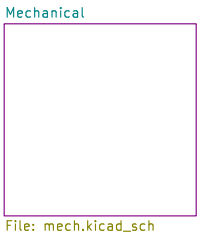
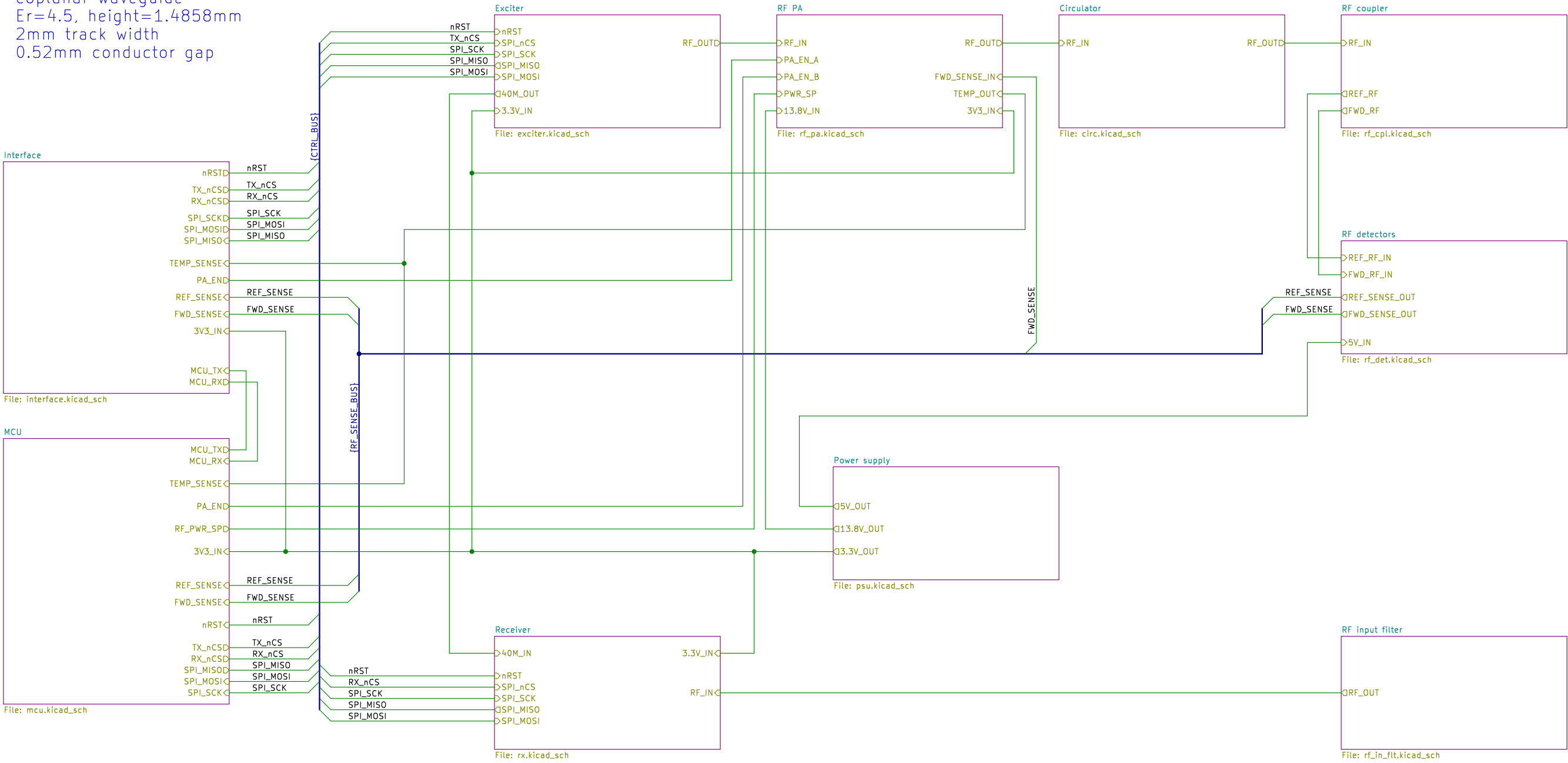


