

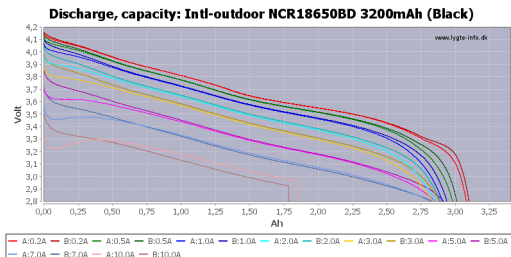
B



E

Page 10

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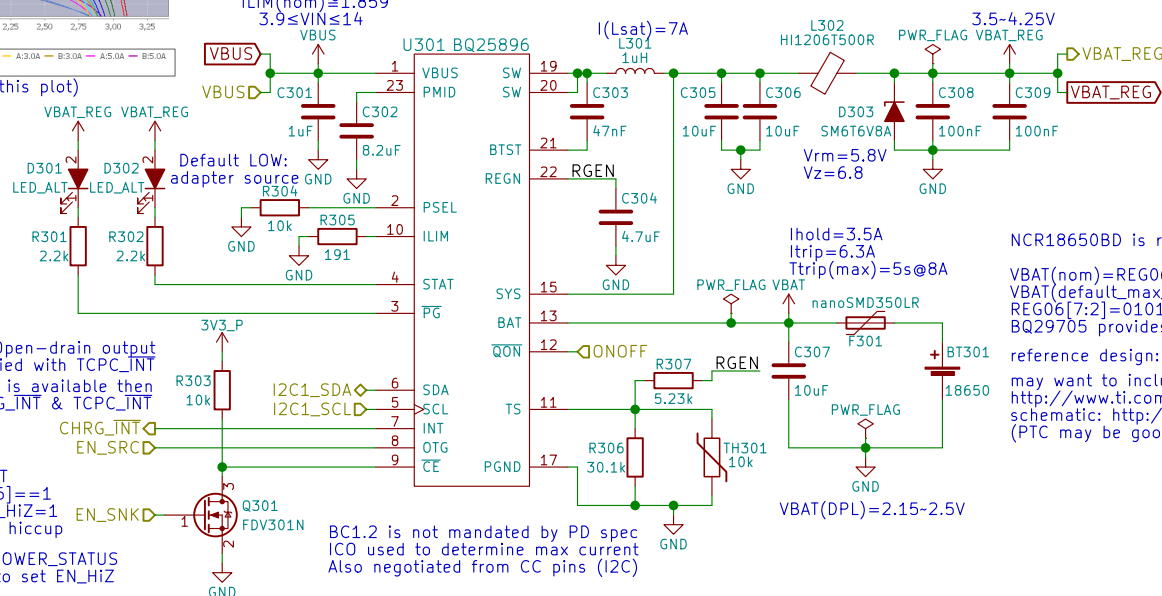


(interpret RSOC% based on this plot)

use AUTO_DPDM_EN
to auto-detect IINLIM

$1.658 \leq I_{LIM} \leq 2.063$
 $I_{LIM}(nom) \approx 1.859$
 $3.9 \leq V_{IN} \leq 14$

Battery Charge Controller



NCR18650BD is recommended

$V_{BAT}(nom) = REG06[7:2]$
 $V_{BAT}(default_max_ovp) = (REG06[7:2] \times 1.005) \times 1.04 = 4.3982016V$
 $REG06[7:2] = 010111 \Rightarrow V_{BAT}(max_ovp) = 4.3814784$
 BQ29705 provides 4.425V as OVP!!!

reference design: <http://www.ti.com/lit/ug/sluuba2b/sluuba2b.pdf>
 may want to include BQ29705 protection as in:
<http://www.ti.com/lit/ug/tiduc1/tiduc1.pdf>
 schematic: <http://www.ti.com/lit/df/tidrp70/tidrp70.pdf>
 (PTC may be good enough)

Open-drain output
tied with TCPC_INT
If enough I/O is available then
separate CHRG_INT & TCPC_INT

This disables charging
but maybe not $V_{BUS} \rightarrow V_{OUT}$
if PTN5110HQ's $FAULT_STATUS[6] = 1$
(Force Off VBUS bit) then set $EN_HIZ = 1$
 EN_HIZ may be auto-set when in hiccup

