Power Supplies

Power.sch

Processor

Processor.sch

Stepper Driver

Stepper_Drv.sch

Heater & Fan Control

Htr_Fan.sch

Comms

Comms.sch

Headers

Headers.sch

http://www.ohwr.org/attachments/2388/cern_ohl_v_1_2.txt
CERN OSH License 1.2

Think3DPrint3D, Escher 3D

Sheet: /
File: DuetWifi.sch

Title: Duet Wifi

Size: A4	Date: 2018-04-24	**Rev: 1.04**
KiCad E.D.A. kicad 4.0.7		Id: 1/7

X-Axis Stepper Driver

Y-Axis Stepper Driver

Z-Axis Stepper Driver

Extruder 0 Stepper Driver

Extruder 1 Stepper Driver

SPI1 BUFFER

STALL GUARD OR

Endstops.

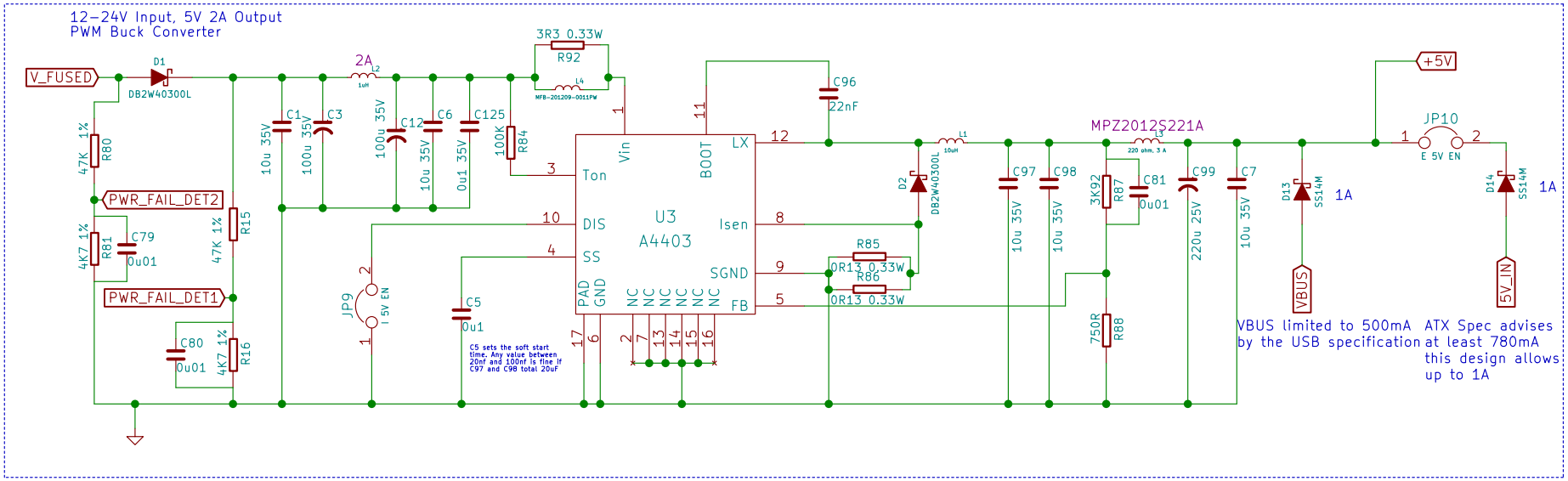
Input Protection

http://www.ohwr.org/attachments/2388/cern_ohl_v_1_2.txt
CERN OSH License 1.2
Think3DPrint3D, Escher 3D

