Native circuitry 1

File: rail-review-1.kicad_sch

Native circuitry 2

File: rail-review-2.kicad_sch

Native circuitry 3

File: rail-review-3.kicad_sch

Native circuitry 4

File: rail-review-4.kicad_sch

Native circuitry 5

File: rail-review-5.kicad_sch

Native circuitry 6

File: rail-review-6.kicad_sch

Native circuitry 7

PWR_FLAG

GND

PWR_FLAG

REV_GND

File: rail-review-7.kicad_sch

PWR_FLAG

REV_VCC

PWR_FLAG

5V_LOCAL

PWR_FLAG

EFP_FAULT_AUX

PWR_FLAG

EFP_IN

External or diode-isolated supply

External or diode-isolated supply

External or diode-isolated supply

External or diode-isolated supply

External or diode-isolated supply

External or diode-isolated supply

UNFINISHED – NOT FOR FABRICATION

Smoothieware / CERN-OHL-S-2.0

Sheet: /

File: receiver.kicad_sch

Title: RECEIVER PROTECTION CANDIDATE

Size: A3	Date:	**Rev: WIP**
KiCad E.D.A. 9.0.8		Id: 1/8

Native circuitry 1 / WIP — same-name global labels connect





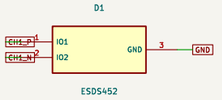


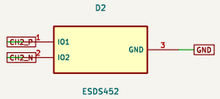


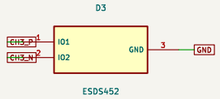


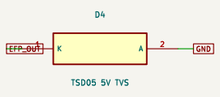


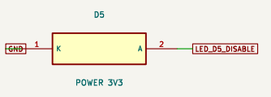


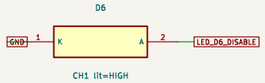


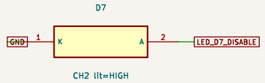


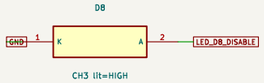














UNFINISHED — NOT FOR FABRICATION

Smoothieware / CERN-OHL-S-2.0

Sheet: /Native circuitry 1/
File: rail-review-1.kicad_sch

Title: Native circuitry 1

Size: A3	Date:	**Rev: WIP**
KiCad E.D.A. 9.0.8		Id: 2/8

Native circuitry 2 / WIP — same-name global labels connect

H1



M3 NPTH 3.2 mm

H2



M3 NPTH 3.2 mm

H3



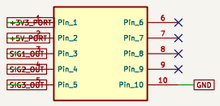
M3 NPTH 3.2 mm

H4



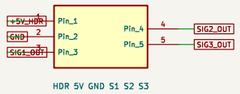
M3 NPTH 3.2 mm

J1



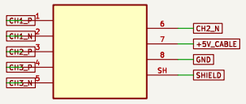
GADGETEER Y OUT (peripheral)

J3



HDR 5V GND S1 S2 S3

J4



RJ45 NOT ETHERNET RECEIVER

JP1



5V PORT link

JP2



5V CABLE link

JP3



5V HDR link

JP4



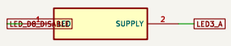
SHLD-GND bond

JP5



3V3 PORT link

JP6



CUT TO DISABLE D8

JP7



CUT TO DISABLE D5

JP8



CUT TO DISABLE D7

JP9



CUT TO DISABLE D6

UNFINISHED — NOT FOR FABRICATION

Smoothieware / CERN-OHL-S-2.0

Sheet: /Native circuitry 2/

File: rail-review-2.kicad_sch

Title: Native circuitry 2

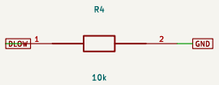
Size: A3	Date:	**Rev: WIP**
KiCad E.D.A. 9.0.8		Id: 3/8

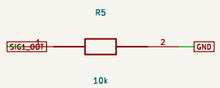
Native circuitry 3 / WIP — same-name global labels connect