Reading PTN5110HQ's CC_STATUS and POWER_STATUS
registers will tell TCPM (i.MX8M) when to set EN_HIZ

Also, reading PTN5110HQ's CC_STATUS and POWER_STATUS
registers will tell TCPM (i.MX8M) when to set $OTG_CONFIG = 1$
(this will also happen when PTN5110HQ sets EN_SRC HIGH)

BC1.2 is not mandated by PD spec
ICO used to determine max current
Also negotiated from CC pins (I2C)

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Purism SPC

Sheet: /Battery/
File: battery.sch

Title: Battery

Size: A4 Date: 2018-05-02

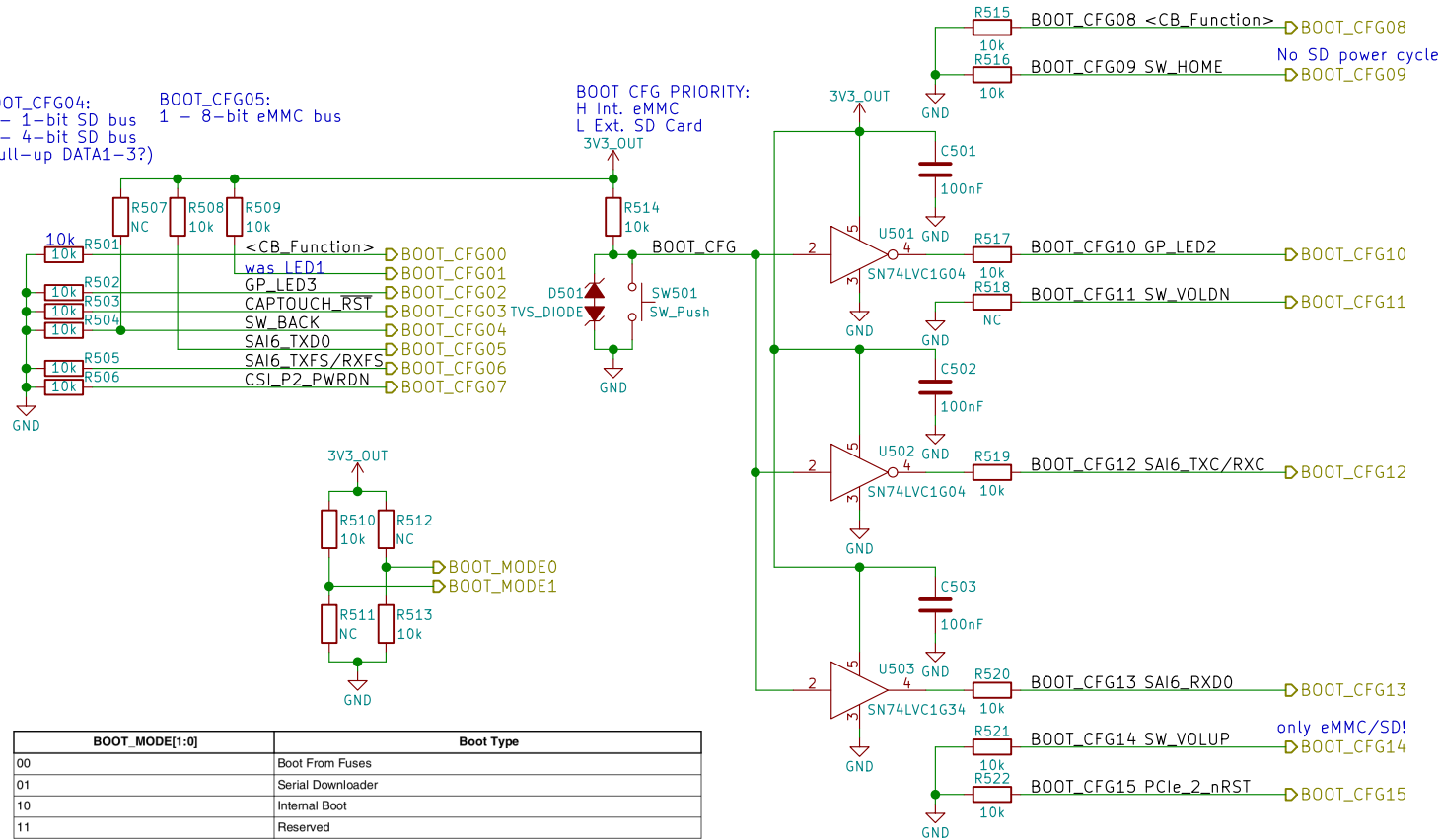
KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0

Id: 3/16

BOOT_CFG04:
0 - 1-bit SD bus
0 - 4-bit SD bus
(pull-up DATA1-3?)

