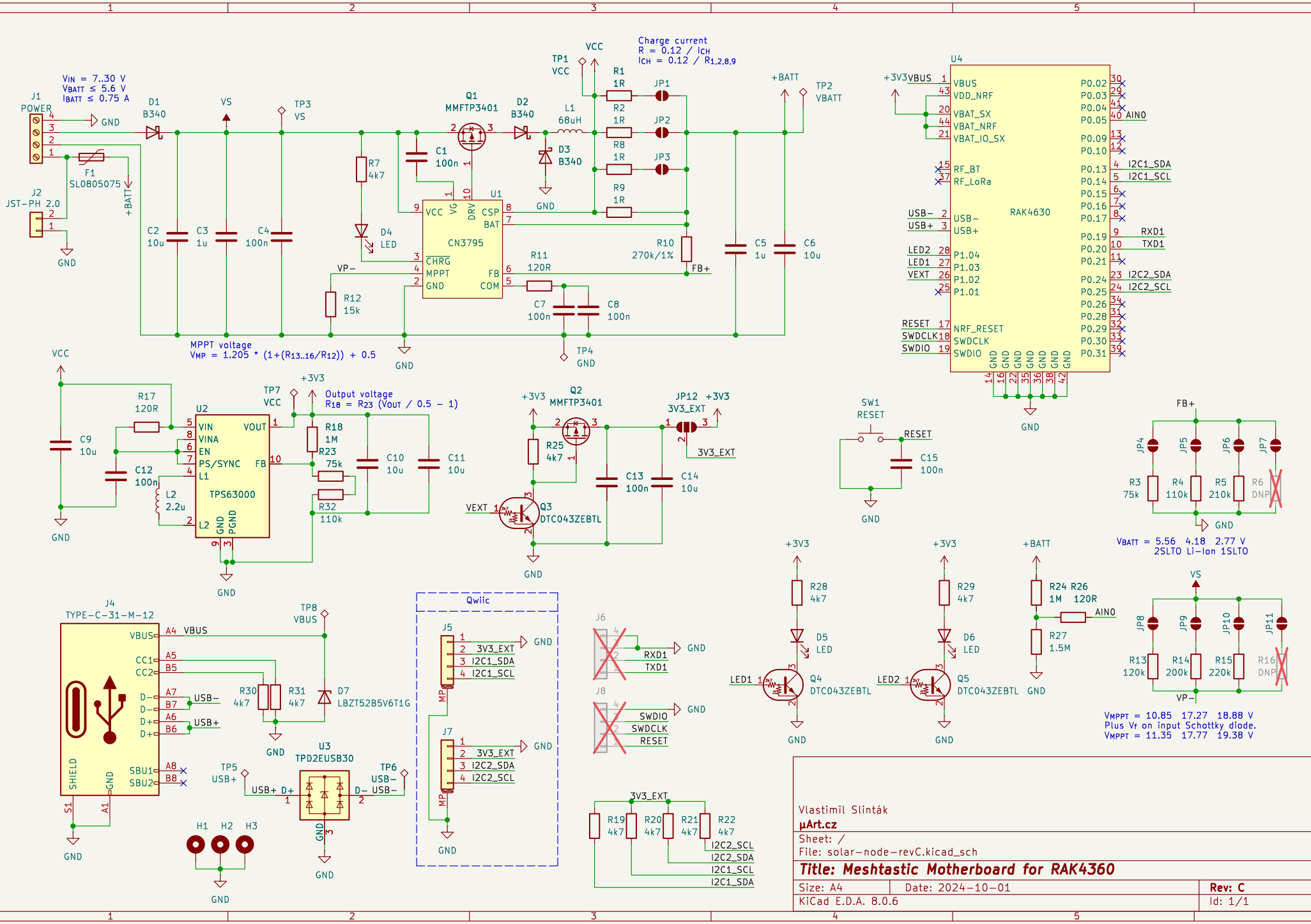
VIN = 7..30 V
VBATT ≤ 5.6 V
IBATT ≤ 0.75 A
J1
POWER
J2
JST-PH 2.0
F1
SL0805075
D1
B340
VS
TP3
VS
+BATT
Q1
MMFTP3401
D2
B340
L1
68uH
TP1
VCC
Charge current
R = 0.12 / ICH
ICH = 0.12 / R1,2,8,9
R1
1R
R2
1R
R8
1R
R9
1R
JP1
JP2
JP3
D3
B340
TP2
VBATT
C1
100n
C2
10u
C3
1u
C4
100n
R7
4k7
D4
LED
U1
CN3795
VCC
VG
DRV
CSP
BAT
CHRG
MPPT
GND
FB
COM
R10
270k/1%
FB+
R11
120R
R12
15k
VP-
C5
1u
C6
10u
C7
100n
C8
100n
TP4
GND
MPPT voltage
VMP = 1.205 * (1+(R13..16/R12)) + 0.5
U4
RAK4630
+3V3
VBUS
VDD_NRF
VBAT_SX
VBAT_NRF
VBAT_IO_SX
RF_BT
RF_LoRa
USB-
USB+
P1.04
P1.03
P1.02
P1.01
NRF_RESET
SWDCLK
SWDIO
P0.02
P0.03
P0.04
P0.05
AIN0
P0.09
P0.10
P0.13
P0.14
P0.15
P0.16
P0.17
P0.19
P0.20
P0.21
P0.24
P0.25
P0.26
P0.28
P0.29
P0.30
P0.31
I2C1_SDA
I2C1_SCL
I2C2_SDA
I2C2_SCL
RXD1
TXD1
LED2
LED1
VEXT
RESET
SWDCLK
SWDIO
R17
120R
C9
10u
C12
100n
L2
2.2u
U2
TPS63000
VIN
VINA
EN
PS/SYNC
L1
L2
GND
PGND
VOUT
FB
TP7
VCC
