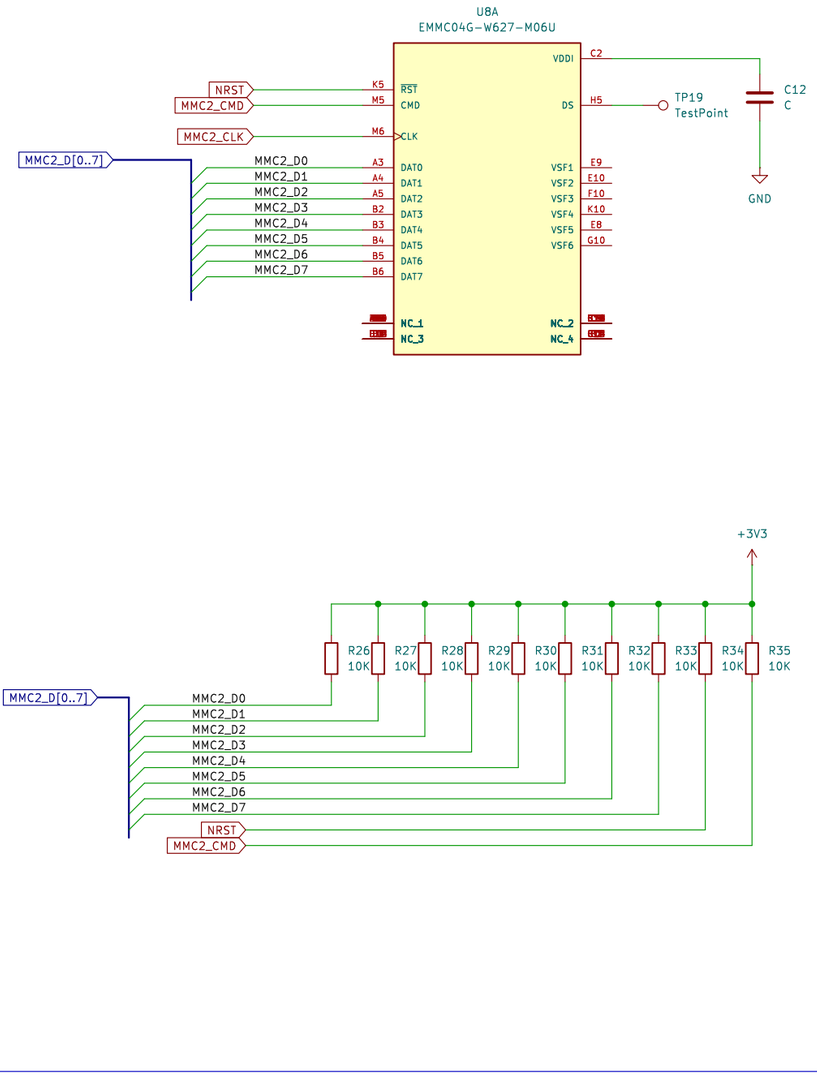
| KiCad E.D.A. 8.0.7 | | Id: 6/12 |

# Storage
# 貯蔵

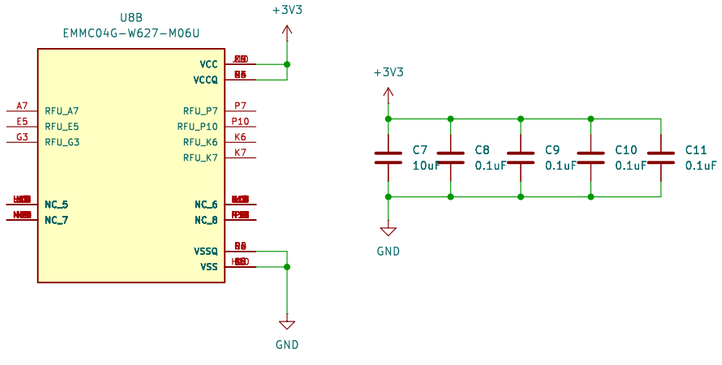
## SD card




## eMMC




## eMMC power

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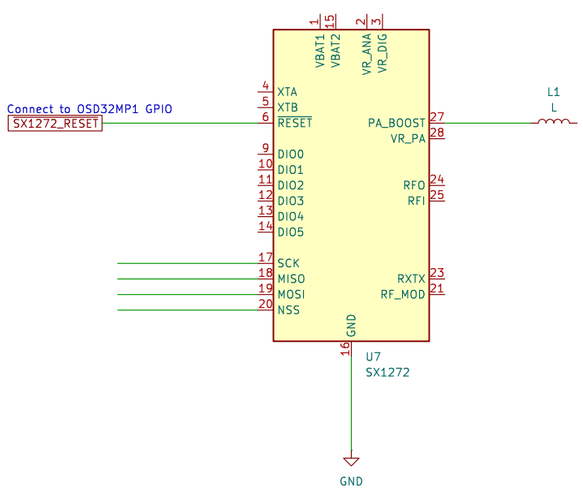
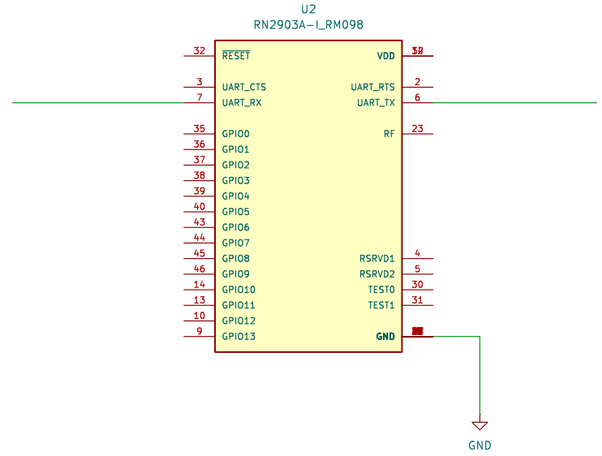