BOOT_CFG05:
1 - 8-bit eMMC bus



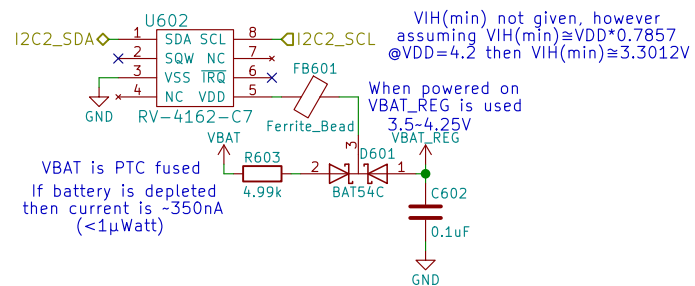
GNU GPLv3
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Purism SPC

Sheet: /Boot Config/
File: boot.sch

Title: Boot Configuration

Size: A4 Date: 2018-05-02
KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0
Id: 5/16



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Sheet: /RTC/
File: rtc.sch

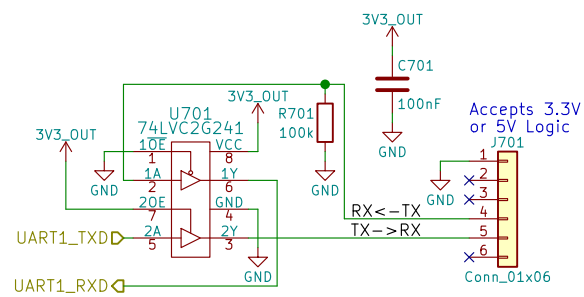
Title: RTC

Size: A4 Date: 2018-05-02

KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0

Id: 6/16



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Sheet: /UART Debug/
File: uart.sch

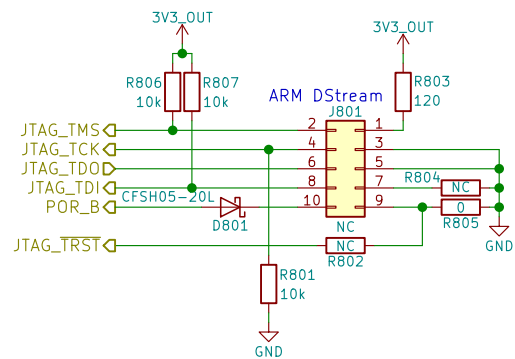
Title: UART Debug

Size: A4 Date: 2018-05-02

KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0

Id: 7/16



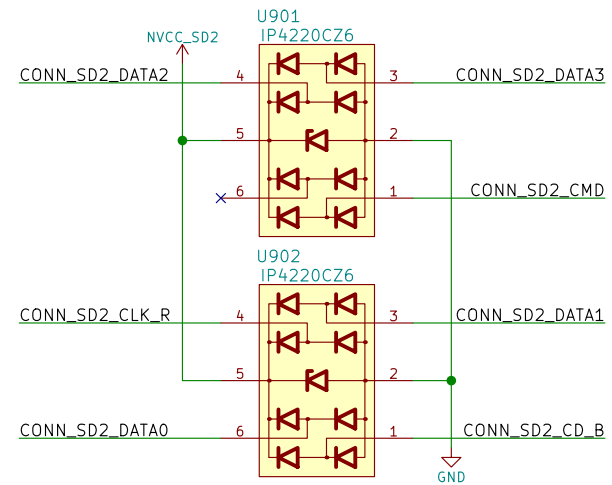
GNU GPLv3
Copyright 2018
Purism SPC
Sheet: /JTAG/
File: jtag.sch

