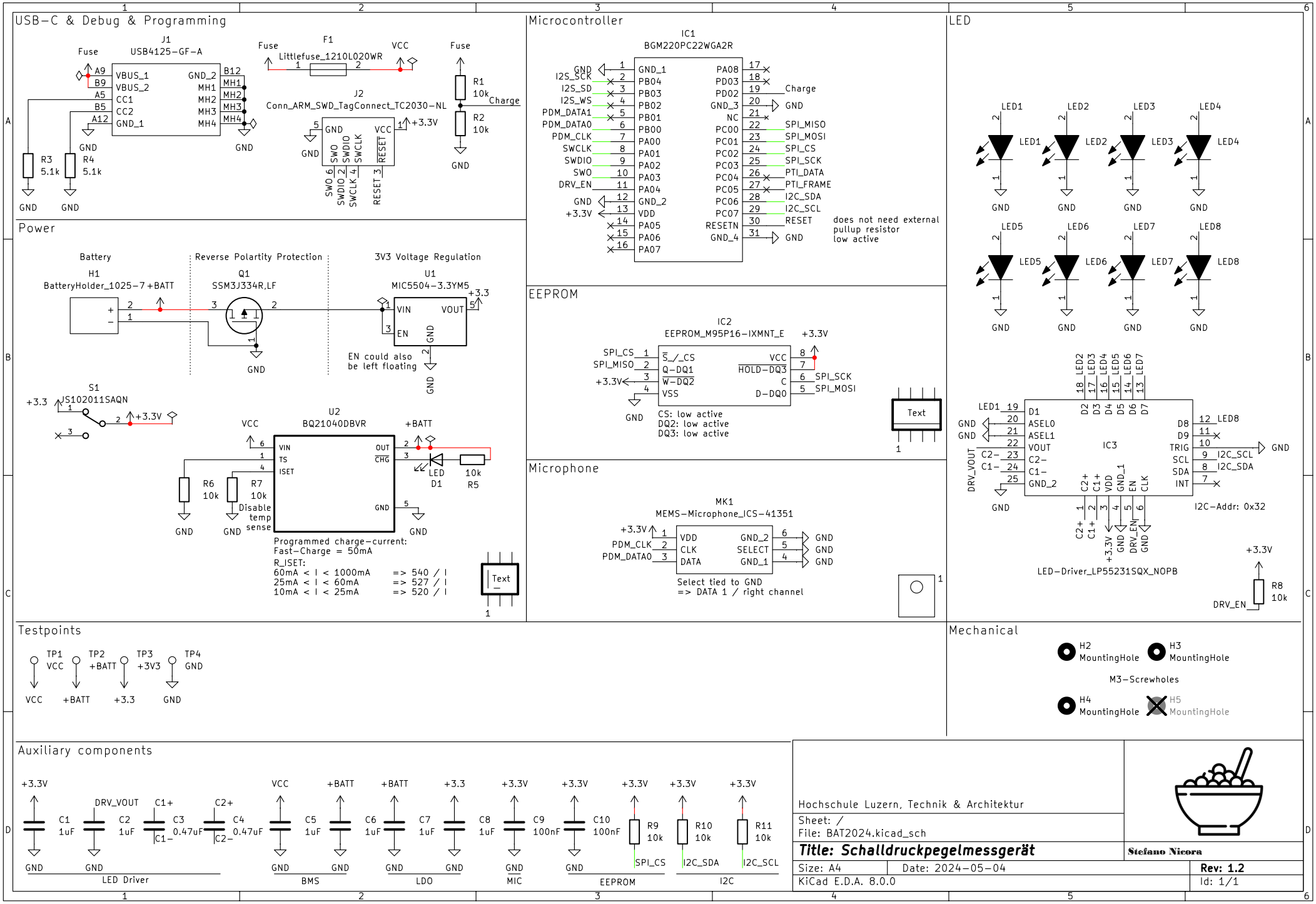
USB-C & Debug & Programming
J1
USB4125-GF-A
Fuse
VBUS_1
VBUS_2
CC1
CC2
GND_1
GND_2
MH1
MH2
MH3
MH4
A9
B9
A5
B5
A12
B12
R3
5.1k
R4
5.1k
GND
F1
Littlefuse_1210L020WR
VCC
J2
Conn_ARM_SWD_TagConnect_TC2030-NL
SWO
SWDIO
SWCLK
RESET
+3.3V
R1
10k
R2
10k
Charge
Power
Battery
H1
BatteryHolder_1025-7+BATT
Reverse Polarity Protection
Q1
SSM3J334R,LF
3V3 Voltage Regulation
U1
MIC5504-3.3YM5
VIN
VOUT
EN
+3.3
EN could also
be left floating
S1
JS102011SAQN
U2
BQ21040DBVR
+BATT
TS
ISET
OUT
CHG
LED
D1
R5
10k
R6
10k
R7
10k
Disable
temp
sense
Programmed charge-current:
Fast-Charge = 50mA
R_ISET:
60mA < I < 1000mA => 540 / I
25mA < I < 60mA => 527 / I
10mA < I < 25mA => 520 / I
Text
Microcontroller
IC1
BGM220PC22WGA2R
GND_1
PB04
PB03
PB02
PB01
PB00
PA00
PA01
PA02
PA03
PA04
GND_2
VDD
PA05
PA06
PA07
PA08
PD03
PD02
GND_3
NC
PC00
PC01
PC02
PC03
PC04
PC05
PC06
PC07
RESETN
GND_4
I2S_SCK
I2S_SD
I2S_WS
PDM_DATA1
PDM_DATA0
PDM_CLK
SWCLK
SWDIO
SWO
DRV_EN
Charge
SPI_MISO
SPI_MOSI
SPI_CS
SPI_SCK
PTI_DATA
PTI_FRAME
