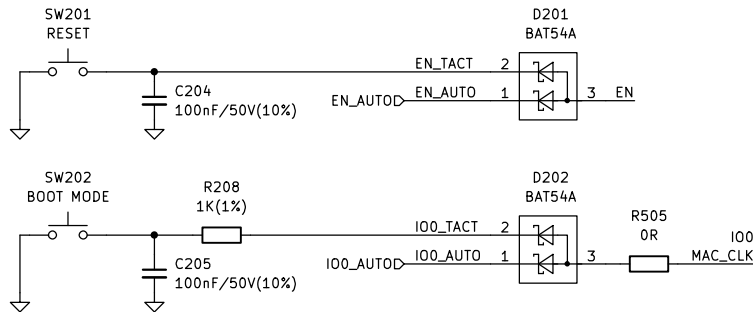
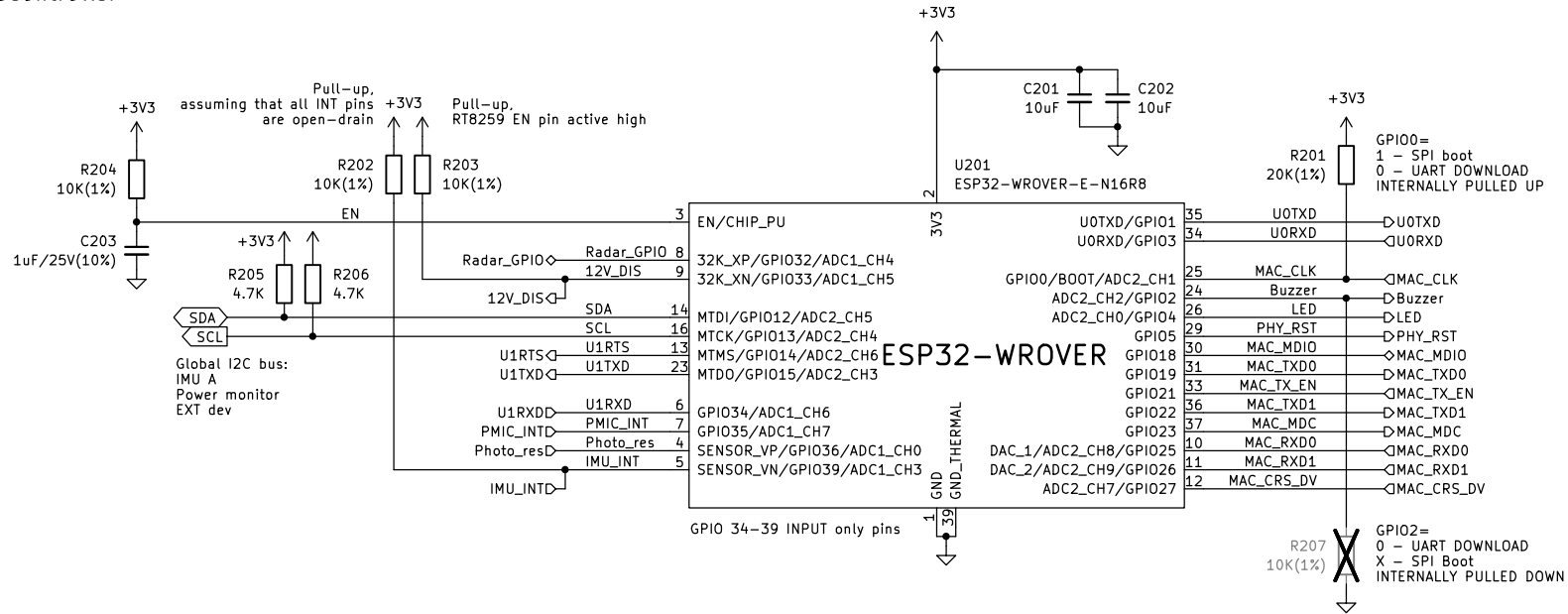


## Microcontroller



Strapping pins: (default)  
 MTDI(I012) - LDO voltage setting (0)  
 IO0 - Boot (SPI, UART) (1)  
 IO2 - Boot (SPI, UART) (0)  
 MTDO(I015) - debug log on boot (1)  
 IO5 - SDIO function (1)

Internal flash pins:  
 17-22

All GND symbols refer to same ground

**ALPSALPINE**

### Title: Radar Safety Sensor

ALPS Electric Czech, s.r.o.