Title: JTAG

Size: A4
KiCad E.D.A. kicad 4.0.6

Date: 2018-05-02

Rev: v0.1.0
Id: 8/16



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Sheet: /uSD Card/

File: sd.sch

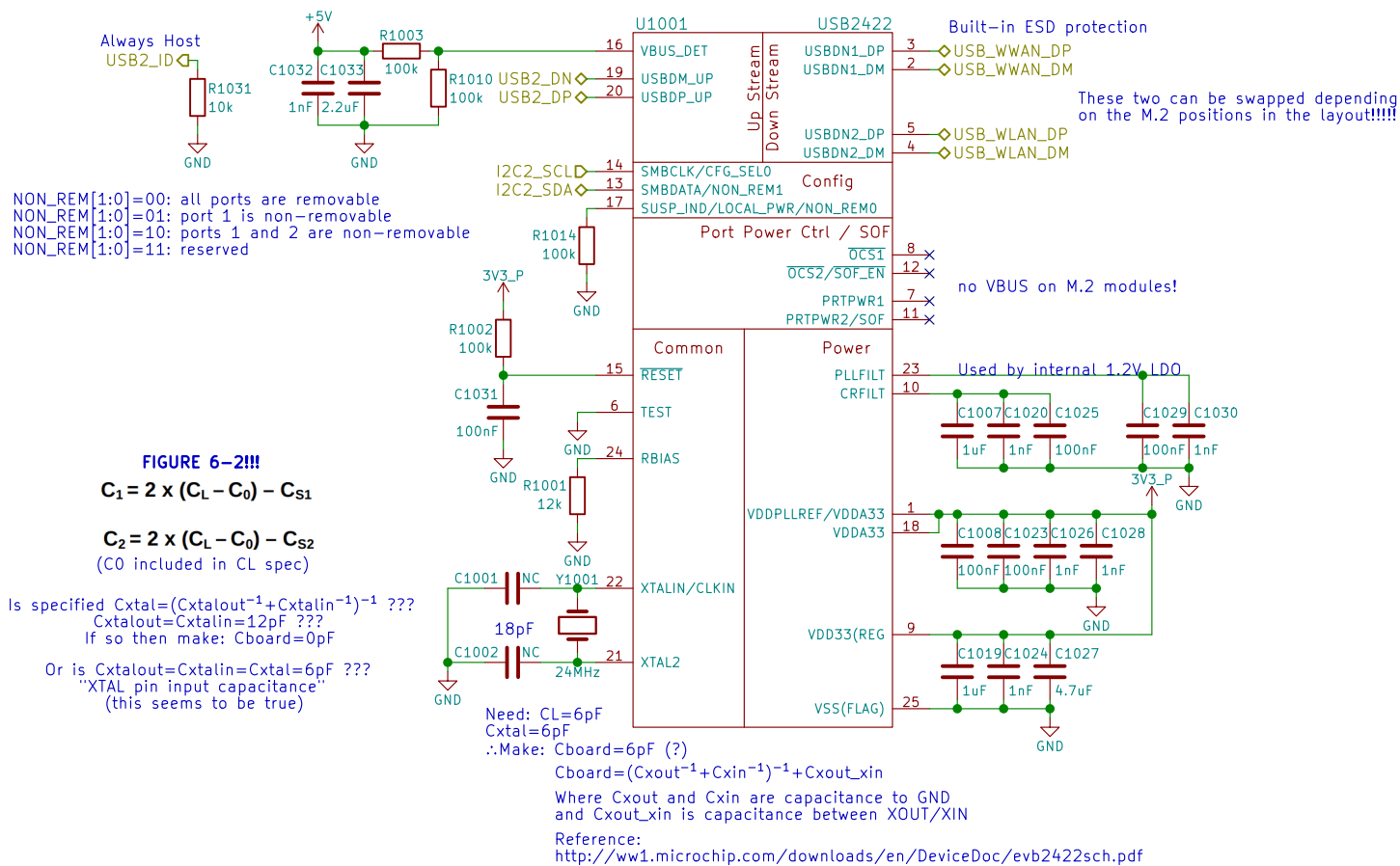
Title: uSD Card

Size: A4 Date: 2018-05-02

KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0

Id: 9/16



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Sheet: /USB Hub/

File: usb_hub.sch

Title:

Size: A4

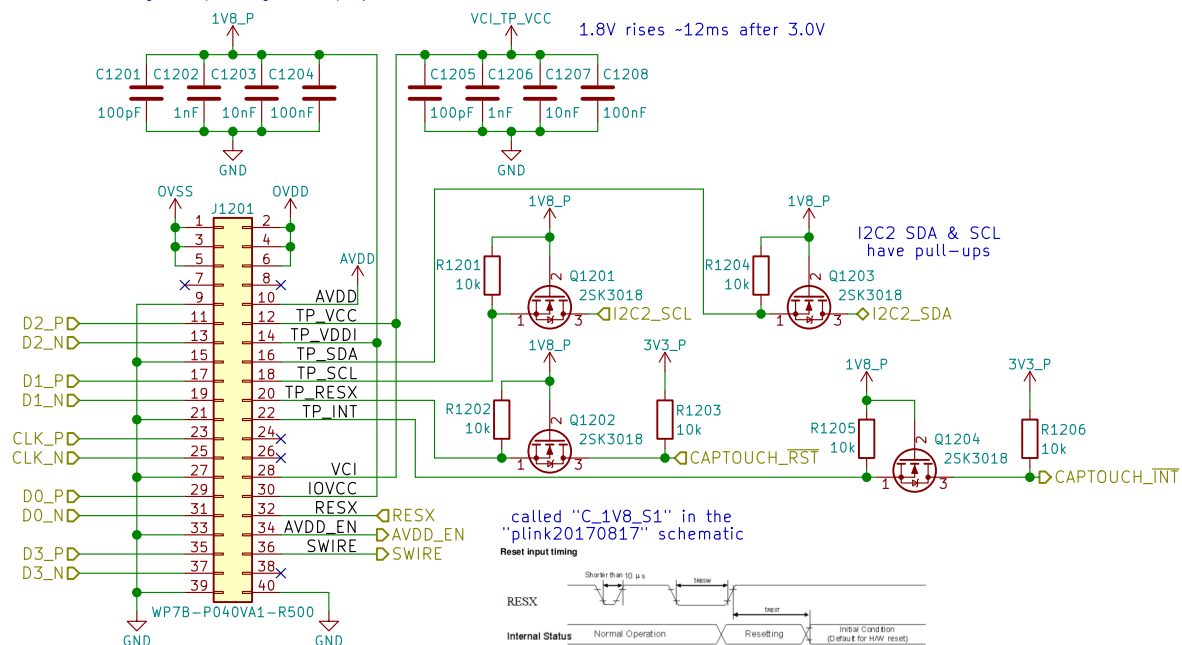
Date: 2018-05-02

Rev: v0.1.0

KiCad E.D.A. kicad 4.0.6

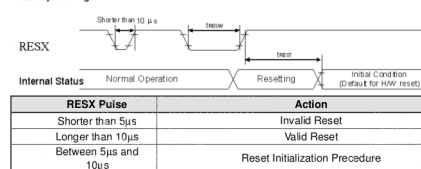
Id: 10/16

Using H546DLB01.1 pin assignment may need to be changed depending on display used



called "C_1V8_S1" in the "plink20170817" schematic

Reset input timing



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Sheet: /MIPI DSI/
File: mipi_dsi.sch