| KiCad E.D.A. 8.0.7 | | Id: 7/12 |

# Long range radio

## SX1272 LoRaWAN IC option




## RN2903 LoRa module option

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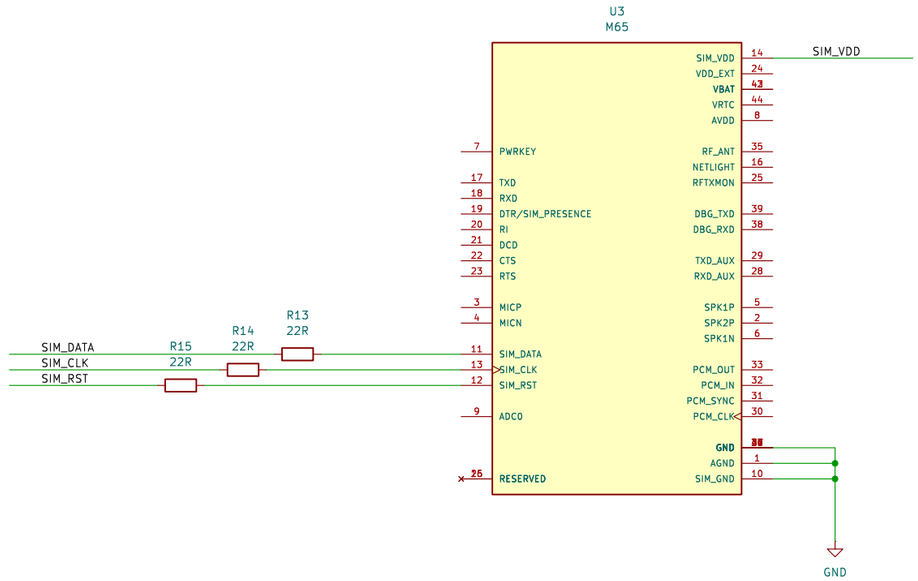
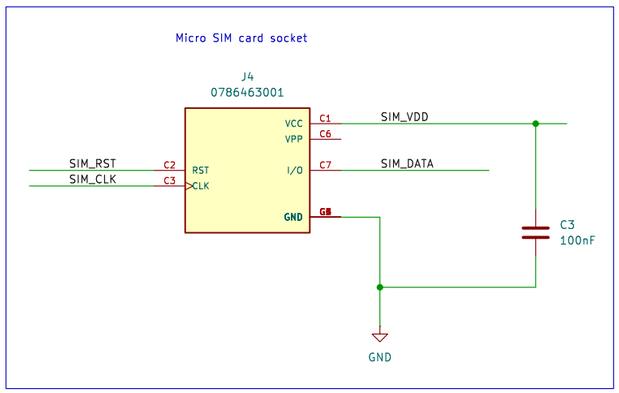
| KiCad E.D.A. 8.0.7 | | Id: 8/12 |

