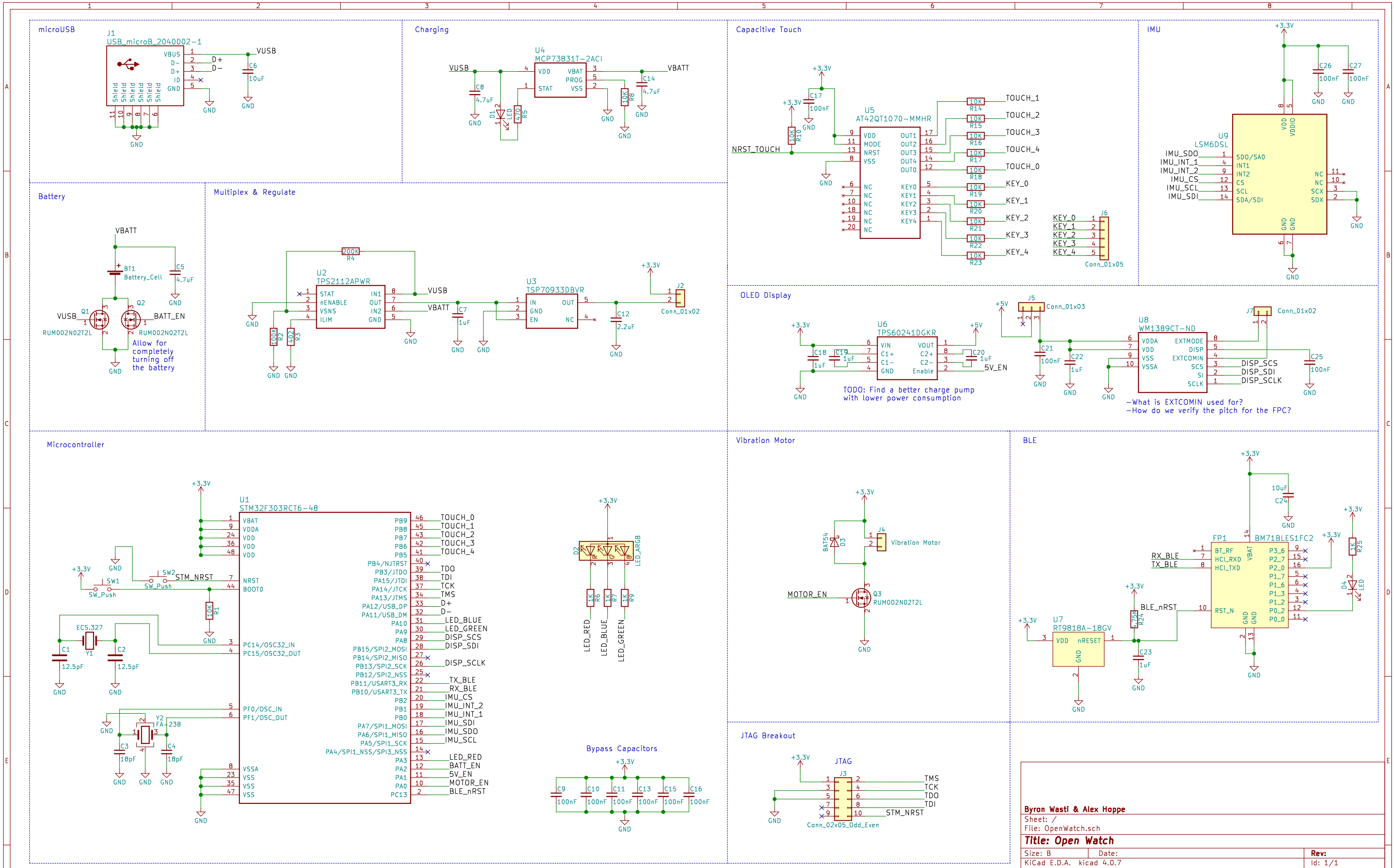
microUSB
J1
USB_microB_2040002-1
VBUS
D-
D+
ID
GND
Shield
VUSB
D+
D-
C6
10uF
Charging
U4
MCP73831T-2ACI
VDD
STAT
VBAT
PROG
VSS
VUSB
VBATT
C8
4.7uF
D1
LED
470
R5
10K
R8
C14
4.7uF
Capacitive Touch
U5
AT42QT1070-MMHR
VDD
MODE
NRST
VSS
NC
OUT1
OUT2
OUT3
OUT4
OUT0
KEY0
KEY1
KEY2
KEY3
KEY4
+3.3V
C17
100nF
10K
R10
NRST_TOUCH
10K
R14
R15
R16
R17
R18
R19
R20
R21
R22
R23
TOUCH_1
TOUCH_2
TOUCH_3
TOUCH_4
TOUCH_0
KEY_0
KEY_1
KEY_2
KEY_3
KEY_4
J6
Conn_01x05
IMU
U9
LSM6DSL
VDD
VDDIO
SDO/SA0
INT1
INT2
CS
SCL
SDA/SDI
NC
SCX
SDX
GND
IMU_SDO
IMU_INT_1
IMU_INT_2
IMU_CS
IMU_SCL
IMU_SDI
C26
100nF
C27
100nF
Battery
VBATT
BT1
Battery_Cell
C5
4.7uF
Q1
Q2
VUSB
BATT_EN
RUM002N02T2L
Allow for completely turning off the battery
Multiplex & Regulate
U2
TPS2112APWR
STAT
nENABLE
VSNS
ILIM
IN1
OUT
IN2
GND
200K
R4
100K
R2
402
R3
VUSB
VBATT
C7
1uF
U3
TSP70933DBVR
IN
GND
EN
OUT
NC
C12
2.2uF
J2
Conn_01x02
OLED Display
U6
TPS60241DGKR
VIN
C1+
C1-
GND
VOUT
C2+
C2-
Enable
C18
1uF
C19
1uF
C20
1uF
5V_EN
+5V
J5
Conn_01x03
C21
100nF
C22
1uF
U8
WM1389CT-ND
VDDA
VDD
VSS
VSSA
EXTMODE
DISP
EXTCOMIN
SCS
SI
SCLK
DISP_SCS
DISP_SDI
DISP_SCLK
J7
Conn_01x02
C25
100nF
TODO: Find a better charge pump with lower power consumption
-What is EXTCOMIN used for?
-How do we verify the pitch for the FPC?