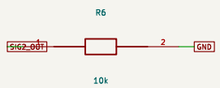


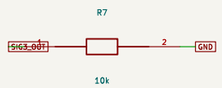


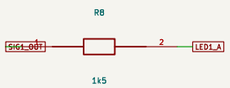


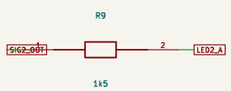


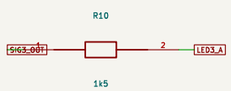


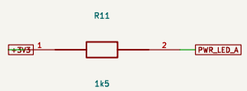




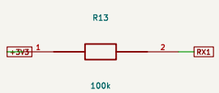


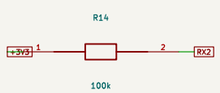


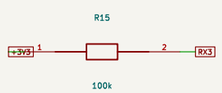


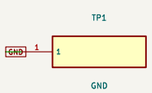












UNFINISHED — NOT FOR FABRICATION

Smoothieware / CERN-OHL-S-2.0

Sheet: /Native circuitry 3/
File: rail-review-3.kicad_sch

Title: Native circuitry 3

Size: A3	Date:	**Rev: WIP**
KiCad E.D.A. 9.0.8		Id: 4/8

Native circuitry 4 / WIP — same-name global labels connect

TP2



GND

TP3



+5V

TP4



+3V3

TP5



S1

TP6



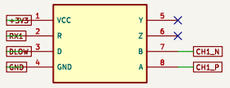
S2

TP7



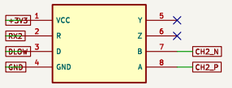
S3

U1



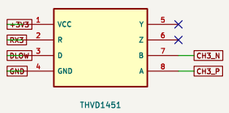
THVD1451

U2



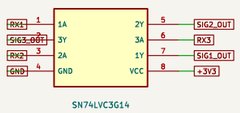
THVD1451

U3



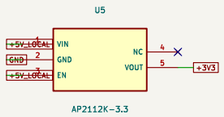
THVD1451

U4



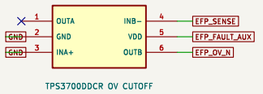
SN74LVC3G14

U5



AP2112K-3.3

U980



TPS3700DDCR OV CUTOFF

R981



125k 0.1%

R982



10k 0.1%

C980



100nF 25V X7R

JP980



CUT TO DISABLE RAIL0_OV PORT0

UNFINISHED — NOT FOR FABRICATION

Smoothieware / CERN-OHL-S-2.0

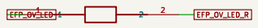
Sheet: /Native circuitry 4/
File: rail-review-4.kicad_sch

Title: Native circuitry 4

Size: A3	Date:	**Rev: WIP**
KiCad E.D.A. 9.0.8		Id: 5/8

Native circuitry 5 / WIP — same-name global labels connect

R983



2.2k 1%

D981



AMBER OVERVOLTAGE

R984



OR

U981



TPS259470ARPWR AUTO RETRY DIRECTION SELECTED

R985

6.64k 0.1%

C981

22nF 25V X7R

C982

1uF 25V X7R

C983

1uF 25V X7R

R986

39k 0.1%

R987

10k 0.1%

R988

1k 0.25W

D982

BZX384-B4V7,115

C984

100nF 25V X7R

R989

10k 1%

R990

100k 1%

JP981

CUT TO DISABLE FUSE_FAULT PORTO

UNFINISHED — NOT FOR FABRICATION

Smoothieware / CERN-OHL-S-2.0

Sheet: /Native circuitry 5/
File: rail-review-5.kicad_sch

Title: Native circuitry 5

Size: A3	Date:	**Rev: WIP**
KiCad E.D.A. 9.0.8		Id: 6/8

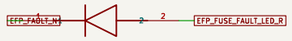
Native circuitry 6 / WIP — same-name global labels connect

R991



2.2k 1%

D983



RED EFUSE FAULT

D1033



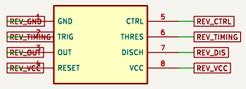
BAT54HGW-Q FAULT AUX NEGATIVE CLAMP

D1034



BAT54HGW-Q FAULT LED ANTIPARALLEL

U982



LMC555CMX/NOPB REVERSE BLINK

R993



47k 1%

D986



BZX384-B4V3,115

D987



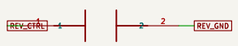
RED REVERSE BLINK

D985



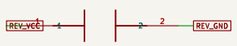
BAT54HGW-QX

C986



10nF 25V X7R

C985



100nF 25V X7R

D984



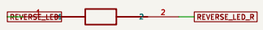
BAT54HGW-QX

R994



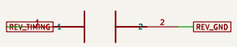
47k 1%

R995



2.2k 1%

C987



10uF 16V X7R

R992



1k 0.25W REVERSE AUX

UNFINISHED — NOT FOR FABRICATION

Smoothieware / CERN-OHL-S-2.0

Sheet: /Native circuitry 6/
File: rail-review-6.kicad_sch

Title: Native circuitry 6

Size: A3	Date:	**Rev: WIP**
KiCad E.D.A. 9.0.8		Id: 7/8

Native circuitry 7 / WIP — same-name global labels connect

D1030



BAT54HGW-Q REVERSE AUX NEGATIVE CLAMP

JP982



CUT TO DISABLE REVERSE

D1980



BAT54HGW-Q positive auxiliary isolation

D1981



BAT54HGW-Q SENSE negative clamp

D1982



BAT54HGW-Q OVLO negative clamp

R1980



OR SOURCE_IN DNP

R1981



OR SOURCE_OUT DNP

R1982



OR SINK_IN FITTED

R1983

OR SINK_OUT FITTED

D1984

SMF15CA BIDIRECTIONAL RAW CABLE TVS

UNFINISHED — NOT FOR FABRICATION

Smoothieware / CERN-OHL-S-2.0

Sheet: /Native circuitry 7/

File: rail-review-7.kicad_sch

Title: Native circuitry 7

Size: A3	Date:	**Rev: WIP**
KiCad E.D.A. 9.0.8		Id: 8/8