Sheet: ESP32

File: ESP32.kicad\_sch

Size: A4

Date: 2024-01-29

Created by

M. Tavoda

Approved by

J. Gierl

Status: FINAL

Rev: 1.0.0

Lang: EN

Id: 1/8

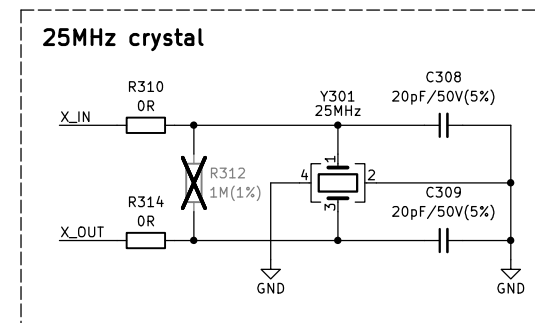
**PHY interface**

**100Base-TX RJ45**

**25MHz crystal**

**ALPSALPINE**

<b>Title: Radar Safety Sensor</b>		Created by M. Tavoda	Status: FINAL
ALPS Electric Czech, s.r.o.		Approved by J. Gierlt	Rev: 1.0.0
Sheet: PHY	File: PHY.kicad_sch	Lang: EN	
Size: A4	Date: 2024-01-29	Id: 1/8	

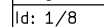


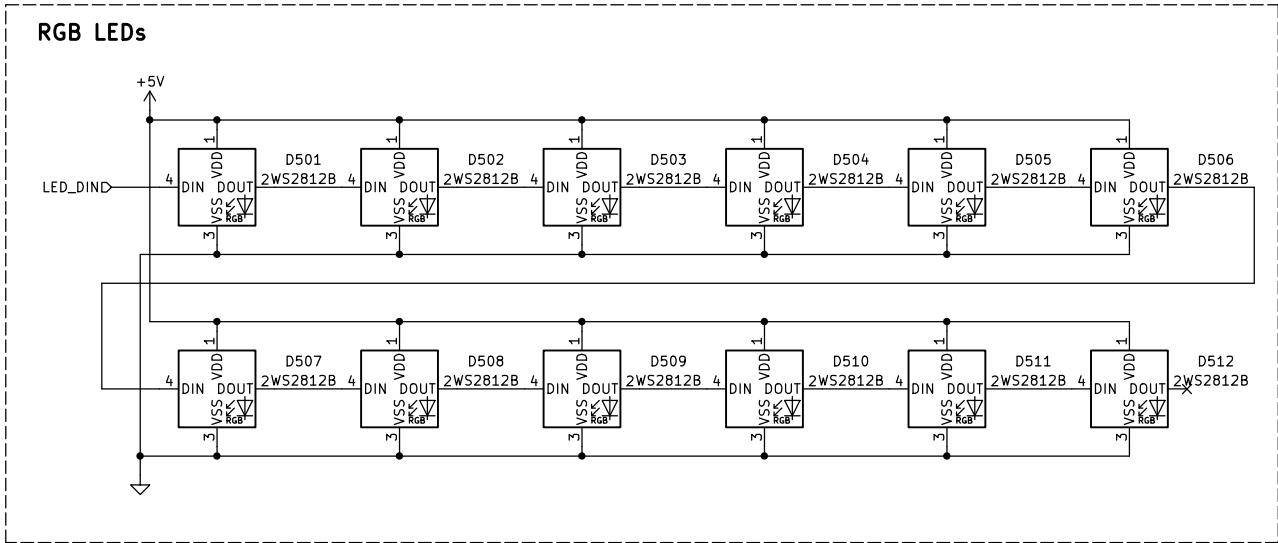
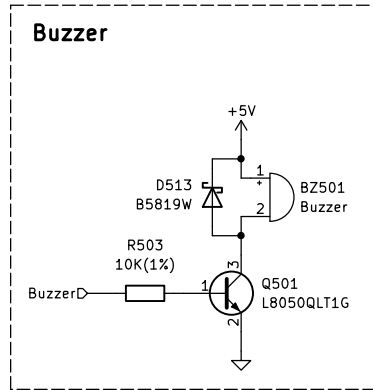
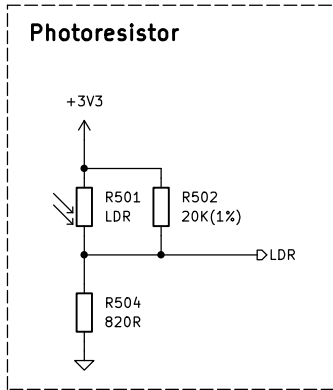
**D52 ANT SoC Module**

UART baudrate configuration, default 19200  
the table can be found in:  
Interfacing with ANT General Purpose Chipsets and Modules

SLEEP pin is ignored, if SLEEP is pulled down

If the SLEEP pin is not required, it need to be tight low





All GND symbols refer to same ground



**Title: Radar Safety Sensor**

ALPS Electric Czech, s.r.o.

