Tulip Creative Computer

Schematic Overview

MCU — Sheet 2

File: mcu.kicad_sch

- ESP32 Module
- I2C Pullups
- Reset Logic

Interface — Sheet 3

File: interface.kicad_sch

- USB Serial
- MIDI In/Out
- LCD
- USB Host
- Expansion

Audio — Sheet 4

File: audio.kicad_sch

- Audio DAC
- Volume Fader
- Headphone Amplifier

Power — Sheet 5

File: power.kicad_sch

- Battery Charger
- Power Switchoverr
- Battery Gas Gauge
- 5V Boost Regulator
- 3.3V LDO Regulator
- Power Switch

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Original design by Brian Whitman with contributions from Matt Mets and Nicolas Villar

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Tulip Creative Computer V5 R0

Sheet #: 1/5

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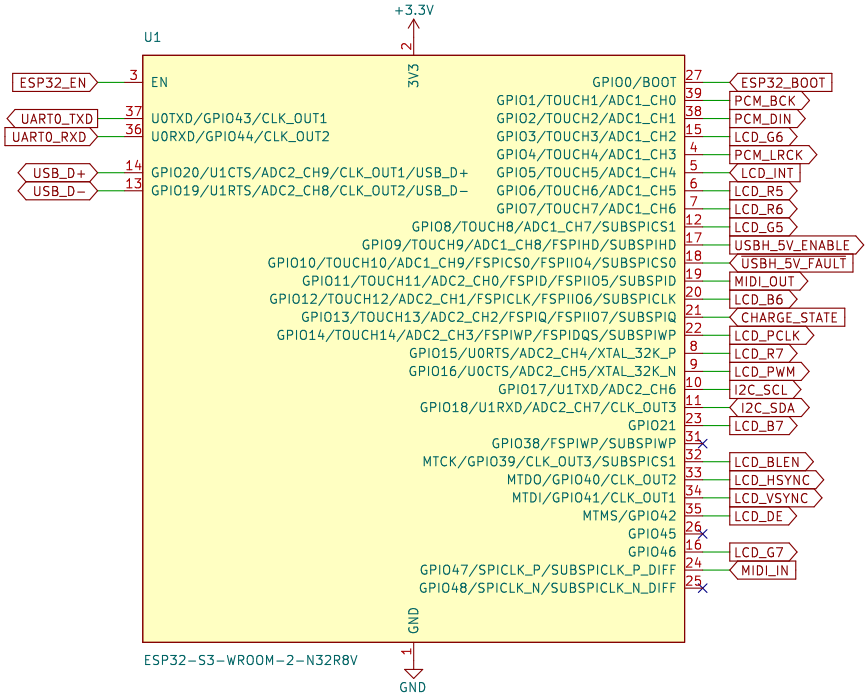
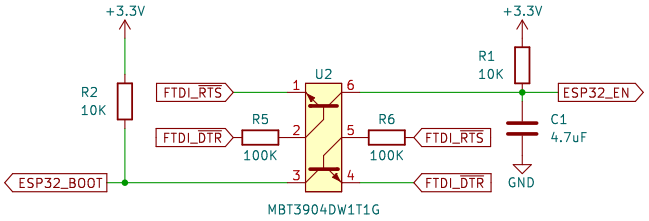
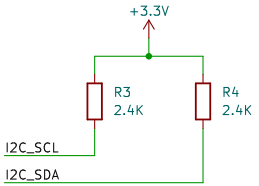