Sheet: /Stepper Driver/
File: Stepper_Drv.sch

Title: Duet Wifi

Size: A2 | Date: 2018-04-24 | **Rev: 1.04**
KiCad E.D.A. kicad 4.0.7 | Id: 2/7



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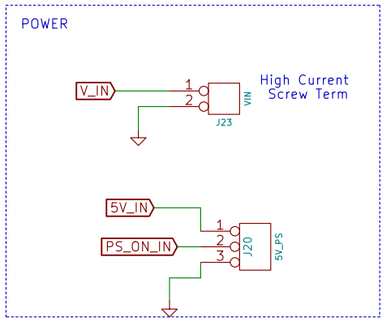
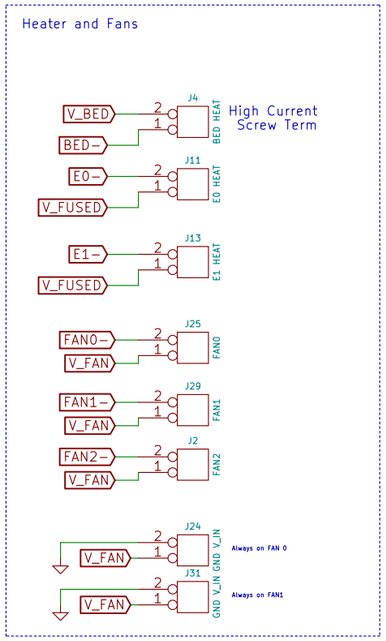
CERN OSH License 1.2
Think3DPrint3D, Escher 3D