Sheet: LED + Buzzer  
File: LEDbuzzer.kicad\_sch

Size: A4 Date: 2024-01-29

Created by  
M. Tavoda

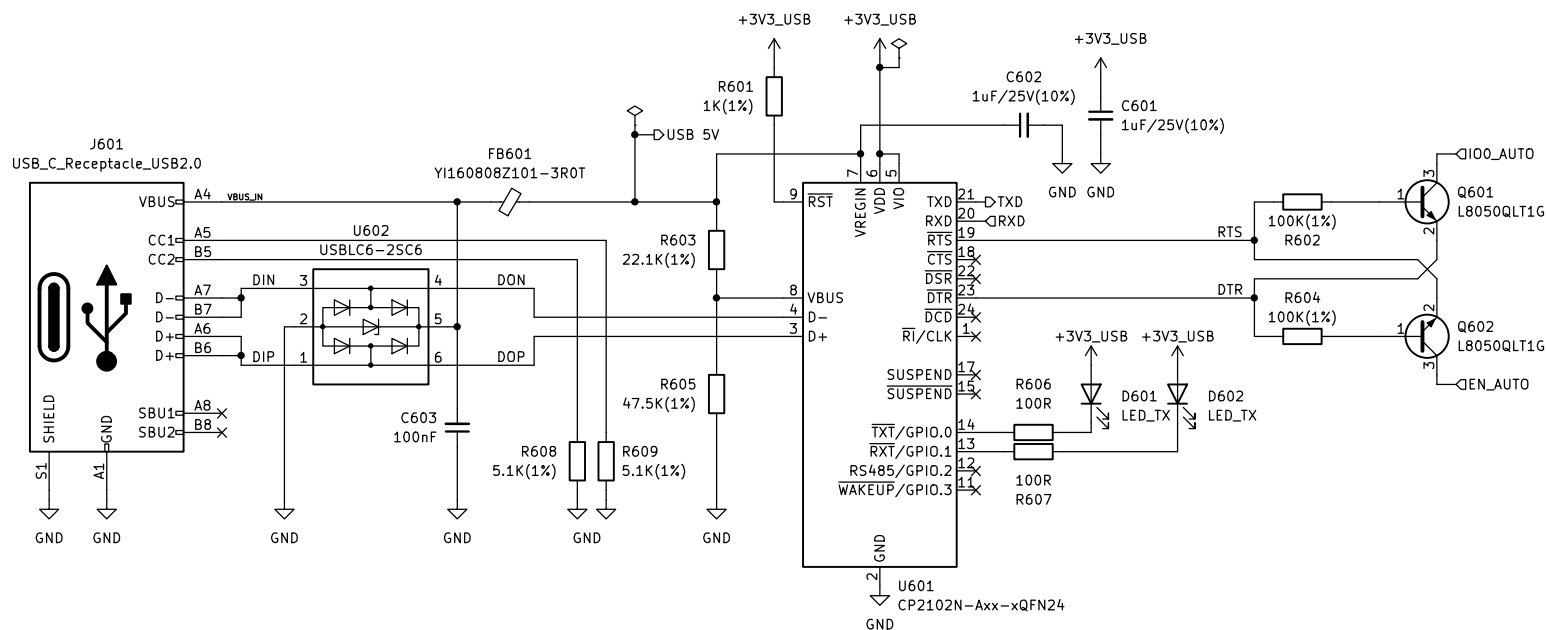
Approved by  
J. Gierl

Status: FINAL  
**Rev: 1.0.0**

Lang. EN  
Id: 1/8

## USB controller

Notes:  
+3V3\_USB – local net only for CP2102  
VBUS – 5V net from USB to power multiplexer



**ALPSALPINE**

**Title: Radar Safety Sensor**

ALPS Electric Czech, s.r.o.