ESP32 PROGRAMMER RESET LOGIC



ESP32 I2C BUS PULLUP RESISTORS



Tulip CC / MCU

Sheet #: 2/5

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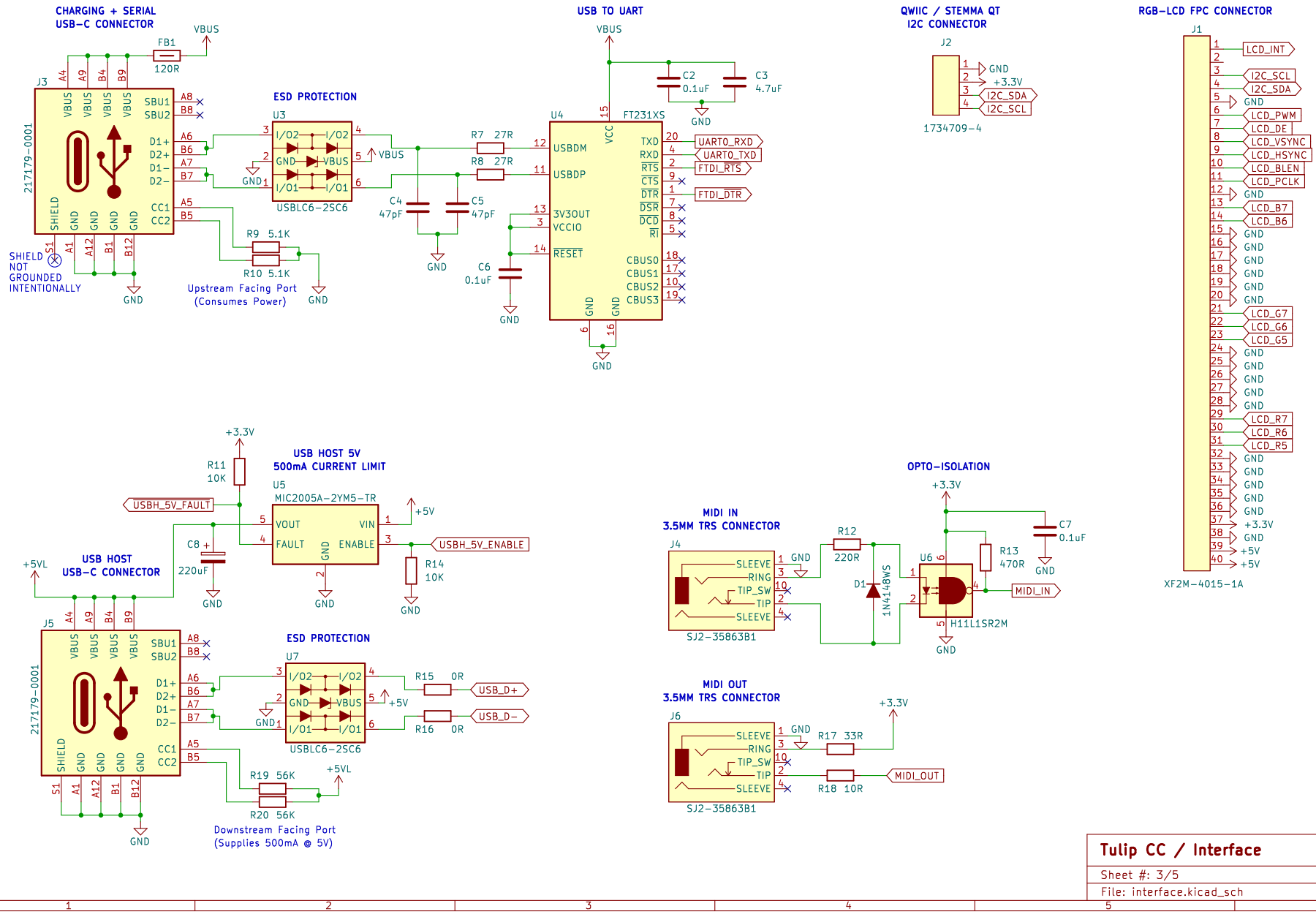
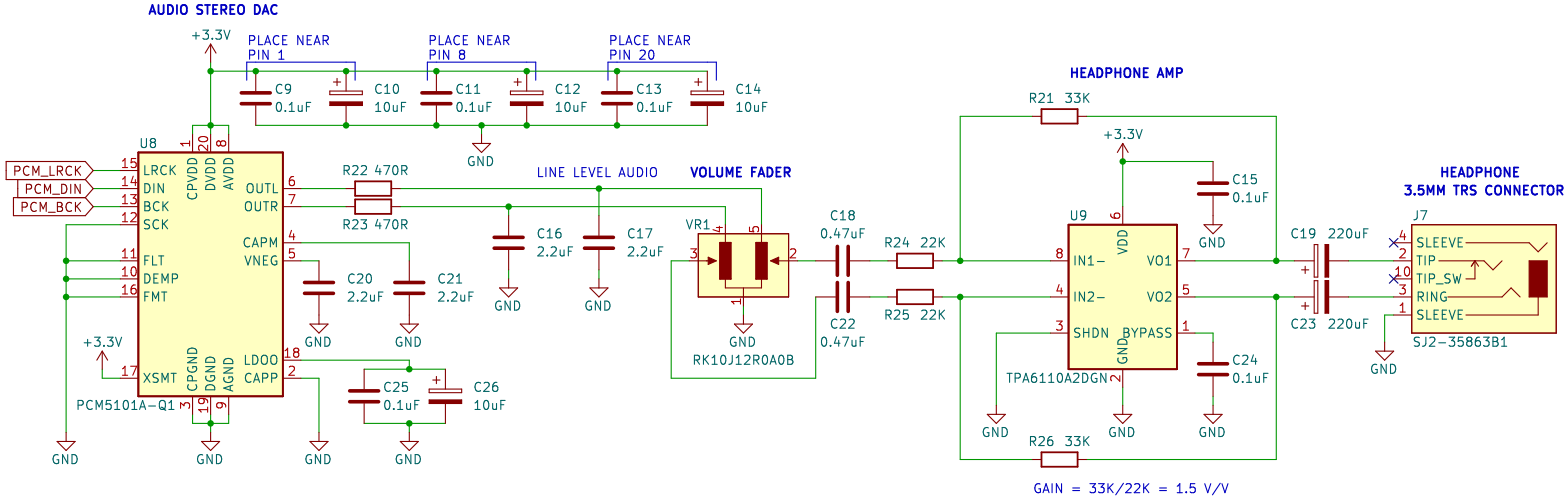

