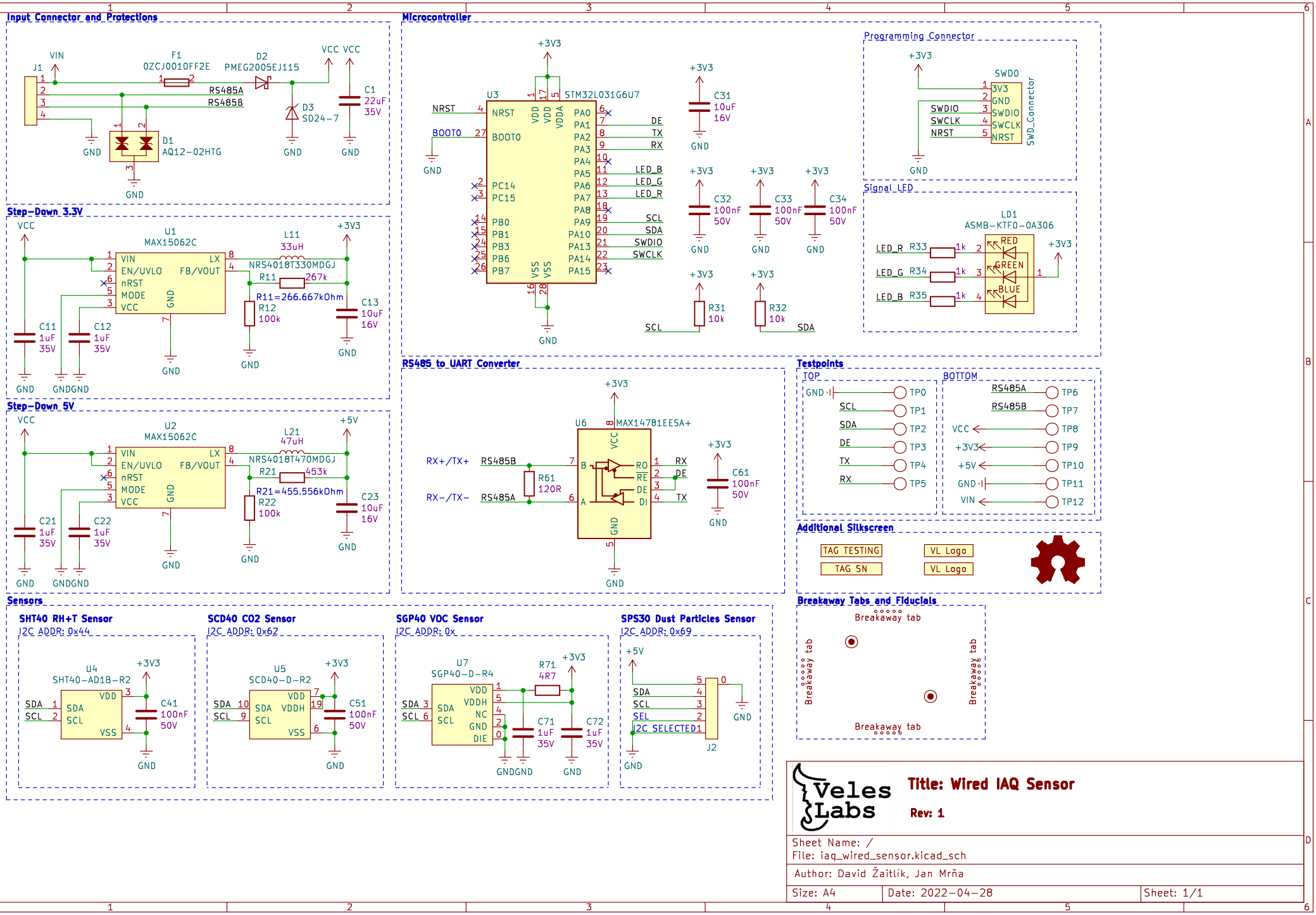
Input Connector and Protections
J1
VIN
F1
0ZCJ0010FF2E
D2
PMEG2005EJ115
VCC VCC
RS485A
RS485B
C1
22uF
35V
D3
SD24-7
D1
AQ12-02HTG
GND
Step-Down 3.3V
U1
MAX15062C
VIN
EN/UVLO
nRST
MODE
VCC
LX
FB/VOUT
GND
L11
33uH
NRS4018T330MDGJ
R11
267k
R11=266.667kOhm
R12
100k
C11
1uF
35V
C12
1uF
35V
C13
10uF
16V
+3V3
Step-Down 5V
U2
MAX15062C
L21
47uH
NRS4018T470MDGJ
R21
453k
R21=455.556kOhm
R22
100k
C21
1uF
35V
C22
1uF
35V
C23
10uF
16V
+5V
Microcontroller
U3
STM32L031G6U7
NRST
BOOT0
PC14
PC15
PB0
PB1
PB3
PB6
PB7
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA13
PA14
PA15
VDD
VDDA
VSS
DE
TX
RX
LED_B
LED_G
LED_R
SCL
SDA
SWDIO
SWCLK
C31
10uF
16V
C32
100nF
50V
C33
100nF
50V
C34
100nF
50V
R31
10k
R32
10k
Programming Connector
SWD0
3V3
GND
SWDIO
SWCLK
NRST
SWD_Connector
Signal LED
LD1
ASMB-KTF0-0A306
RED
GREEN
BLUE
LED_R R33
LED_G R34
LED_B R35
1k
RS485 to UART Converter
U6
MAX14781EESA+
VCC
GND
RO
RE
DE
DI
A
B
RX+/TX+
RX-/TX-
RS485B
RS485A
R61
120R
C61
100nF
50V
RX
DE
TX
Testpoints
TOP
BOTTOM
GND
SCL
SDA
DE
TX
RX
VCC
+3V3
+5V
VIN
TP0
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
Additional Silkscreen
TAG TESTING
TAG SN
VL Logo
VL Logo
Sensors
SHT40 RH+T Sensor
I2C ADDR: 0x44
U4
SHT40-AD1B-R2
SDA
SCL
VDD
VSS
C41
100nF
50V
SCD40 CO2 Sensor
I2C ADDR: 0x62
U5
SCD40-D-R2
VDDH
C51
100nF
50V
SGP40 VOC Sensor
I2C ADDR: 0x
U7
SGP40-D-R4
NC
DIE
R71
4R7
C71
1uF
35V
C72
1uF
35V
GNDGND
SPS30 Dust Particles Sensor
I2C ADDR: 0x69
SEL
I2C SELECTED
J2
Breakaway Tabs and Fiducials
Breakaway tab
Veles Labs
Title: Wired IAQ Sensor
Rev: 1
Sheet Name: /
File: iaq_wired_sensor.kicad_sch
Author: David Žaitlík, Jan Mrňa
Size: A4
Date: 2022-04-28
Sheet: 1/1