

# OBJEX Link RISCv

SB/uC

Sheet: SerialBridge

File: CP2102.sch

Sheet: Microcontroller

File: ESP32-C3FH4.sch

Sheet: I/O

File: IO.sch

USB-C

Sheet: USB-C

File: USB-C\_Type2.0.sch

POWER

Sheet: LDO

File: RT9080-33GJ5.sch

Sheet: Battery Manager

File: MCP73831-AMI\_MF.sch

Copyright CERN 2020.  
This source describes Open Hardware and is licensed under the CERN-OHLW v2  
You may redistribute and modify this documentation and make products  
using it under the terms of the CERN-OHL-W v2 (<https://cern.ch/cern-ohl>).  
This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED  
WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY  
AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN-OHL-W v2  
for applicable conditions.  
Source location: <https://www.ohwr.org/project/wr-switch-hw>  
As per CERN-OHL-W v2 section 4.1, should You produce hardware based on  
these sources, You must maintain the Source Location visible on the  
external case of the White Rabbit switch or other product you make using  
this documentation.

visit: [docs.objex.link](https://docs.objex.link)  
Designer: Salvatore Raccardi  
**OBJEX**

Sheet: /  
File: OBJEX\_LINK-Rev1.6\_RISCv.sch

**Title: OBJEX Link RISCv**

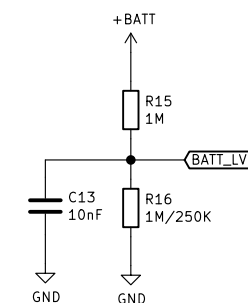
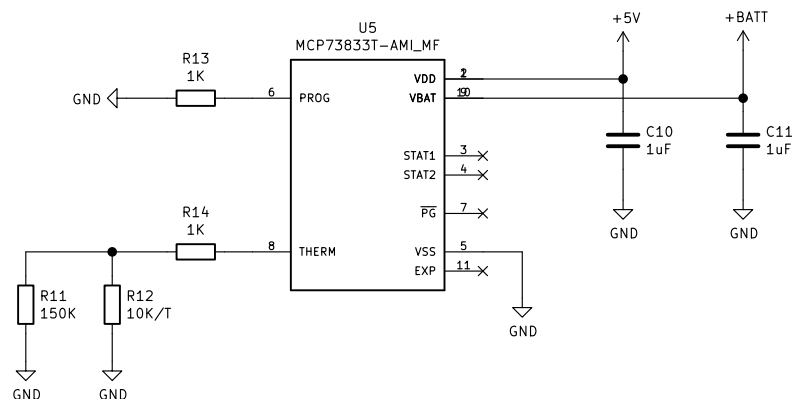
Size: A4 Date: 2021-10-06

KiCad E.D.A. eeschema (5.1.10)-1

**Rev: 1.6-C3**

Id: 1/7

# BATTERY CHG



C13 to avoid high voltage spike from battery and noise/get false reading

Copyright CERN 2020.

This source describes Open Hardware and is licensed under the CERN-OHLW v2. You may redistribute and modify this documentation and make products using it under the terms of the CERN-OHL-W v2 (<https://cern.ch/cern-ohl>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN-OHL-W v2 for applicable conditions.

Source location: <https://www.ohwr.org/project/wr-switch-hw>

As per CERN-OHL-W v2 section 4.1, should You produce hardware based on these sources, You must maintain the Source Location visible on the external case of the White Rabbit switch or other product you make using this documentation.

visit: [docs.objex.link](https://docs.objex.link)