CHARGING + SERIAL
USB-C CONNECTOR
VBUS
FB1
120R
J3
217179-0001
SHIELD
SHIELD NOT GROUNDED INTENTIONALLY
GND
ESD PROTECTION
U3
USBLC6-2SC6
R9 5.1K
R10 5.1K
Upstream Facing Port
(Consumes Power)
USB TO UART
U4
FT231XS
USBDM
USBDP
3V3OUT
VCCIO
RESET
VCC
TXD
RXD
RTS
CTS
DTR
DSR
DCD
RI
CBUS0
CBUS1
CBUS2
CBUS3
R7 27R
R8 27R
C2 0.1uF
C3 4.7uF
C4 47pF
C5 47pF
C6 0.1uF
UART0_RXD
UART0_TXD
FTDI_RTS
FTDI_DTR
QWIIC / STEMMA QT
I2C CONNECTOR
J2
1734709-4
I2C_SDA
I2C_SCL
RGB-LCD FPC CONNECTOR
J1
XF2M-4015-1A
LCD_INT
LCD_PWM
LCD_DE
LCD_VSYNC
LCD_HSYNC
LCD_BLEN
LCD_PCLK
LCD_B7
LCD_B6
LCD_G7
LCD_G6
LCD_G5
LCD_R7
LCD_R6
LCD_R5
USB HOST 5V
500mA CURRENT LIMIT
U5
MIC2005A-2YM5-TR
R11 10K
R14 10K
C8 220uF
USBH_5V_FAULT
USBH_5V_ENABLE
USB HOST
USB-C CONNECTOR
+5VL
J5
ESD PROTECTION
U7
R15 0R
R16 0R
USB_D+
USB_D-
R19 56K
R20 56K
Downstream Facing Port
(Supplies 500mA @ 5V)
OPTO-ISOLATION
MIDI IN
3.5MM TRS CONNECTOR
J4
SJ2-35863B1
R12 220R
D1
1N4148WS
U6
H11L1SR2M
R13 470R
C7 0.1uF
MIDI_IN
MIDI OUT
3.5MM TRS CONNECTOR
J6
R17 33R
R18 10R
MIDI_OUT
Tulip CC / Interface
Sheet #: 3/5
File: interface.kicad_sch