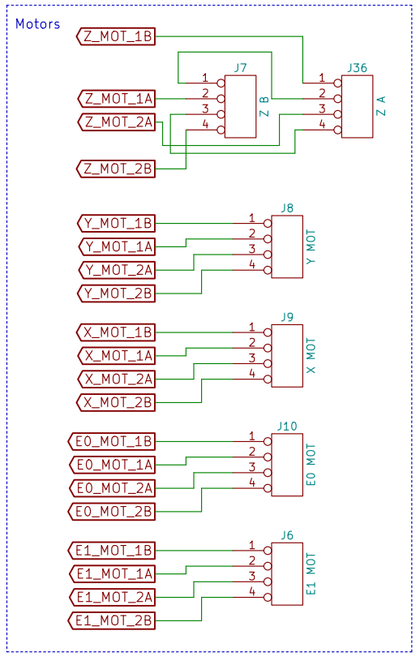
Sheet: /Power Supplies/
File: Power.sch

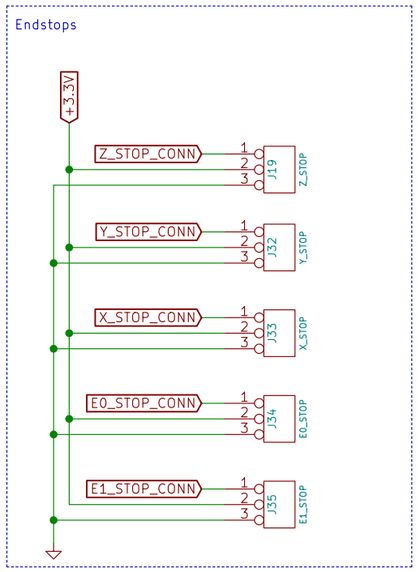
Title: Duet Wifi

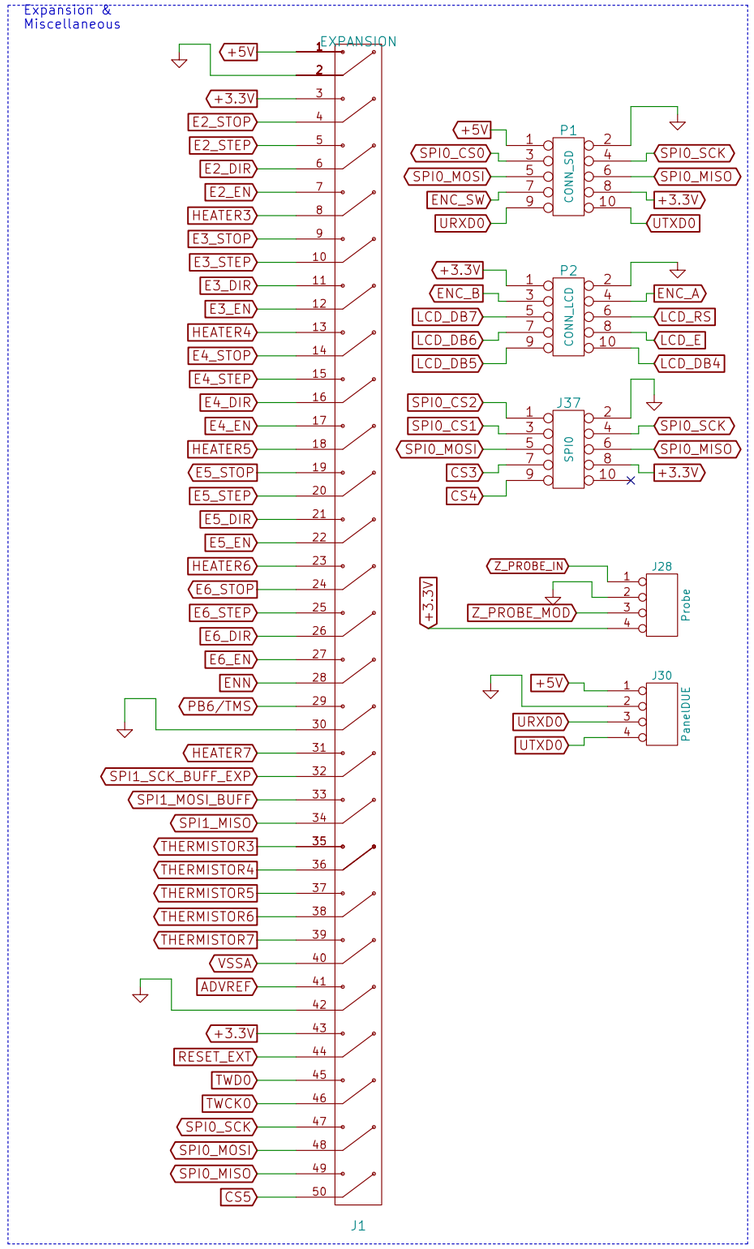
Size: A4	Date: 2018–04–24	**Rev: 1.04**
KiCad E.D.A. kicad 4.0.7		Id: 3/7