Designer: Salvatore Raccardi

**OBJEX**

Sheet: /Battery Manager/  
File: MCP73833T-AMI\_MF.sch

**Title: OBJEX Link RISCv**

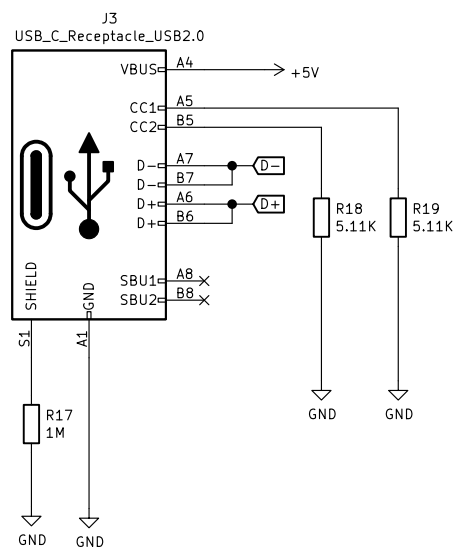
Size: A4 Date: 2021-10-06

KiCad E.D.A. eeschema (5.1.10)-1

**Rev: 1.6-C3**

Id: 2/7

# USB-C TYPE 2.0



visit: [docs.objex.link](https://docs.objex.link)

