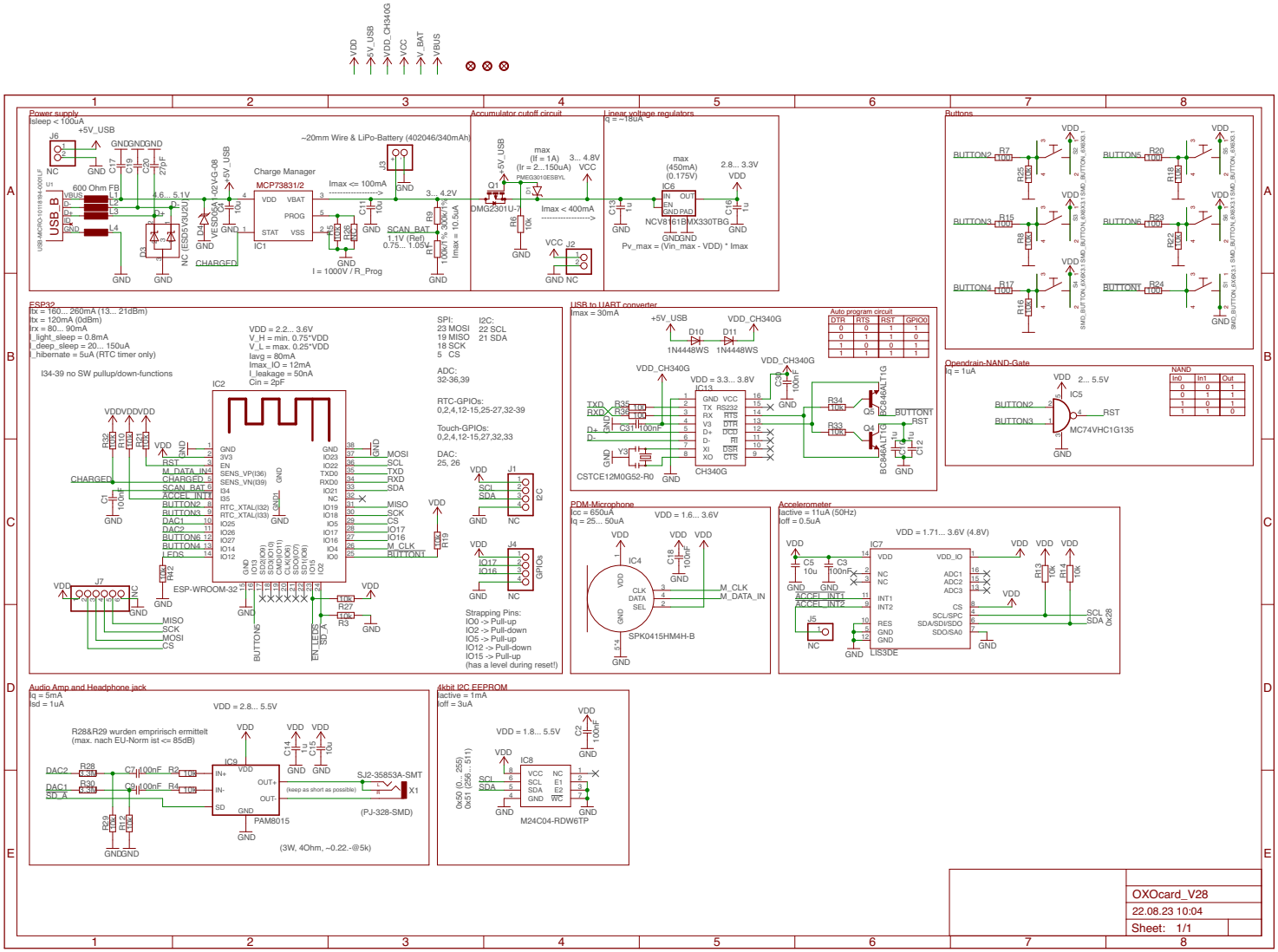
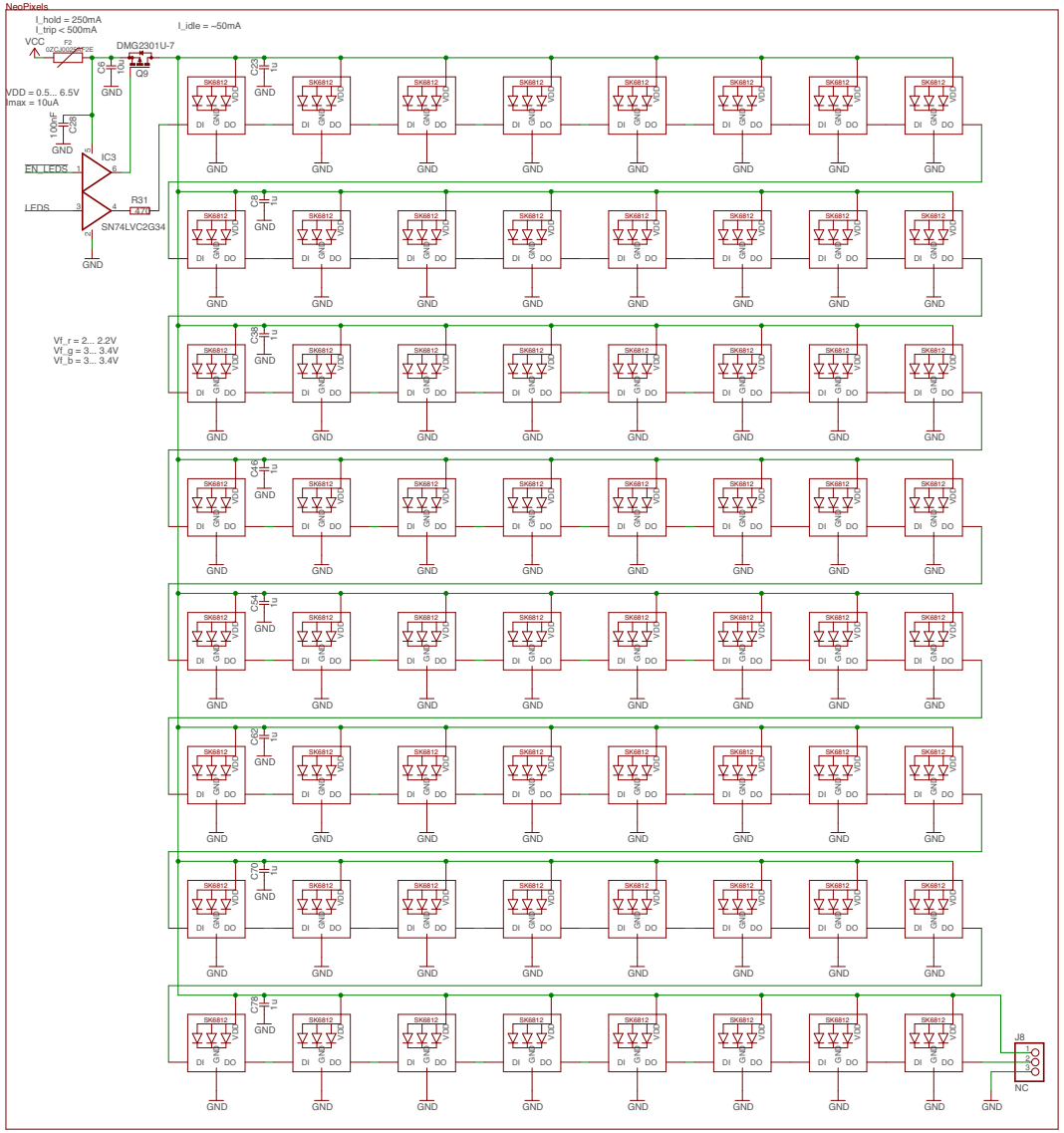

VDD
+5V_USB
VDD_CH340G
VCC
V_BAT
VBUS
Power supply
Isleep < 100uA
Charge Manager
MCP73831/2
~20mm Wire & LiPo-Battery (402046/340mAh)
Imax <= 100mA
I = 1000V / R_Prog
Accumulator cutoff circuit
Imax < 400mA
Linear voltage regulators
Iq = ~18uA
Pv_max = (Vin_max - VDD) * Imax
Buttons
Opendrain-NAND-Gate
Iq = 1uA
NAND
ESP32
Itx = 160... 260mA (13... 21dBm)
Itx = 120mA (0dBm)
Irx = 80... 90mA
I_light_sleep = 0.8mA
I_deep_sleep = 20... 150uA
I_hibernate = 5uA (RTC timer only)
I34-39 no SW pullup/down-functions
VDD = 2.2... 3.6V
V_H = min. 0.75*VDD
V_L = max. 0.25*VDD
Iavg = 80mA
Imax_IO = 12mA
I_leakage = 50nA
Cin = 2pF
SPI:
23 MOSI
19 MISO
18 SCK
5 CS
I2C:
22 SCL
21 SDA
ADC:
32-36,39
RTC-GPIOs:
0,2,4,12-15,25-27,32-39
Touch-GPIOs:
0,2,4,12-15,27,32,33
DAC:
25, 26
ESP-WROOM-32
Strapping Pins:
IO0 -> Pull-up
IO2 -> Pull-down
IO5 -> Pull-up