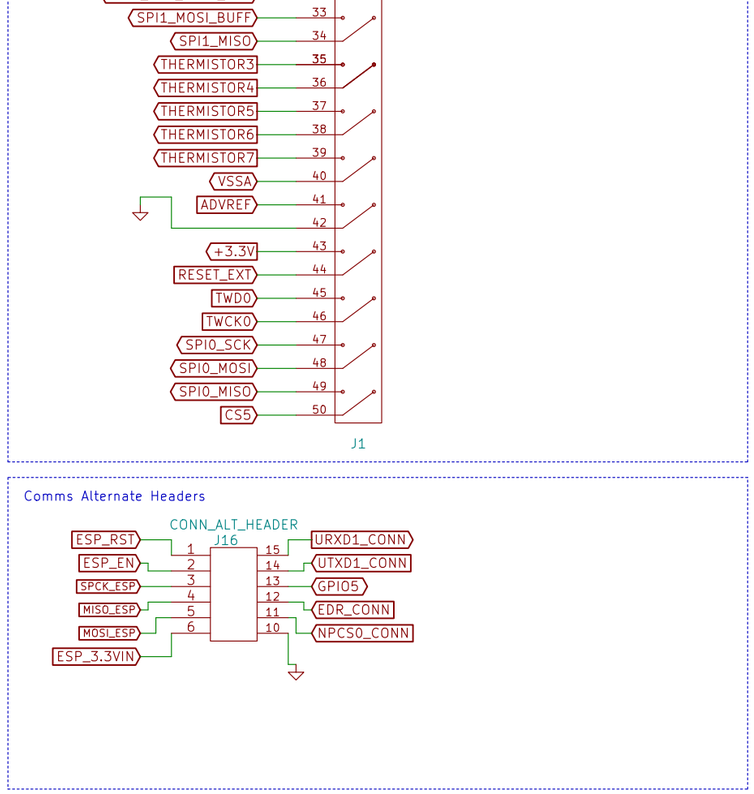


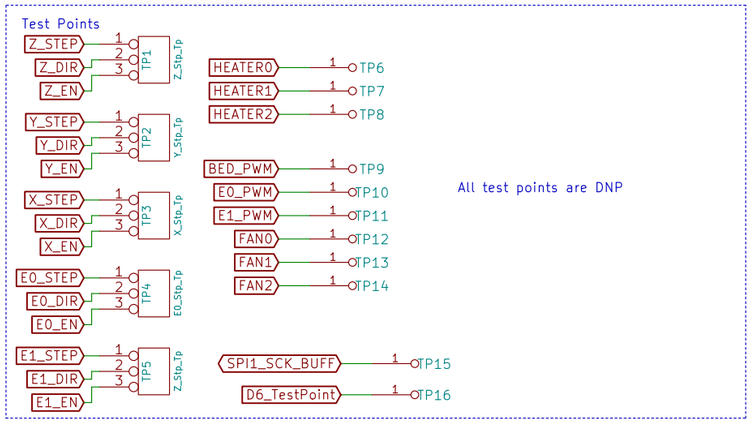












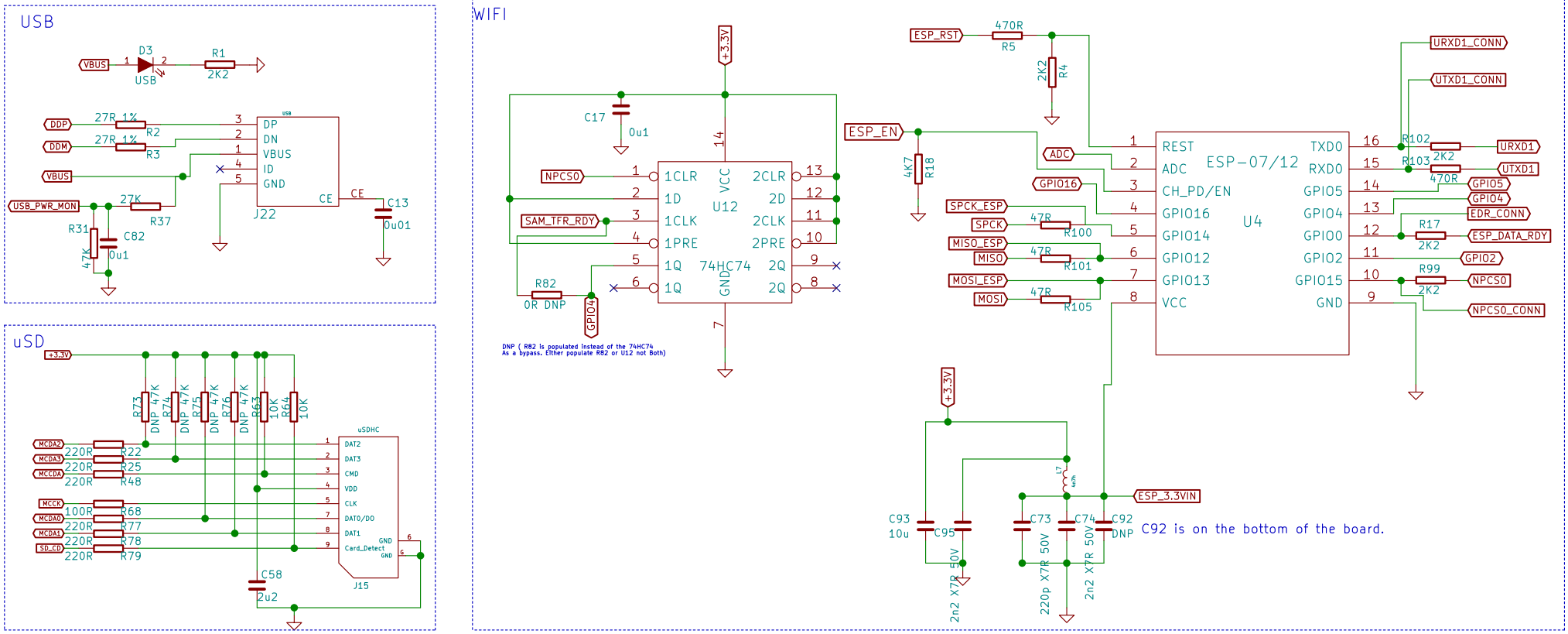
http://www.ohwr.org/attachments/2388/cern_ohl_v_1_2.txt
CERN OSH License 1.2