# GSM/GPRS 2G Comms

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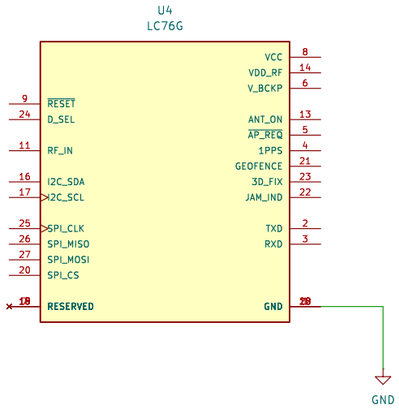
| KiCad E.D.A. 8.0.7 | | Id: 9/12 |

# GNSS

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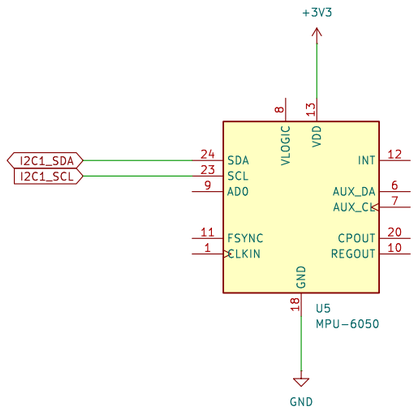
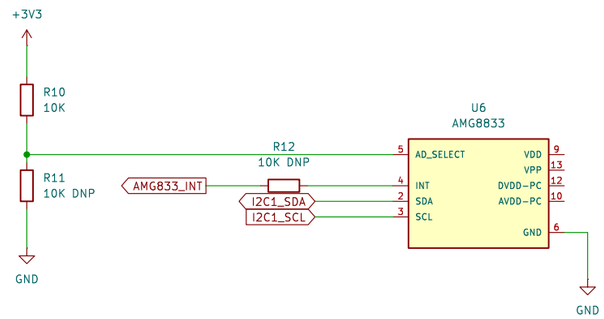
| KiCad E.D.A. 8.0.7 | | Id: 10/12 |

# Sensors
# センサー

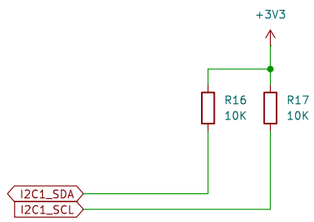
## MPU-6050




## AMG8833




## I2C1 Pull-up resistor

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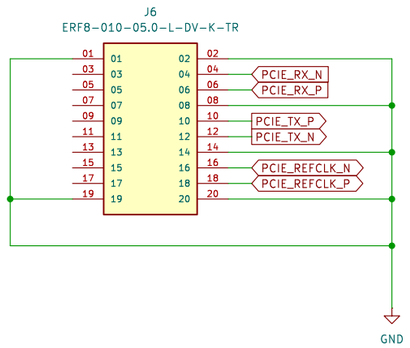
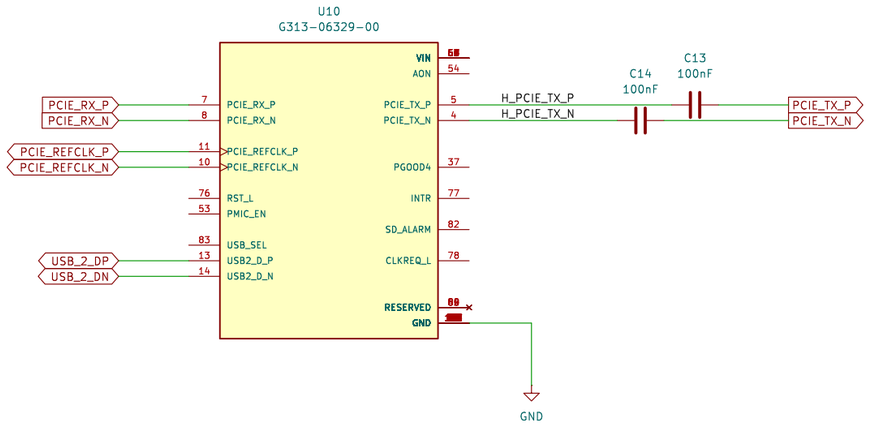
| KiCad E.D.A. 8.0.7 | | Id: 11/12 |

# Google Coral edge tensor processing unit
# Google Coral エッジテンソル処理ユニット

## Board to board mezzanine connector
## 基板対基板メザニンコネクタ




Used to expose PCIe interface on Google Coral

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