ATmega32U4 AVR Microcontroller +5V

R01 10k

22pF C1
!RESET 13 RESET
17 XTAL1
Y1
22pF
C2 16 XTAL2
GND 16MHz

42 AREF
+5V
7 VBUS

D+ 4 D+
D- 3 D-

6 UCAP
C3
1uF
GND

UVCC 2
VCC 14
AVCC 24

PB0 8
PB1 9 SCK
PB2 10 MOSI
PB3 11 MISO
PB4 28
PB5 29
PB6 30
PB7 12

PC6 31
PC7 32

PD0 18 A
PD1 19 B
PD2 20
PD3 21
PD4 25
PD5 22
PD6 26
PD7 27

HWB/PE2 33
PE6 1

PF0 41
PF1 40
PF4 39
PF5 38
PF6 37
PF7 36

ATmega32U4-AU
U1

UGND 5
GND 15
GND

USB-C Receptacle
Configured to identify as USB 2.0 Device
+5V
PWR_FLAG
10uF
C4
GND

A4 B4 A9 B9

VBUS VBUS VBUS VBUS

A8 SBU1   CC1 A5   5k1
B8 SBU2   CC2 B5   R02
R03
J1   5k1
usb-c_2.0
D- A7   22 GND
D- B7   R04   D-
D+ A6
S1 SHIELD   D+ B6   R05   D+
22

GND GND GND GND
A1 B1 A12 B12
PWR_FLAG

GND

AVR In-System Programmer (ISP)
+5V
2 VCC
MISO 1 MISO
MOSI 4 MOSI
J2 SCK 3 SCK
RST 5 !RESET
6 GND
AVR-ISP-6
GND

Optical Sensors Interface
+5V
100
R07
J3 +5V
4-Pin   390   D1
2 R06   LED   A
3   Q1
4   GND   NPN
+5V
100
R08
D2
LED   B
Q2
NPN
GND

Changes from revision 1:
- KiCAD instead of Eagle.
- ATmega32u4 instead of AT90usb162.
- Removed serial connector.
- Removed reset push-button.
- SMD instead of through-hole components.
- USB-C connector instead of USB-B.

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KiCad E.D.A. kicad 5.1.6+dfsg1-1   Id: 1/1