Think3DPrint3D, Escher 3D

Sheet: /Headers/
File: Headers.sch

Title: Duet Wifi

Size: A3	Date: 2018-04-24	**Rev: 1.04**
KiCad E.D.A. kicad 4.0.7		Id: 4/7



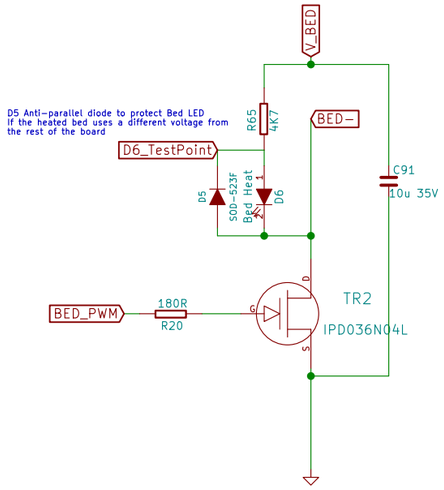
http://www.ohwr.org/attachments/2388/cern_ohl_v_1_2.txt
CERN OSH License 1.2
Think3DPrint3D, Escher 3D

Sheet: /Comms/
File: Comms.sch

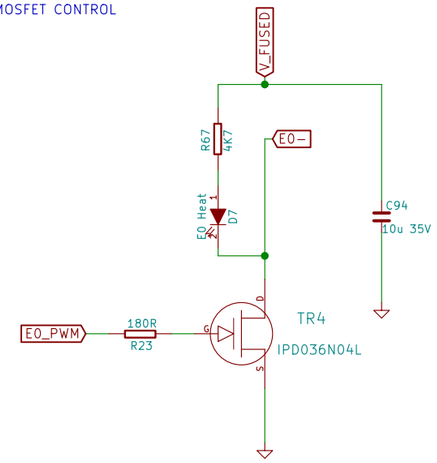
Title: Duet Wifi

Size: A4	Date: 2018-04-24	**Rev: 1.04**
KiCad E.D.A. kicad 4.0.7		Id: 5/7

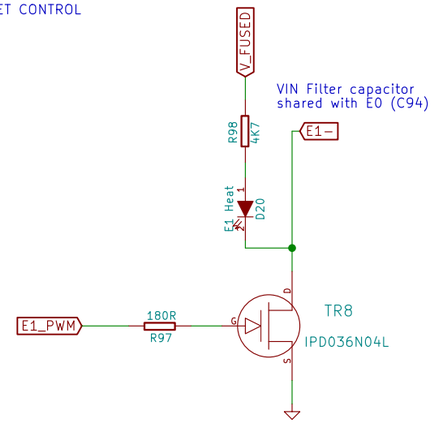
BED MOSFET CONTROL



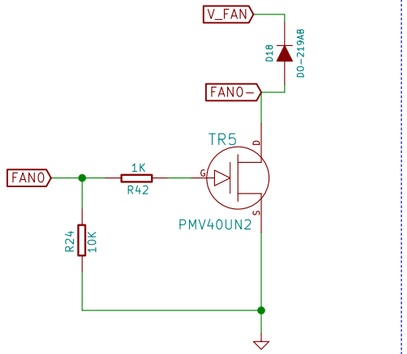
E0 MOSFET CONTROL



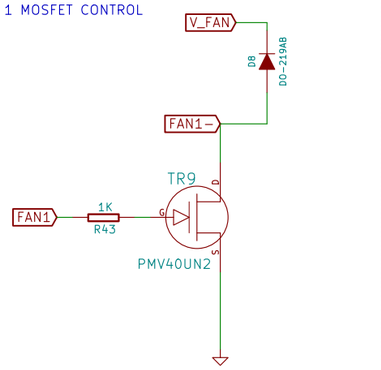
E1 MOSFET CONTROL



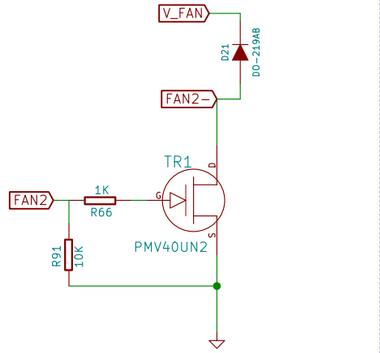
FAN 0 MOSFET CONTROL



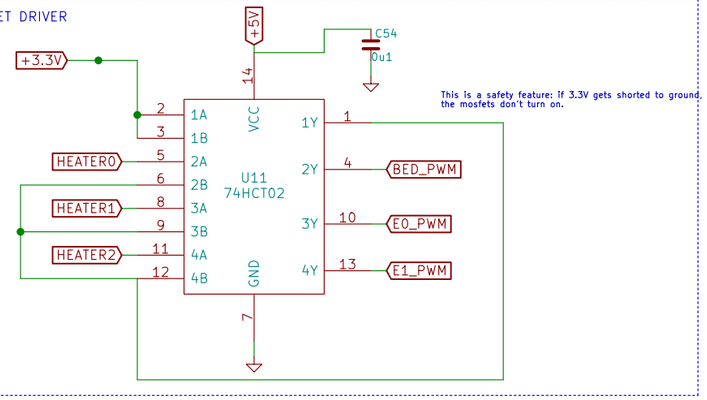
FAN 1 MOSFET CONTROL



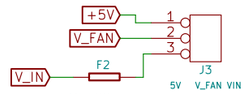
FAN 2 MOSFET CONTROL



POWER MOSFET DRIVER

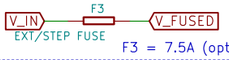


FAN Voltage Select & Fuse



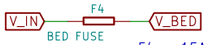
F2 = 1A (optionally 2A)

Extruder Heater/Stepper/5V supply Fuse



F3 = 7.5A (optionally 10A)

Bed Heater Fuse



F4 = 15A

http://www.ohwr.org/attachments/2388/cern_ohl_v_1_2.txt
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Sheet: /Heater & Fan Control/
File: Htr_Fan.sch

Title: Duet Wifi

Size: A3	Date: 2018-04-24	**Rev: 1.04**