Microcontroller
U1
STM32F303RCT6-48
VBAT
VDDA
VDD
NRST
BOOT0
PC14/OSC32_IN
PC15/OSC32_OUT
PF0/OSC_IN
PF1/OSC_OUT
VSSA
VSS
PB9
PB8
PB7
PB6
PB5
PB4/NJTRST
PB3/JTDO
PA15/JTDI
PA14/JTCK
PA13/JTMS
PA12/USB_DP
PA11/USB_DM
PA10
PA9
PA8
PB15/SPI2_MOSI
PB14/SPI2_MISO
PB13/SPI2_SCK
PB12/SPI2_NSS
PB11/USART3_RX
PB10/USART3_TX
PB2
PB1
PB0
PA7/SPI1_MOSI
PA6/SPI1_MISO
PA5/SPI1_SCK
PA4/SPI1_NSS/SPI3_NSS
PA3
PA2
PA1
PA0
PC13
TOUCH_0
TOUCH_1
TOUCH_2
TOUCH_3
TOUCH_4
TDO
TDI
TCK
TMS
D+
D-
LED_BLUE
LED_GREEN
DISP_SCS
DISP_SDI
DISP_SCLK
TX_BLE
RX_BLE
IMU_CS
IMU_INT_2
IMU_INT_1
IMU_SDI
IMU_SDO
IMU_SCL
LED_RED
BATT_EN
5V_EN
MOTOR_EN
BLE_nRST
SW1
SW2
SW_Push
STM_NRST
10K
R1
ECS.327
Y1
C1
12.5pF
C2
12.5pF
Y2
FA-238
C3
18pF
C4
18pF
D2
LED_ARGB
1K
R6
R7
R9
LED_RED
LED_BLUE
LED_GREEN
Bypass Capacitors
C9
100nF
C10
100nF
C11
100nF
C13
100nF
C15
100nF
C16
100nF
Vibration Motor
J4
Vibration Motor
BAT54
D3
MOTOR_EN
Q3
RUM002N02T2L
BLE
U7
RT9818A-18GV
VDD
nRESET
GND
BLE_nRST
1.75k
R24
C23
1uF
FP1
BM71BLES1FC2
BT_RF
HCI_RXD
HCI_TXD
VBAT
RST_N
P3_6
P2_7
P2_0
P1_7
P1_6
P1_3
P1_2
P0_2
P0_0
RX_BLE
TX_BLE
10uF
C24
1K
R25
D4
LED
JTAG Breakout
JTAG
J3
Conn_02x05_Odd_Even
TMS
TCK
TDO
TDI
STM_NRST
Byron Wasti & Alex Hoppe
Sheet: /
File: OpenWatch.sch
Title: Open Watch
Size: B
Date:
Rev:
KiCad E.D.A. kicad 4.0.7
Id: 1/1