Designer: Salvatore Raccardi

**OBJEX**

Sheet: /USB-C/

File: USB-C\_Type2.0.sch

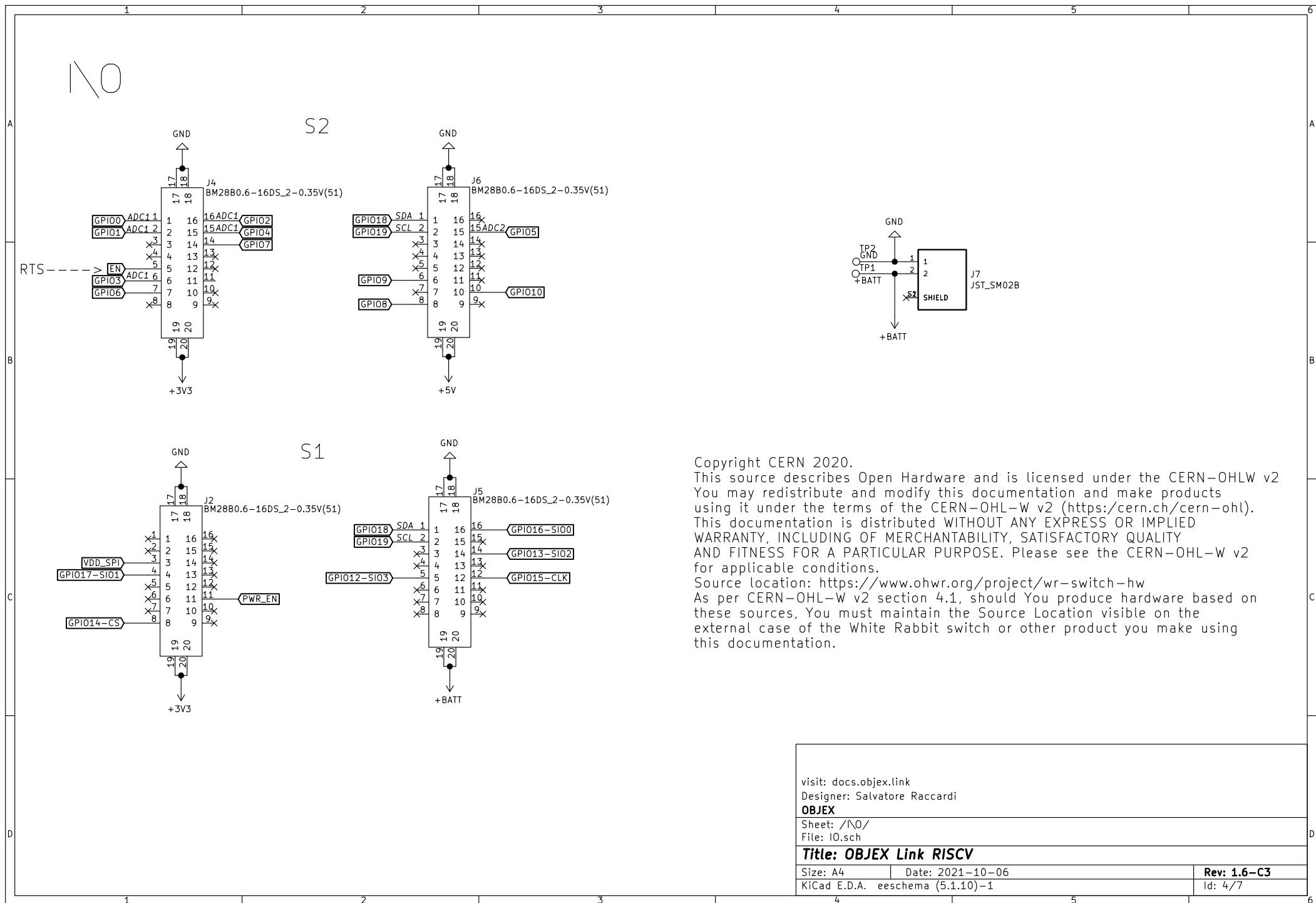
**Title: OBJEX Link RISCv**

Size: A4 Date: 2021-10-06

KiCad E.D.A. eeschema (5.1.10)-1

**Rev: 1.6-C3**

Id: 3/7



Copyright CERN 2020.  
 This source describes Open Hardware and is licensed under the CERN-OHLW v2  
 You may redistribute and modify this documentation and make products  
 using it under the terms of the CERN-OHL-W v2 (<https://cern.ch/cern-ohl>).  
 This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED  
 WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY  
 AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN-OHL-W v2  
 for applicable conditions.  
 Source location: <https://www.ohwr.org/project/wr-switch-hw>  
 As per CERN-OHL-W v2 section 4.1, should You produce hardware based on  
 these sources, You must maintain the Source Location visible on the  
 external case of the White Rabbit switch or other product you make using  
 this documentation.

visit: [docs.objex.link](https://docs.objex.link)  
 Designer: Salvatore Raccardi

# OBJEX

Sheet: /NO/  
 File: IO.sch

## Title: OBJEX Link RISC-V

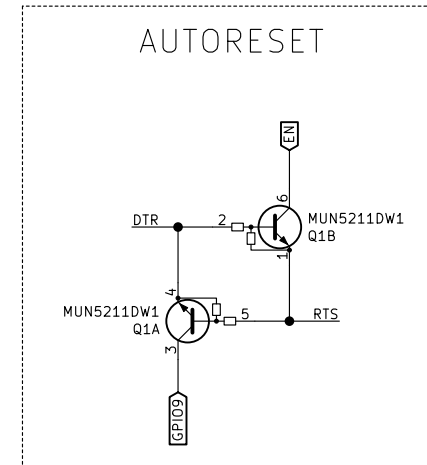
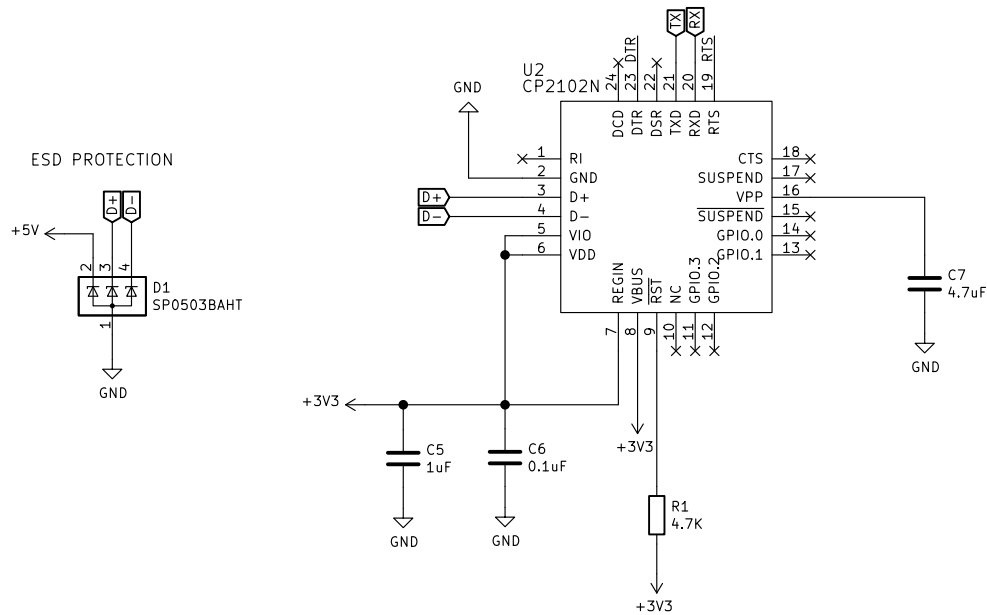
Size: A4 Date: 2021-10-06

