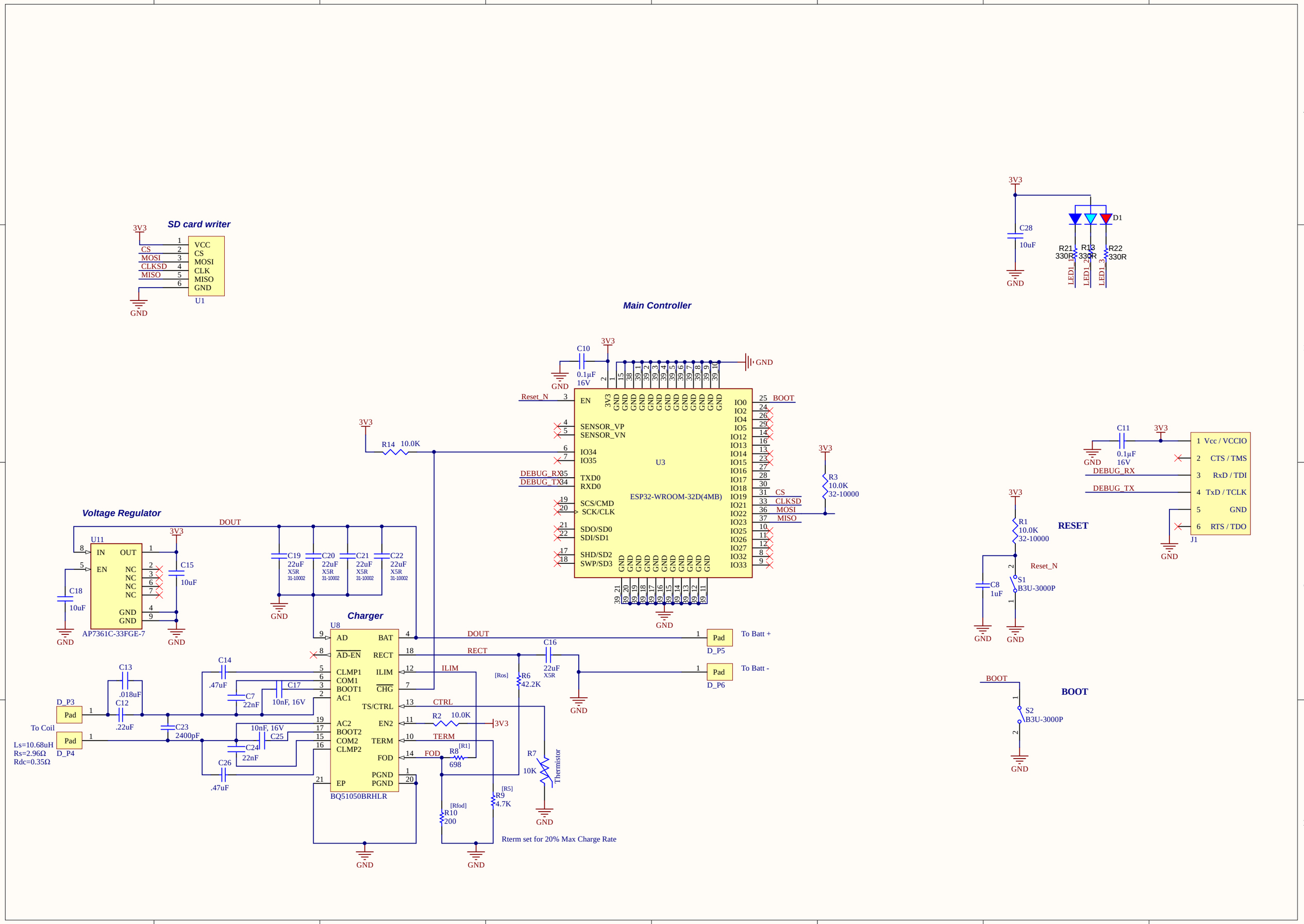
SD card writer
3V3
CS
MOSI
CLKSD
MISO
VCC
CS
MOSI
CLK
MISO
GND
U1
GND
Main Controller
C10
0.1µF
16V
3V3
GND
Reset_N
EN
SENSOR_VP
SENSOR_VN
IO34
IO35
TXD0
RXD0
DEBUG_RX
DEBUG_TX
SCS/CMD
SCK/CLK
SDO/SD0
SDI/SD1
SHD/SD2
SWP/SD3
U3
ESP32-WROOM-32D(4MB)
BOOT
CS
CLKSD
MOSI
MISO
R14
10.0K
R3
10.0K
32-10000
Voltage Regulator
U11
IN
OUT
EN
NC
GND
C18
10uF
C15
10uF
AP7361C-33FGE-7
DOUT
C19
22uF
X5R
31-10002
C20
22uF
X5R
31-10002
C21
22uF
X5R
31-10002
C22
22uF
X5R
31-10002
Charger
U8
AD
AD-EN
CLMP1
COM1
BOOT1
AC1
AC2
BOOT2
COM2
CLMP2
EP
BAT
RECT
ILIM
CHG
TS/CTRL
EN2
TERM
FOD
PGND
BQ51050BRHLR
C16
22uF
X5R
RECT
ILIM
CTRL
TERM
FOD
R2
10.0K
R8
698
[R1]
R6
42.2K
[Ros]
R7
10K
Thermistor
R9
4.7K
[R5]
R10
200
[Rfod]
Rterm set for 20% Max Charge Rate
Pad
D_P5
To Batt +
Pad
D_P6
To Batt -
C13
.018uF
C12
.22uF
C14
.47uF
C7
22nF
C17
10nF, 16V
C23
2400pF
C24
22nF
C25
10nF, 16V
C26
.47uF
D_P3
To Coil
D_P4
Ls=10.68uH
Rs=2.96Ω
Rdc=0.35Ω
C28
10uF
D1
R21
330R
R13
330R
R22
330R
LED1_1
LED1_2
LED1_3
C11
0.1µF
16V
DEBUG_RX
DEBUG_TX
Vcc / VCCIO
CTS / TMS
RxD / TDI
TxD / TCLK
GND
RTS / TDO
J1
RESET
R1
10.0K
32-10000
C8
1uF
S1
B3U-3000P
BOOT
S2
B3U-3000P