KiCad E.D.A. kicad 4.0.7		Id: 6/7

ADVREF requires a filter

To ensure stability, an external 2.2 µF output capacitor, CDOUT must be connected between the VDDOUT and the closest GND pin of the device. The ESR (Equivalent Series Resistance) of the capacitor must be in the range 0.1Ω to 10Ω. Solid tantalum and multilayer ceramic capacitors are all suitable as output capacitor. A 100 nF bypass capacitor between VDDOUT and the closest GND pin of the device helps decrease output noise and improves the load transient response.

A 4.7 µF or higher ceramic capacitor must be connected between VDDIN and the closest GND pin of the device. This large decoupling capacitor is mandatory to reduce startup current, improving transient response and noise rejection.

The ESR of C68 must be in the range 0.1Ω to 10Ω.

All thermistors should be pulled up to ADVREF

Fuse to protect the SAM from VIN applied to VSSA in error.

Multicomp MC36207, Bel Fuse 0ZCJ0020FF2E

U1
ATSAM4E8E

VSSA sensing

SG common input

CRYSTAL_4PIN

FID M1	FID M2	FID M3	MOUNTING M4	MOUNTING M5	MOUNTING M6	MOUNTING M7	LOGO M8
CE Logo M9	CE Logo M10						

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CERN OSH License 1.2

Think3DPrint3D, Escher 3D

Sheet: /Processor/
File: Processor.sch

Title: Duet Wifi

Size: A2	Date: 2018-04-24	Rev: 1.04
KiCad E.D.A. kicad 4.0.7		Id: 7/7