Sheet: USB

File: USB.kicad\_sch

Size: A4

Date: 2024-01-29

Created by

M. Tavoda

Approved by

J. Gierl

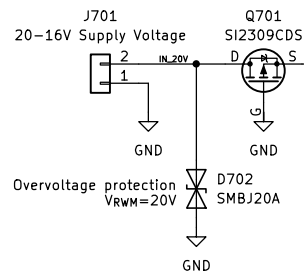
Status: FINAL

Rev: 1.0.0

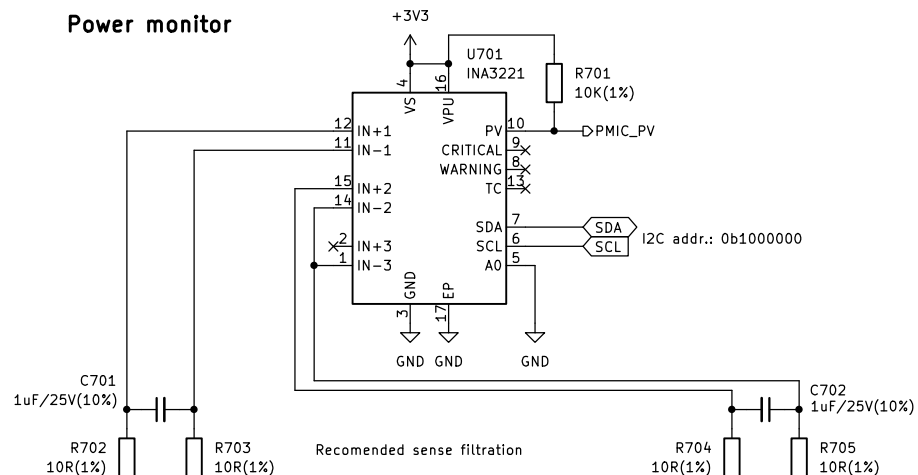
Lang: EN

Id: 1/8

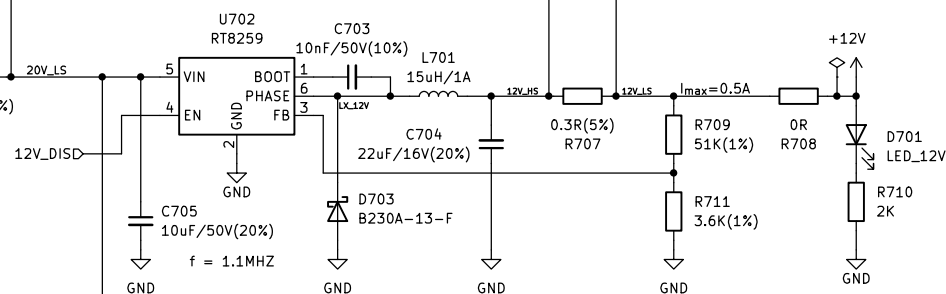
Battery pack  
 $3.7 \times 5 = 18.5V \Rightarrow \text{max } 20V$   
 $3.2 \times 5 = 16V$



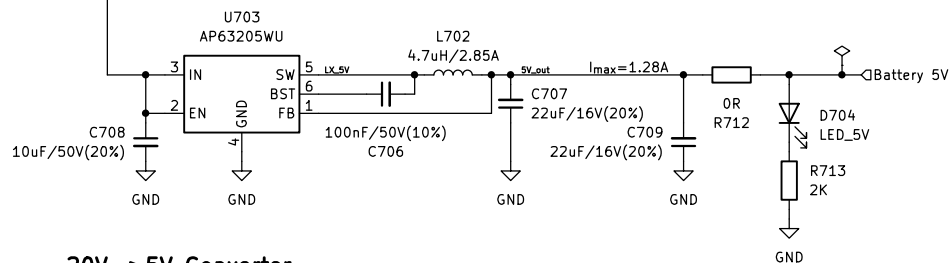
### Power monitor



### 20V->12V Converter f = 1.4MHz



### 20V->5V Converter f = 1.1MHz



#### Title: Radar Safety Sensor

ALPS Electric Czech, s.r.o.

Sheet: 20V + 12V

File: Power\_1.kicad\_sch

Size: A4

Date: 2024-01-29

Created by

M. Tavoda

Approved by

J. Gierl

Status: FINAL

Rev: 1.0.0

Lang. EN

Id: 1/8