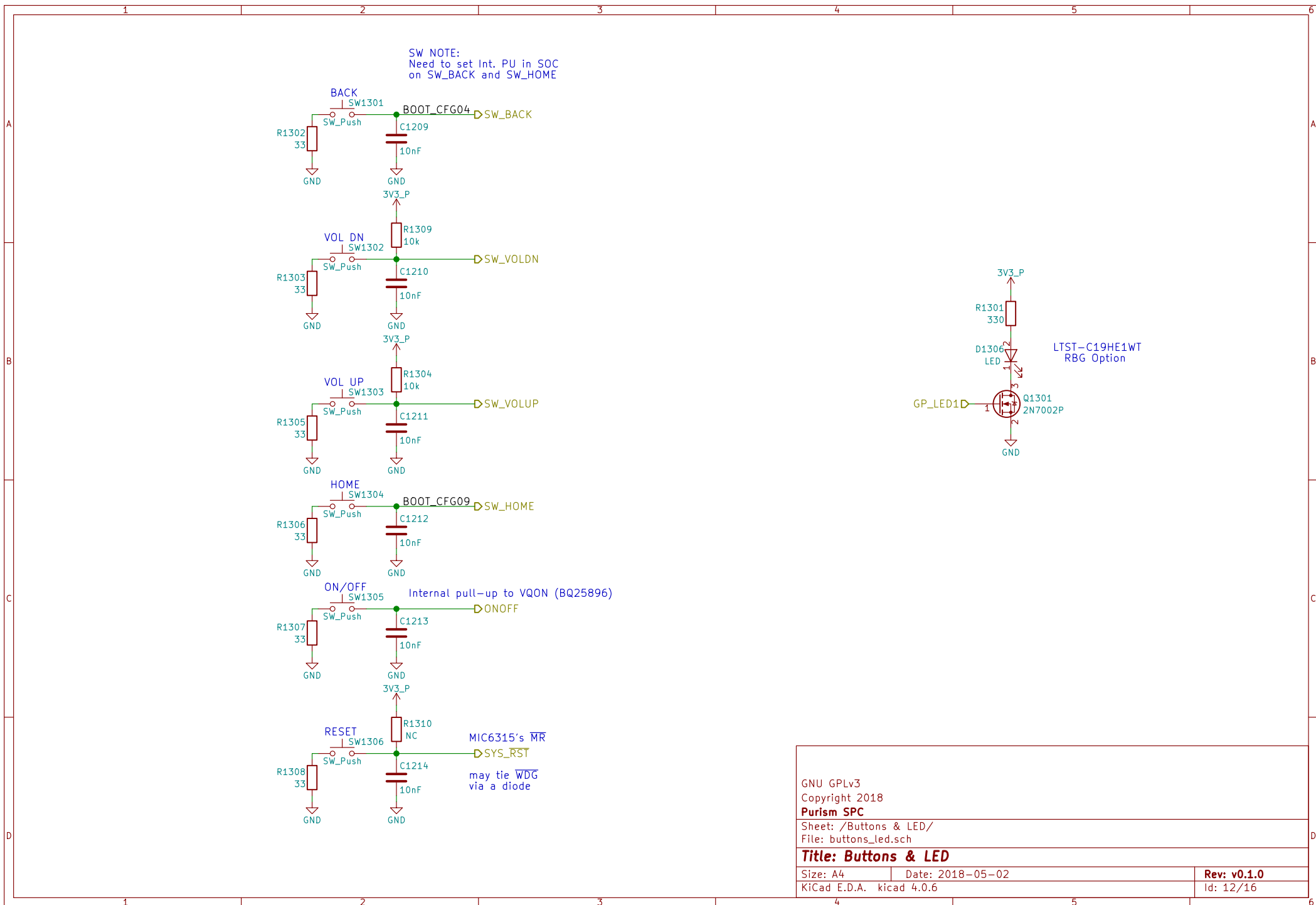
Title: MIPI DSI

Size: A4 Date: 2018-05-02

KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0

Id: 11/16



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Sheet: /Buttons & LED/
File: buttons_led.sch

