Power and Battery

J1 USB_B_Micro — VBUS, D+, D-, ID, Shield, GND → +5P, GNDND

U2 3v LDO AP2112K-3.3V — VIN, ON/OFF, GND, VOUT, BP; C4 10uF (VBUS), C6 10uF, C7 10uF, C8 0.1uF (+3V0)

IC2 — VDD, OUT, NC, VSS; OUT driven low when voltage is less than 3.2 Low Voltage Cutout

USB Power in: +5P → R1 10k, D1 → VBUS; Q1 AO3401A (+BATT)

IC1 MCP73831T-2ACI_MC — VDD_1, VDD_2, VBAT_1, VBAT_2, PROG, NC, VSS, STAT, GND; R4 10k (10k = 100mA Charge), R5 100k, CHGSTAT; C3 10uF, C5 10uF; R14 800k, R20 1M, BATVSENSE (1.5uA Drain)

U4 STC3115IJT — RSTIO, ALM, VCC, VIN, BATD/CD, CG, SCL, SDA, GND; C18 220nF, R22 1k, C19 1uF, R21 1k, R23 10m 1%; SM02B-SRSS-TB J2; IIC_SCL, IIC_SDA

Sensors

U6 BME680 — VDDIO, VDD, CSB, SCK, SDI, SDO, GND; R15 100k, R16 100k (IIC_SCL, IIC_SDA)

Tricorder on a chip
Temp, Pressure, Humidity, VOC.

IIC addr: 0x76

U7 APDS-9960 — VDD, GND, LEDA, LEDK, LDR, INT, SCL, SDA; R17 22, C13 0.1uF, C11 10uF, C12 10uF, C14 0.1uF; GES_INT, IIC_SCL, IIC_SDA

Gesture Sensor, For some minority report style swiping

Also, a ambient light sensor.
Also, color and proximity.

IIC addr: 0x39

U5 LSM9DS1 — CS_M, CS_A/G, SCL/SPC, SDO_A/G, SDA/SDI/SDO, SDO_M, VDD, VDDIO, DEN_A/G, INT_M, INT1_A/G, INT2_A/G, DRDY_M, RES, GND, C1, CAP; R10 100k, R11 100k, R12 100k, R13 100k; C15 10uF, C16 0.1uF, C9 10nF, C10 0.1uF; ACC_INT, ACC_AG_NT

MK1 IM69D120 — VDD, SELECT, CLOCK, DATA, GND; C17 0.1uF; MIC_SEL, MIC_BCLK, MIC_DATAOUT

Misc

SW3, SW4 (SW_C, SW_D; R2 10k, R3 10k); J3 (IIC_SDA, IIC_SCL)

SW1, SW2 (SW_A, SW_B; R7 10k, R9 10k); J6 (GPIO0_7, GPIO0_6, GPIO0_5, GPIO0_4, GPIO0_15, GPIO0_19, GPIO0_21, GPIO0_24)

LCD

Q2 AO3401A; R8 100k (LCD_BL); R6 33

J4 (LCD_CS, LCD_RST, LCD_CLK, LCD_MOSI, LCD_DC); J5 (IIC_SCL, IIC_SDA, TS_INT, TS_RST)

Testpoints

TP3 D+, TP4 D-, TP5 IIC_SDA, TP6 IIC_SCL

TP7 +3V0, TP8 VBUS, TP10 +5P, TP12 +BATT, TP9 GND

Vibration Motor

Q3 AO3401A; R24 100k (MOTOR_EN); D2; M1 Z43FC1B5640007L

TAG Connect

J7 TC2030-CTX — VCC, GND, TMS, TCK, TDO, RESET; SWDIO, SWCLK, RESET

SOC and FLASH

Y1 32.768; C1 18pF, C2 18pF

U3 BMD-340-A-R — SWCLK, SWDIO, USB-D+, USB-D-, P0.00–P0.21, P1.00–P1.15, VCC1, VCCH1, VBUS, GND

Can't be swapped

QSPI_DIO0, QSPI_CLK, QSPI_DIO3, SW_D, ACC_AG_NT, ACC_INT, TS_INT, TS_RST, IIC_SCL, IIC_SDA, BATVSENSE, GES_INT, MOTOR_EN, SW_A, MIC_DATAOUT, MIC_BCLK, MIC_SEL, QSPI_CS, QSPI_DIO1, QSPI_DIO2, QSPI_DIO3, XL1, XL2, LCD_BL, SW_B, GPIO0_4, GPIO0_5, GPIO0_6, GPIO0_7, LCD_DC, NFC1, NFC2, LCD_CLK, LCD_MOSI, LCD_RST, LCD_CS, GPIO0_15, CHGSTAT, SW_C, RESET, GPIO0_19, GPIO0_21; R18 10k, R19 10k

U1 W25Q32JVZPIQ — CS, CLK, DI(IO0), DO(IO1), IO2, IO3, VCC, GND

QSPI_CS, QSPI_CLK, QSPI_DIO0, QSPI_DIO1, QSPI_DIO2, QSPI_DIO3

Based on the OHS2020 Badge
QWERTY Embedded Design, LLC

Sheet: /
File: chronopy.sch

Title: *ChronoPy*

Size: A2	Date:	**Rev: R1**
KiCad E.D.A. kicad 5.0.2+dfsg1-1		Id: 1/1