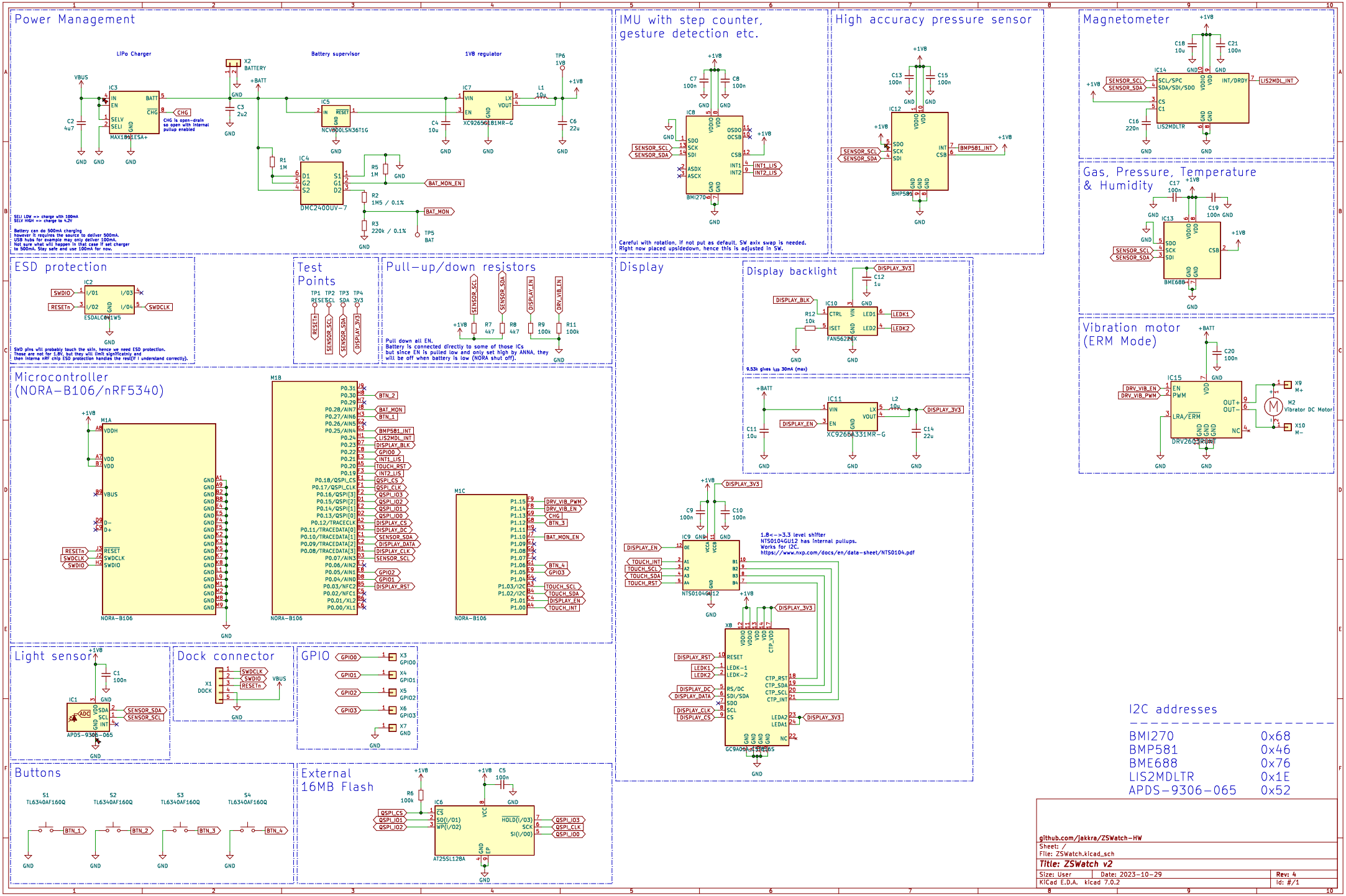
Power Management
LIPo Charger
Battery supervisor
1V8 regulator
IC3
MAX1811ESA+
IC5
NCV8805LSN36T1G
IC7
XC9265B181MR-G
IC4
DMC2400UV-7
X2 BATTERY
TP6 1V8
TP5 BAT
SELI LOW => charge with 100mA
SELV HIGH => charge to 4.2V
Battery can do 500mA charging
however it requires the source to deliver 500mA.
USB hubs for example may only deliver 100mA.
Not sure what will happen in that case if set charger
to 500mA. Stay safe and use 100mA for now.
CHG is open-drain
so open with internal
pullup enabled
IMU with step counter,
gesture detection etc.
IC8
BMI270
Careful with rotation, if not put as default, SW axix swap is needed.
Right now placed upsidedown, hence this is adjusted in SW.
High accuracy pressure sensor
IC12
BMP581
Magnetometer
IC14
LIS2MDLTR
Gas, Pressure, Temperature
& Humidity
IC13
BME688
ESD protection
IC2
ESDALC6V1W5
SWD pins will probably touch the skin, hence we need ESD protection.
These are not for 1.8V, but they will limit significantly and
then interna nRF chip ESD protection handles the rest(if I understand correctly).
Test
Points
Pull-up/down resistors
Pull down all EN.
Battery is connected directly to some of those ICs
but since EN is pulled low and only set high by ANNA, they
will be off when battery is low (NORA shut off).
Display
Display backlight
IC10
FAN5622
9.53k gives Iup 30mA (max)
IC11
XC9265A331MR-G
Vibration motor
(ERM Mode)
IC15
DRV2605L
M2 Vibrator DC Motor
Microcontroller
(NORA-B106/nRF5340)
M1A
NORA-B106
M1B
M1C
IC9
NTS0104GU12
1.8<->3.3 level shifter
NTS0104GU12 has internal pullups.
Works for I2C.
https://www.nxp.com/docs/en/data-sheet/NTS0104.pdf
X8
GC9A01A
Light sensor
IC1
APDS-9306-065
Dock connector
X1 DOCK
GPIO
Buttons
S1 TL6340AF160Q
S2 TL6340AF160Q
S3 TL6340AF160Q
S4 TL6340AF160Q
External
16MB Flash
IC6
AT25SL128A
I2C addresses
BMI270 0x68
BMP581 0x46
BME688 0x76
LIS2MDLTR 0x1E
APDS-9306-065 0x52
github.com/jakkra/ZSWatch-HW
Sheet: /
File: ZSWatch.kicad_sch
Title: ZSWatch v2
Size: User
Date: 2023-10-29
Rev: 4
KiCad E.D.A. kicad 7.0.2
Id: #/1