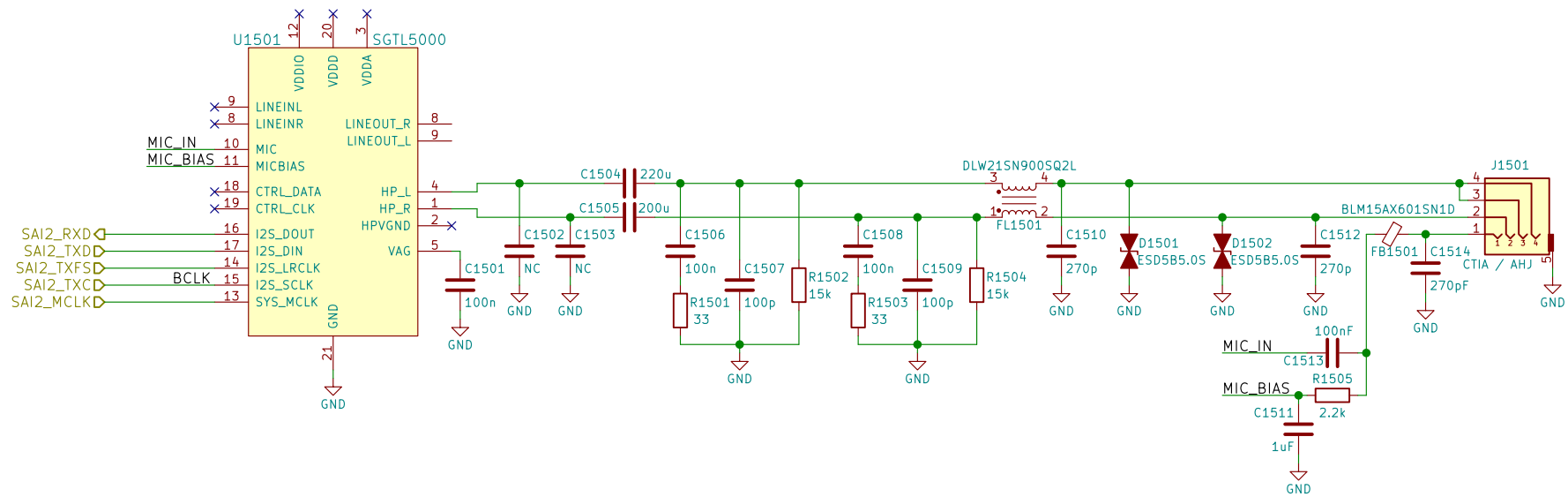
Title: Buttons & LED

Size: A4 Date: 2018-05-02

KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0

Id: 12/16



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Sheet: /Audio/
File: audio.sch

Title: Audio

Size: A4 Date: 2018-05-02

KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0

Id: 14/16

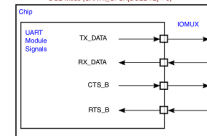
RS9116 NC:
RTS, CTS, BT_HOST_WAKE, WIFI_WAKE

