USB-UART BRIDGE

CN1
TYPEC-304-BCP16

GND
VBUS
CC1
DP1
DN1
SBU1
B1A12
VBUS
CC2
DP2
DN2
SBU2

A1B12 — GND
A4B9 — VUSB
A5
A6
A7
A8
B4A9 — VUSB
B5
B6 — D_P
B7 — D_N
B8

GND
VUSB
D_P
D_N

R1 1M
R2 5.1k
R3 5.1k

VUSB
F1 BSMD0603-025-9V
D1 B5819WS
+5V

D2 USBLC6-2SC6
D_P — USB_P
D_N — USB_N
GND — VUSB

R4 1k
R5 1k
UART_RX
UART_TX

SW1 HAD-02HWA-R

U1 CH340C
GND / VCC
TXD / R232
RXD / RTS#
V3 / DTR#
D+ / DCD#
D- / RI#
NC / DSR#
NC / CTS#

PROG_TX
PROG_RX
3VREG
USB_P
USB_N
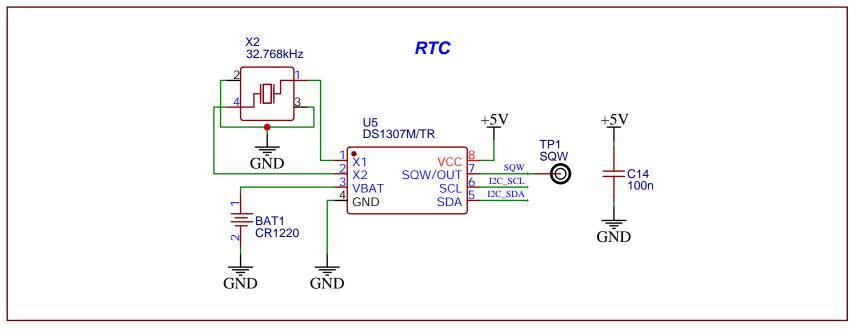
RTS
DTR

C1 100n
+5V

R6 1k
LED1 Blue
R7 1k
LED2 Blue
PROG_TX
PROG_RX
+5V

C2 100n
C3 100n
3VREG
DTR
RST

POWER REGULATOR

VIN
U2 MT2492
SW / BS
IN / GND
EN / FB

C4 22uF
R8 10k
C5 22n
L1 10uH
R9 15k
R10 110k
C6 22p
C7 22uF
C8 100uF
+5V

CN2 5.5-2.0MM
VIN
+5V
U3 ME6211C33M5G-N
VIN / VOUT
VSS / CE / NC
+3V3
C9 1u
C10 1u
R11 1k
LED3 White

MCU

+5V AVCC
L2 10uH
C11 100n
C12 100n
AREF
C13 100n
GND

+5V AVCC

U4 ATMEGA328PB-AU
VCC
AVCC

(CLKO/ICP1/PTCXY)PB0 — D8
(OC1A/PTCXY)PB1 — D9
(OC1B/SS0/PTCXY)PB2 — SPI_SS
(MOSI0/TXD1/OC2A/PTCXY)PB3 — SPI_MOSI
(MISO0/RXD1/PTCXY)PB4 — SPI_MISO
(XCK0/SCK0/PTCXY)PB5 — SPI_SCK
(XTAL1/TOSC1)PB6 — XTAL_P
(XTAL2/TOSC2)PB7 — XTAL_N

(MISO1/ADC0/PTCY)PC0 — A0
(SCK1/ADC1/PTCY)PC1 — A1
(ADC2/PTCY)PC2 — A2
(ADC3/PTCY)PC3 — A3
(SDA0/ADC4/PTCY)PC4 — I2C_SDA
(SCL0/ADC5/PTCY)PC5 — I2C_SCL
(RESET#)PC6 — RST

AREF
PE0(PTCXY/SDA1/ICP4/ACO) — D23
PE1(PTCXY/SCL1/T4) — D24
PE2(PTCY/ADC6/ICP3/SS1) — A6
PE3(PTCY/ADC7/T3/MOSI1) — A7

(RXD0/OC3A/PTCXY)PD0 — UART_RX
(TXD0/OC4A/PTCXY)PD1 — UART_TX
(OC3B/OC4B/INT0/PTCXY)PD2 — D2
(OC2B/INT1/PTCXY)PD3 — D3
(XCK0/T0/PTCXY)PD4 — D4
(OC0B/T1/PTCXY)PD5 — D5
(OC0A/AIN0/PTCXY)PD6 — D6
(AIN1/PTCXY)PD7 — D7