Tulip CC / Audio	
Sheet #: 4/5	
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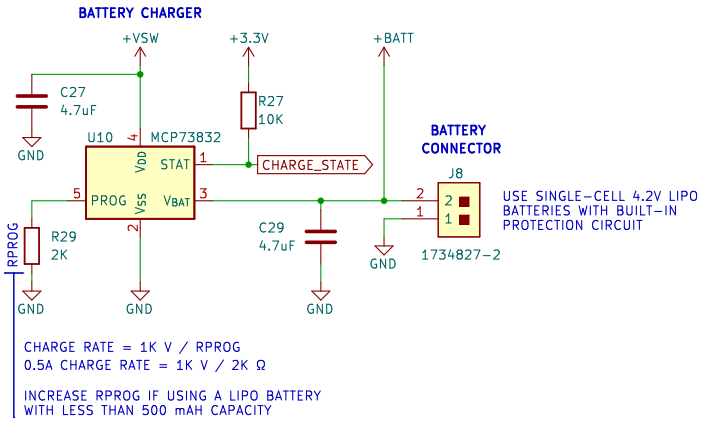

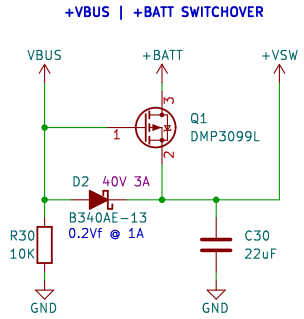

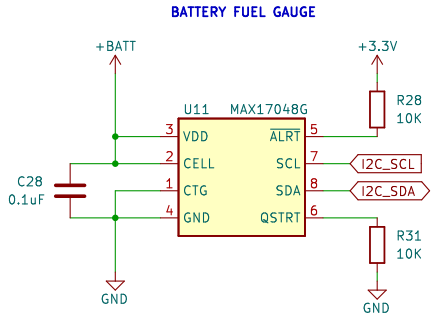

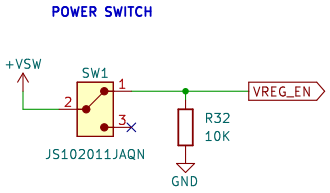

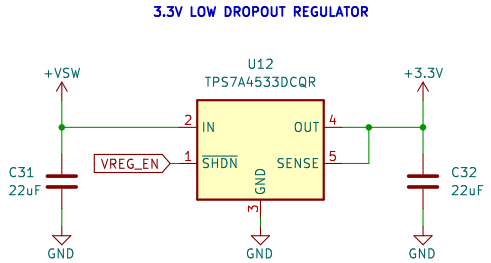

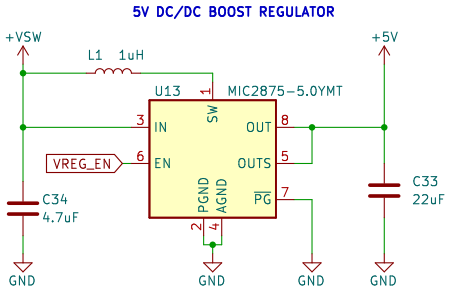

Tulip CC / Power	
Sheet #: 5/5	
File: power.kicad_sch	