+3V3
Output voltage
R18 = R23 (VOUT / 0.5 - 1)
R18
1M
R23
75k
R32
110k
C10
10u
C11
10u
Q2
MMFTP3401
R25
4k7
Q3
DTC043ZEBTL
JP12
3V3_EXT
C13
100n
C14
10u
SW1
RESET
C15
100n
FB+
JP4
JP5
JP6
JP7
R3
75k
R4
110k
R5
210k
R6
DNP
VBATT = 5.56 4.18 2.77 V
2SLTO Li-Ion 1SLTO
J4
TYPE-C-31-M-12
VBUS
CC1
CC2
D-
D+
SHIELD
SBU1
SBU2
USB-
USB+
R30
4k7
R31
4k7
D7
LBZT52B5V6T1G
TP8
VBUS
U3
TPD2EUSB30
TP5
USB+
TP6
USB-
H1
H2
H3
Qwic
J5
J7
3V3_EXT
I2C2_SDA
I2C2_SCL
J6
J8
RXD1
TXD1
SWDIO
SWDCLK
RESET
R19
4k7
R20
4k7
R21
4k7
R22
4k7
I2C1_SCL
I2C1_SDA
R28
4k7
D5
LED
Q4
DTC043ZEBTL
R29
4k7
D6
LED
Q5
DTC043ZEBTL
R24 R26
1M 120R
R27
1.5M
AIN0
JP8
JP9
JP10
JP11
R13
120k
R14
200k
R15
220k
R16
DNP
VS
VP-
VMPPT = 10.85 17.27 18.88 V
Plus Vf on input Schottky diode.
VMPPT = 11.35 17.77 19.38 V
Vlastimil Slinták
µArt.cz
Sheet: /
File: solar-node-revC.kicad_sch
Title: Meshtastic Motherboard for RAK4360
Size: A4
Date: 2024-10-01
Rev: C
KiCad E.D.A. 8.0.6
Id: 1/1