GND

R12 10k
R13 10k
R14 10k
I2C_SCL
I2C_SDA
X1 16MHz
XTAL_P / XTAL_N

BTN1 4.5x4.5x3
RST

RTC

X2 32.768kHz

U5 DS1307M/TR
X1
X2
VBAT
GND
VCC
SQW/OUT — SQW
SCL — I2C_SCL
SDA — I2C_SDA

BAT1 CR1220

TP1 SQW
+5V
C14 100n

MICROSD

U6 MC74VHC125
OE1# / VCC
A1 / OE4#
Y1 / A4
OE2# / Y4
A2 / OE3#
Y2 / A3
GND / Y3

GND
SPI_SS
SD_CD
SPI_MOSI
SD_CMD

GND
SD_DAT0
SPI_MISO
SPI_SCK
SD_CLK

+5V
C15 100n

CARD1 HYC80-TF08-375
DAT2
CD/DAT3
CMD
VDD
CLK
VSS
DAT0
DAT1
SHELL
SHELL

SD_CD
SD_CMD
SD_CLK
SD_DAT0

+3V3
C16 100n

USER LED

+5V
R15 1k
LED4 White
+5V +5V
C17 100n
LED5 EC20-SK6812
VDD / DIN
DOUT / GND
D24
TP2 RGB_DOUT
GND

I/O

J1 2.54F_1x8
UART_RX — D0[PWM]/UART0_RX
UART_TX — D1[PWM]/UART0_TX
D2 — D2[PWM]/INT0
D3 — D3[PWM]/INT1
D4 — D4
D5 — D5[PWM]
D6 — D6[PWM]
D7 — D7

J2 2.54F_1x10
D8 — D8
D9 — D9[PWM]
SPI_SS — D10[PWM]/SPI0_SS
SPI_MOSI — D11[PWM]/SPI0_MOSI/UART1_TX
SPI_MISO — D12/SPI0_MISO/UART1_RX
SPI_SCK — D13/SPI0_SCK
GND — GND
AREF — AREF
I2C_SDA — I2C0_SDA
I2C_SCL — I2C0_SCL

J3 2.54F_1x6
I2C_SCL — A5/I2C0_SCL
I2C_SDA — A4/I2C0_SDA
A3 — A3
A2 — A2
A1 — A1/SPI1_SCK
A0 — A0/SPI1_MISO

J4 2.54F_1x8
VIN — VIN
GND — GND
GND — GND
+5V — +5V (Max. 2A)
+3V3 — +3V3 (Max. 500mA)
RST — RST
+5V — DREF
NC

J5 2.54M_1x4
D24 — D24/I2C1_SCL/RGB_DIN
D23 — D23/I2C1_SDA/LED
A7 — A7/SPI1_MOSI
A6 — A6/SPI1_SS

PROGRAMMING HEADER

J6 2.54M_2x3
SPI_MISO — +5V
SPI_SCK — SPI_MOSI
RST — GND

J7 2.54M_1x6
DTR
PROG_RX
PROG_TX
VPROG
RTS
GND

J8 2.54M_1x3
+3V3
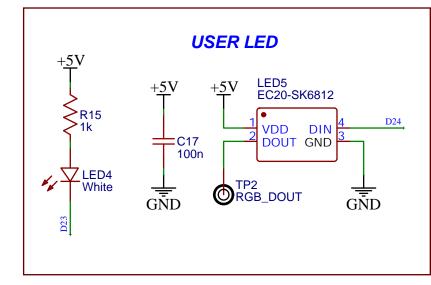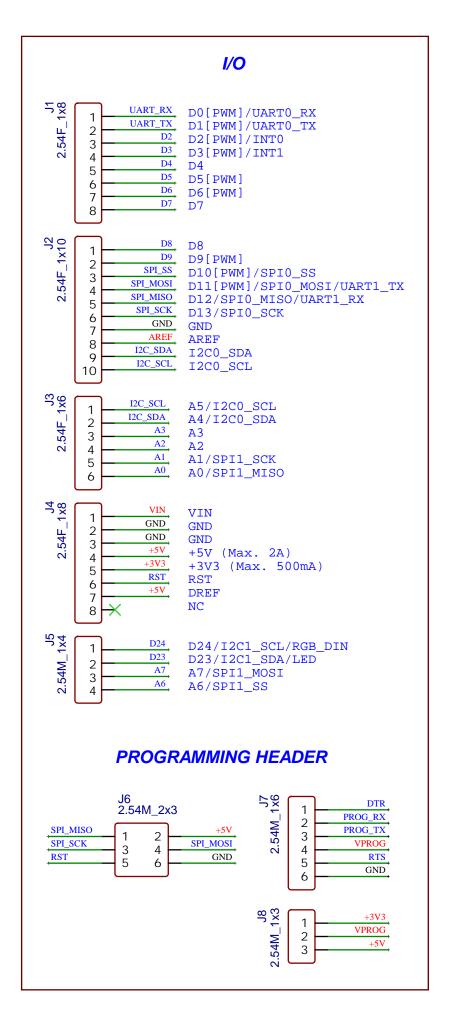VPROG
+5V

TITLE: SENTSOR UNO+ (ATmega328PB)
REV: 1.0
Company: SENTSOR
Sheet: 1/1
Date: 2021-02-22
Drawn By: adamalfath