IO12 -> Pull-down
IO15 -> Pull-up
(has a level during reset!)
USB to UART converter
Imax = 30mA
Auto program circuit
DTR RTS RST GPIO0
0 0 1 1
0 1 1 0
1 0 0 1
1 1 1 1
CH340G
CSTCE12M0G52-R0
PDM-Microphone
Icc = 650uA
Iq = 25... 50uA
VDD = 1.6... 3.6V
SPK0415HM4H-B
Accelerometer
Iactive = 11uA (50Hz)
Ioff = 0.5uA
VDD = 1.71... 3.6V (4.8V)
LIS3DE
Audio Amp and Headphone jack
Iq = 5mA
Isd = 1uA
VDD = 2.8... 5.5V
R28&R29 wurden empirisch ermittelt
(max. nach EU-Norm ist <= 85dB)
PAM8015
(3W, 4Ohm, ~0.22.-@5k)
(PJ-328-SMD)
4kbit I2C EEPROM
Iactive = 1mA
Ioff = 3uA
VDD = 1.8... 5.5V
M24C04-RDW6TP
OXOcard_V28
22.08.23 10:04
Sheet: 1/1


NeoPixels
I_hold = 250mA
I_trip < 500mA
I_idle = ~50mA
VCC
F2
DMG2301U-7
C5
10u
Q9
GND
VDD = 0.5... 6.5V
Imax = 10uA
100nF
C20
IC3
EN_LEDS
LEDS
R31
470
SN74LVC2G34
Vf_r = 2... 2.2V
Vf_g = 3... 3.4V
Vf_b = 3... 3.4V
C23
C8
C38
C46
C54
C62
C70
C78
1u
SK6812
VDD
GND1
GND2
DI
DO
J8
NC