I2C_SDA
I2C_SCL
RESET
does not need external
pullup resistor
low active
EEPROM
IC2
EEPROM_M95P16-IXMNT_E
S_/_CS
Q-DQ1
W-DQ2
VSS
VCC
HOLD-DQ3
C
D-DQ0
SPI_CS
SPI_MISO
SPI_SCK
SPI_MOSI
CS: low active
DQ2: low active
DQ3: low active
Microphone
MK1
MEMS-Microphone_ICS-41351
VDD
CLK
DATA
GND_2
SELECT
GND_1
PDM_CLK
PDM_DATA0
Select tied to GND
=> DATA 1 / right channel
LED
LED1
LED2
LED3
LED4
LED5
LED6
LED7
LED8
IC3
D1
ASEL0
ASEL1
VOUT
C2-
C1-
GND_2
D8
D9
TRIG
SCL
SDA
INT
C2+
C1+
VDD
GND_1
EN
CLK
DRV_VOUT
DRV_EN
I2C-Addr: 0x32
LED-Driver_LP55231SQX_NOPB
R8
10k
Testpoints
TP1
VCC
TP2
+BATT
TP3
+3V3
TP4
GND
Mechanical
H2
MountingHole
H3
MountingHole
M3-Screwholes
H4
MountingHole
H5
MountingHole
Auxiliary components
C1
1uF
C2
1uF
C3
0.47uF
C4
0.47uF
C5
1uF
C6
1uF
C7
1uF
C8
1uF
C9
100nF
C10
100nF
R9
10k
R10
10k
R11
10k
LED Driver
BMS
LDO
MIC
EEPROM
I2C
Hochschule Luzern, Technik & Architektur
Sheet: /
File: BAT2024.kicad_sch
Title: Schalldruckpegelmessgerät
Stefano Nicora
Size: A4
Date: 2024-05-04
Rev: 1.2
KiCad E.D.A. 8.0.0
Id: 1/1