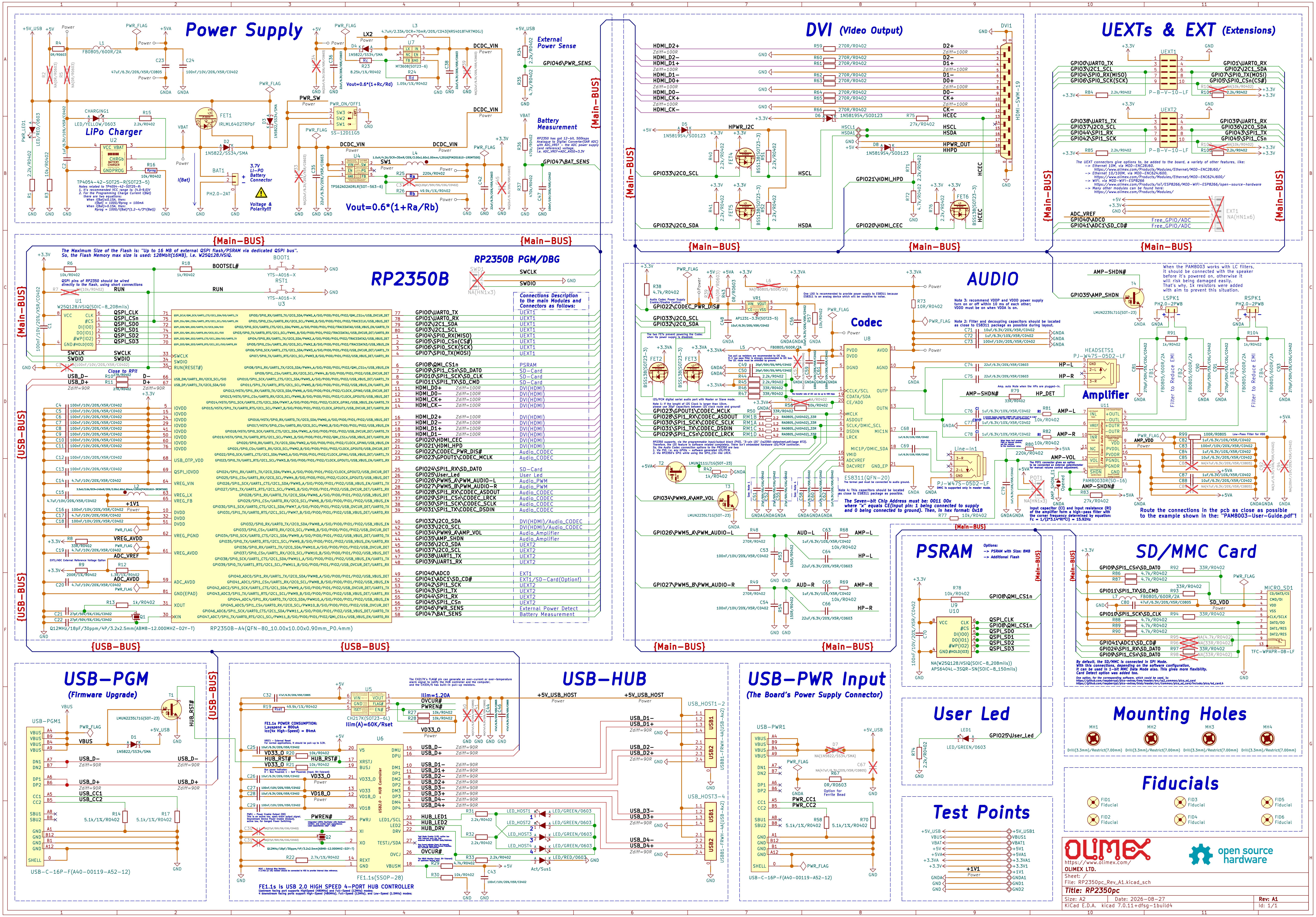

Power Supply
LiPo Charger
TP4054-42-SOT25-R(SOT23-5)
Notes related to TP4054-42-SOT25-R:
1. It's recommended VCC range is: (4.0-9.0)V
2. For the Programming Charge Current I(Bat) there are two equations:
When I(Bat)≤0.15A, then: I(Bat) = 1000/Rprog = 100mA
When I(Bat)>0.15A, then: Rprog = 1000/I(Bat)*(1.2-4/3*I(Bat))
3.7V LI-PO Battery Connector
Voltage & Polarity!!!