KiCad E.D.A. eeschema (5.1.10)-1

Rev: 1.6-C3

Id: 4/7

# SERIAL BRIDGE



Copyright CERN 2020.

This source describes Open Hardware and is licensed under the CERN-OHLW v2. You may redistribute and modify this documentation and make products using it under the terms of the CERN-OHL-W v2 (<https://cern.ch/cern-ohl>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN-OHL-W v2 for applicable conditions.

Source location: <https://www.ohwr.org/project/wr-switch-hw>

As per CERN-OHL-W v2 section 4.1, should You produce hardware based on these sources, You must maintain the Source Location visible on the external case of the White Rabbit switch or other product you make using this documentation.

visit: [docs.objex.link](https://docs.objex.link)

Designer: Salvatore Raccardi

**OBJEX**

Sheet: /SerialBridge/

File: CP2102.sch

**Title: OBJEX Link RISCv**

Size: A4 Date: 2021-10-06

KiCad E.D.A. eeschema (5.1.10)-1

**Rev: 1.6-C3**

Id: 5/7

**ESP32-C3H4**  
RISC-V - WiFi + BLE 5.0

**Copyright CERN 2020.**  
This source describes Open Hardware and is licensed under the CERN-OHLW v2  
You may redistribute and modify this documentation and make products  
using it under the terms of the CERN-OHL-W v2 (<https://cern.ch/cern-ohl>).  
This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED  
WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY  
AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN-OHL-W v2  
for applicable conditions.  
Source location: <https://www.ohwr.org/project/wr-switch-hw>  
As per CERN-OHL-W v2 section 4.1, should You produce hardware based on  
these sources, You must maintain the Source Location visible on the  
external case of the White Rabbit switch or other product you make using  
this documentation.

Ref	Value	Footprint	Manufacturer	Part
C1	TBD	0603	TDK	CC0603JH106AB
C2	10uF	0805	TDK	CC0805JH106AB
C3	TBD	0603	TDK	CC0603JH106AB
C4	0.1uF	0805	TDK	CC0805JH104AB
C12	10uF	0805	TDK	CC0805JH106AB
C14	10uF	0805	TDK	CC0805JH106AB
C15	0.1uF	0805	TDK	CC0805JH104AB
C16	1uF	0805	TDK	CC0805JH105AB
C17	0.1uF	0805	TDK	CC0805JH104AB
C18	10nF	0805	TDK	CC0805JH103AB
C19	0.1uF	0805	TDK	CC0805JH104AB
C20	22pF	0805	TDK	CC0805JH102AB
C21	22pF	0805	TDK	CC0805JH102AB
C22	0.1uF	0805	TDK	CC0805JH104AB
C23	1uF	0805	TDK	CC0805JH105AB
R1	10K	0603	TDK	RC0603JH10K
R2	10K	0603	TDK	RC0603JH10K
R3	10K	0603	TDK	RC0603JH10K
R4	TBD	0603	TDK	RC0603JH10K
R5	10K	0603	TDK	RC0603JH10K
U1	ESP32-C3FH4	QFN-24	Espressif	ESP32-C3FH4
U3	Crystal-40MHz-Oscillator	0805	TDK	CC0805JH102AB
SW1	SWITCH	SW-1	TDK	SW-1

visit: [docs.objex.link](https://docs.objex.link)  
Designer: Salvatore Raccardi  
**OBJEX**  
Sheet: /Microcontroller/  
File: ESP32-C3FH4.sch  
**Title: OBJEX Link RISC-V**  
Size: A4 Date: 2021-10-06 Rev: 1.6-C3  
KiCad E.D.A. eeschema (5.1.10)-1 Id: 6/7