6.2 M.2 Signal Directions

Module: Table 23
Socket: Table 46

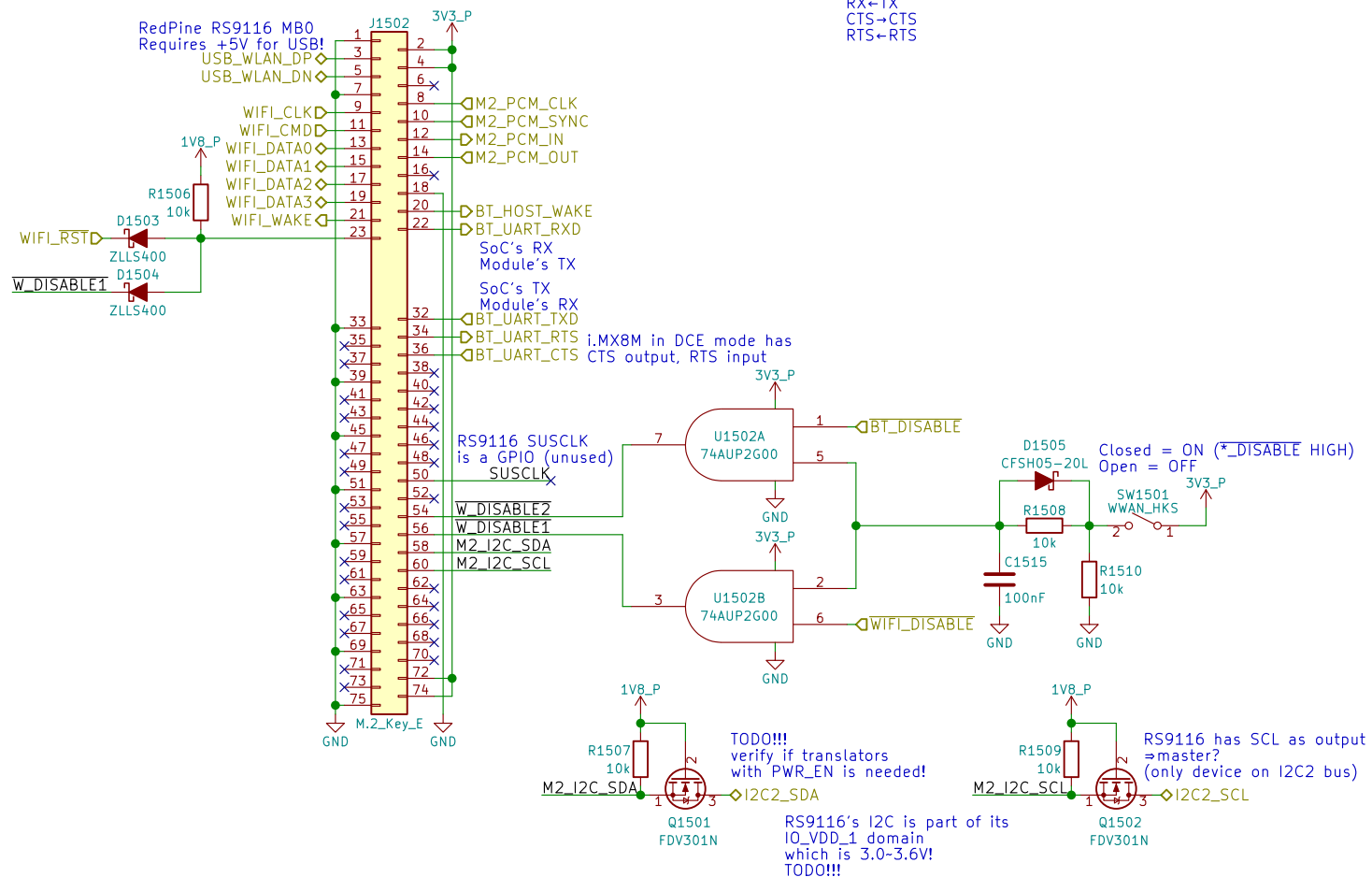
UARTn_UFCR[DCEDTE]=0 on POR

DCE Mode (UARTn_UFCR[DCEDTE]=0)



TX output
RX input
CTS output
RTS input

⇒ TX→RX
RX←TX
CTS→CTS
RTS→RTS



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Sheet: /WLAN+BT M.2/

File: wifi_bt_m2.sch

Title: WLAN+BT M.2

Size: A4 Date: 2018-05-02

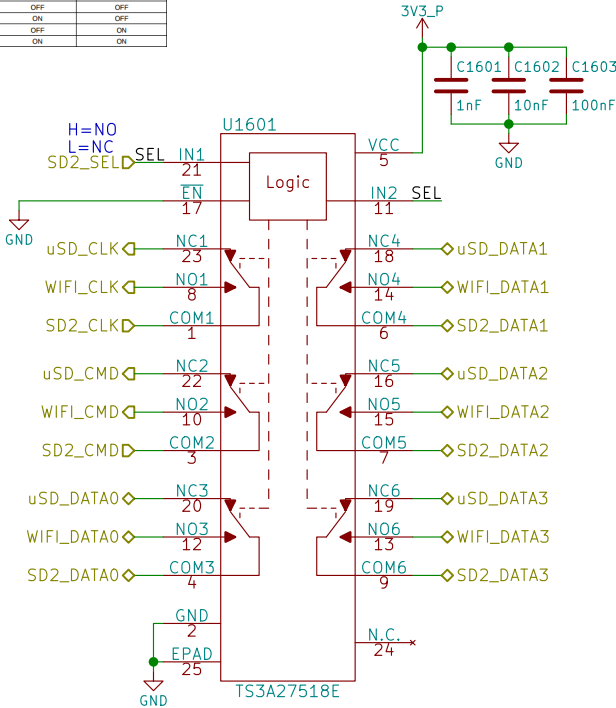
KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0

Id: 15/16

Can swap around signals in the layout:

EN	IN1	IN2	NC1023 TO COM1023, COM1023 TO NC1023	NC4056 TO COM4056, COM4056 TO NC4056	NC1023 TO COM1023, COM1023 TO NC1023	NC4056 TO COM4056, COM4056 TO NC4056
H	X	X	OFF	OFF	OFF	OFF
L	L	L	ON	ON	OFF	OFF
L	H	L	OFF	ON	ON	OFF
L	L	H	ON	OFF	OFF	ON
L	H	H	OFF	OFF	ON	ON



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Purism SPC

Sheet: /SDIO DEMUX/
File: sdio_demux.sch

Title: SDIO Demultiplexer

Size: A4 Date: 2018-05-02
KiCad E.D.A. kicad 4.0.6

Rev: v0.1.0
Id: 16/16