Vout=0.6*(1+Rc/Rd)
Vout=0.6*(1+Ra/Rb)
External Power Sense
Battery Measurement
RP2350 has got 12-bit, 500ksps Analogue to Digital Converter(SAR ADC) with ADC_VREF - the ADC power supply (and reference) voltage, i.e. ADC_VREF=ADC_AVDD=3.3V
DVI (Video Output)
UEXTs & EXT (Extensions)
The UEXT connectors give options to, be added to the board, a variety of other features, like:
-> Ethernet 10M, via MOD-ENC28J60. https://www.olimex.com/Products/Modules/Ethernet/MOD-ENC28J60/
-> Ethernet 10/100M, via MOD-ENC624J600. https://www.olimex.com/Products/Modules/Ethernet/MOD-ENC624J600/
-> WIFI, via MOD-WIFI-ESP8266 https://www.olimex.com/Products/IoT/ESP8266/MOD-WIFI-ESP8266/open-source-hardware
-> Many other modules can be found here: https://www.olimex.com/Products/Modules/
RP2350B
The Maximum Size of the Flash is: "Up to 16 MB of external QSPI flash/PSRAM via dedicated QSPI bus". So, the Flash Memory max size is used: 128Mbit(16MB), i.e. W25Q128JVSIQ.
QSPI pins of RP2350 should be wired directly to the flash, using short connections
RP2350B PGM/DBG
Connections Description to the main Modules and Connectors as follows:
Close to RPi!
RP2350B-A4(QFN-80_10.00x10.00x0.90mm_P0.4mm)
AUDIO
Codec
One LDO is recommended to provide power supply to ES8311 because ES8311 is an analog device which will be sensitive to noise.
Note 3: recommend VDDP and VDDD power supply turn on or off within 10 ms of each other; VDDD must be on when VDDA is on.
Note 2: Filter and decoupling capacitors should be located as close to ES8311 package as possible during layout.
The two FETs prevent powering the Codec when its power supply is disabled.
I2S/PCM digital serial audio port with Master or Slave mode.
RP2350 supports, via the programmable input/output block (PIO), "3-pin I2S" (rp2350-datasheet.pdf/page 872). Therefore, the I2S feature is software related completely. There isn't embedded hardware I2S/PCM controller.
Note 4: This capacitors should be located as close to ES8311 package as possible.
The Seven-bit Chip Address must be: 0011 00x where "x" equals CE(input pin: 1 being connected to supply and 0 being connected to ground). Then, in hex format: 0x18
Amplifier
When the PAM8003 works with LC filters, it should be connected with the speaker before it's powered on, otherwise it will risk being damaged easily. That's why, 1k resistors were added with aim to prevent this situation.
Input capacitor (CI) and input resistance (RI) of the amplifier form a high-pass filter with the corner frequency determined by equation: Fc = 1/(2*3.14*RI*CI) = 15.92Hz
Route the connections in the pcb as close as possible to the example shown in the: "PAM8003-User-Guide.pdf"!
PSRAM
Options: -> PSRAM with Size: 8MB -> Additional Flash
SD/MMC Card
By default, the SD/MMC is connected in SPI Mode. With this connections, depending on the software configuration, it can be used in 1-bit MMC Data Mode also. This gives more flexibility. Card Detect option was added too.
USB-PGM
(Firmware Upgrade)
USB-HUB
FE1.1s is USB 2.0 HIGH SPEED 4-PORT HUB CONTROLLER
USB-PWR Input
(The Board's Power Supply Connector)
User Led
Mounting Holes
Test Points
Fiducials
OLIMEX
https://www.olimex.com/
OLIMEX LTD.
open source hardware
Sheet: /
File: RP2350pc_Rev_A1.kicad_sch
Title: RP2350pc
Size: A2
Date: 2026-08-27
KiCad E.D.A. kicad 7.0.11+dfsg-1build4
Rev: A1
Id: 1/1