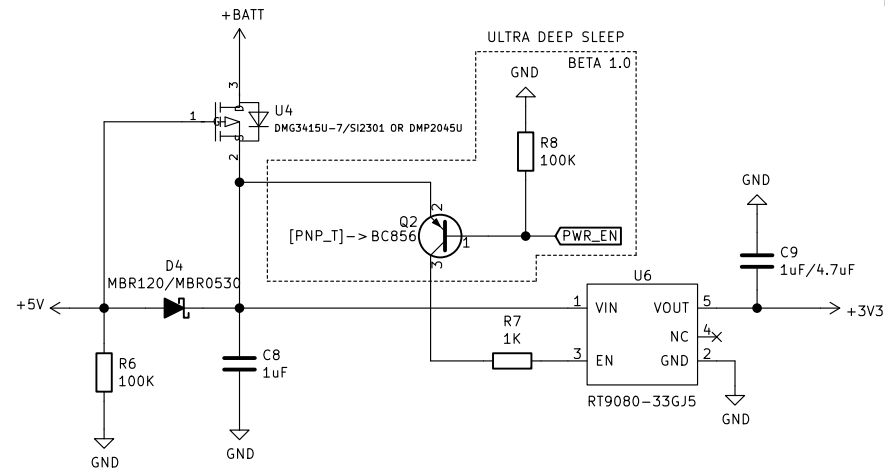
This source describes Open Hardware and is licensed under the CERN-OHLW v2. You may redistribute and modify this documentation and make products using it under the terms of the CERN-OHL-W v2 (<https://cern.ch/cern-ohl>). This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN-OHL-W v2 for applicable conditions.

Source location: <https://www.ohwr.org/project/wr-switch-hw>

As per CERN-OHL-W v2 section 4.1, should You produce hardware based on these sources, You must maintain the Source Location visible on the external case of the White Rabbit switch or other product you make using this documentation.

Id: 6/7

# LDO



[PNP\_T]

1. Test to be completed, to choose the most suitable component.

/-[]Component to be changed

NOTE: Currently working correctly - but (off\_status: 40uA value too high)

| -NOTE: EN\_RT9080: OFF --> 3.2uA (MAX: 4.32uA)

Copyright CERN 2020.

This source describes Open Hardware and is licensed under the CERN-OHLW v2

You may redistribute and modify this documentation and make products

using it under the terms of the CERN-OHL-W v2 (<https://cern.ch/cern-ohl>).

This documentation is distributed WITHOUT ANY EXPRESS OR IMPLIED

WARRANTY, INCLUDING OF MERCHANTABILITY, SATISFACTORY QUALITY

AND FITNESS FOR A PARTICULAR PURPOSE. Please see the CERN-OHL-W v2

for applicable conditions.

Source location: <https://www.ohwr.org/project/wr-switch-hw>

As per CERN-OHL-W v2 section 4.1, should You produce hardware based on

these sources, You must maintain the Source Location visible on the

external case of the White Rabbit switch or other product you make using

this documentation.

visit: [docs.objex.link](https://docs.objex.link)

Designer: Salvatore Raccardi

**OBJEX**

Sheet: /LDO/

File: RT9080-33GJ5.sch

**Title: OBJEX Link RISCv**

Size: A4 Date: 2021-10-06

KiCad E.D.A. eeschema (5.1.10)-1

**Rev: 1.6-C3**

Id: 7/7