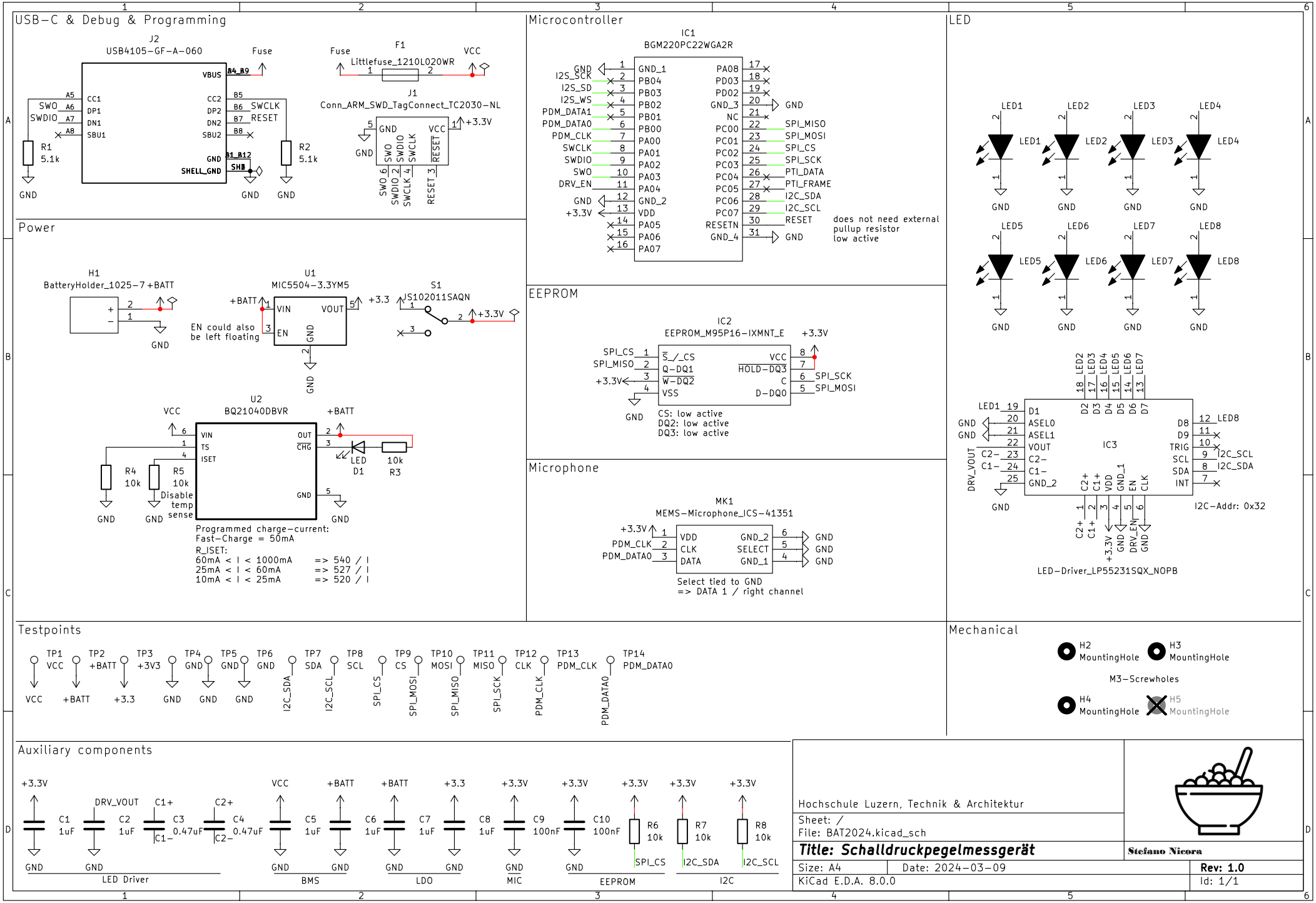
USB-C & Debug & Programming
J2
USB4105-GF-A-060
Fuse
VBUS
A4_B9
CC1
DP1
DN1
SBU1
CC2
DP2
DN2
SBU2
B5
B6
B7
B8
SWCLK
RESET
GND
B1_B12
SHELL_GND
SHB
SWO
SWDIO
R1
5.1k
R2
5.1k
F1
Littlefuse_1210L020WR
VCC
J1
Conn_ARM_SWD_TagConnect_TC2030-NL
+3.3V
Power
H1
BatteryHolder_1025-7+BATT
U1
MIC5504-3.3YM5
+BATT
VIN
VOUT
EN
+3.3
EN could also be left floating
S1
JS102011SAQN
U2
BQ21040DBVR
OUT
CHG
ISET
LED D1
10k R3
R4 10k
R5 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
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
+3.3V
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
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
D2
D3
D4
D5
D6
D7
D8
D9
TRIG
SCL
SDA
INT
C2+
C1+
VDD
GND_1
EN
CLK
DRV_VOUT
I2C-Addr: 0x32
LED-Driver_LP55231SQX_NOPB
Testpoints
TP1 VCC
TP2 +BATT
TP3 +3V3
TP4 GND
TP5 GND
TP6 GND
TP7 SDA
TP8 SCL
TP9 CS
TP10 MOSI
TP11 MISO
TP12 CLK
TP13 PDM_CLK
TP14 PDM_DATA0
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
R6 10k
R7 10k
R8 10k
LED Driver
BMS
LDO
MIC
EEPROM
I2C
Hochschule Luzern, Technik & Architektur
Sheet: /
File: BAT2024.kicad_sch
Title: Schalldruckpegelmessgerät
Stefano Nicora
Size: A4
Date: 2024-03-09
Rev: 1.0
KiCad E.D.A. 8.0.0
Id: 1/1