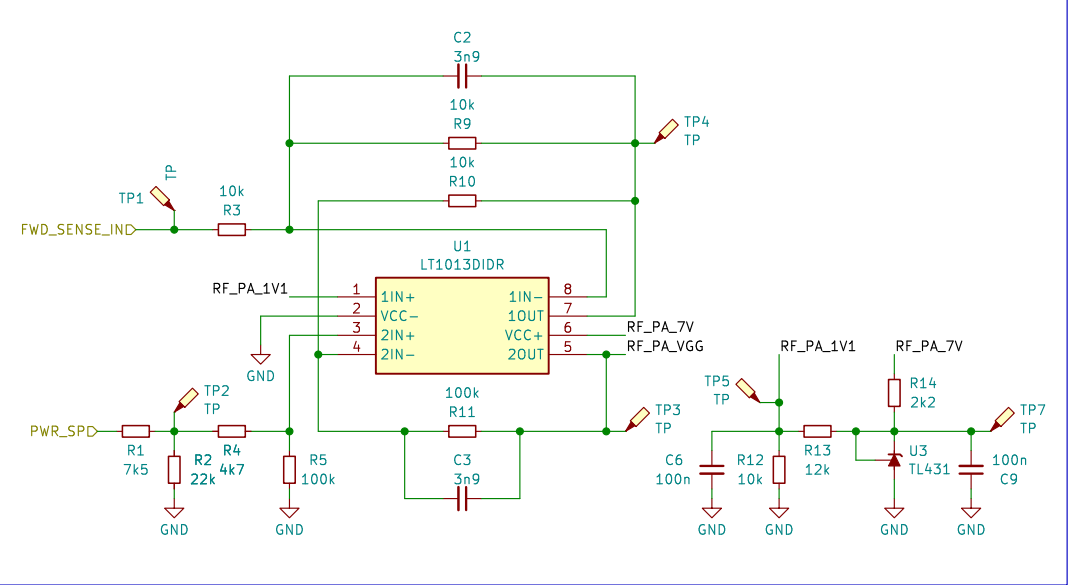
Low power RF tracks:
coplanar waveguide
Er=4.4, height=0.2104mm
0.25mm track width
0.052mm conductor gap

High power RF tracks:
coplanar waveguide
Er=4.5, height=1.4858mm
2mm track width
0.52mm conductor gap

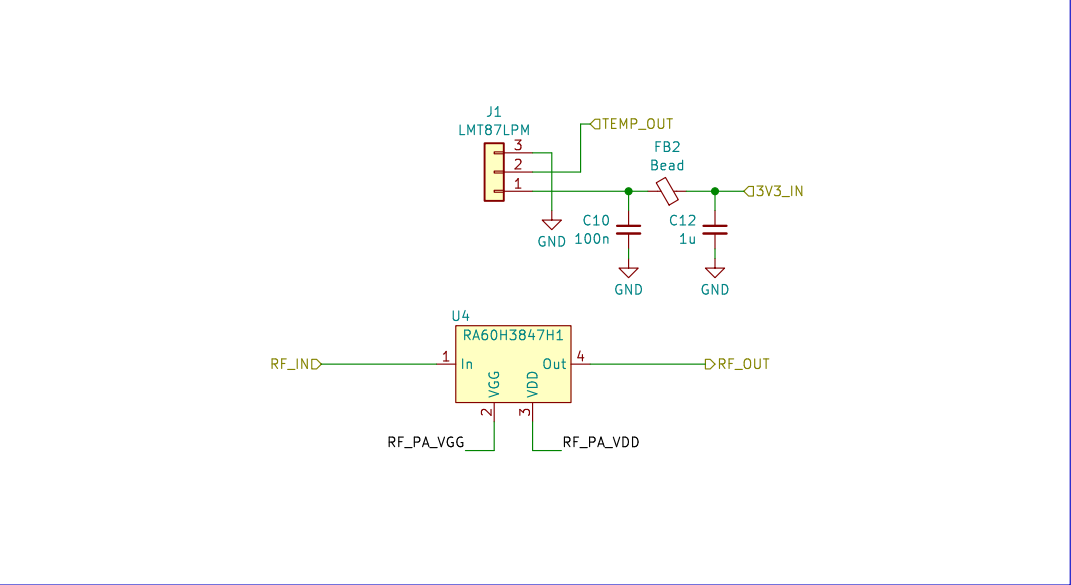


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M17 Project		
Sheet: /		
File: m17-rru-rf.kicad_sch		
Title: M17 Remote Radio Unit – RF board		
Size: A3	Date: 28-10-2023	Rev: A
KiCad E.D.A. kicad 7.0.8		Id: 1/12

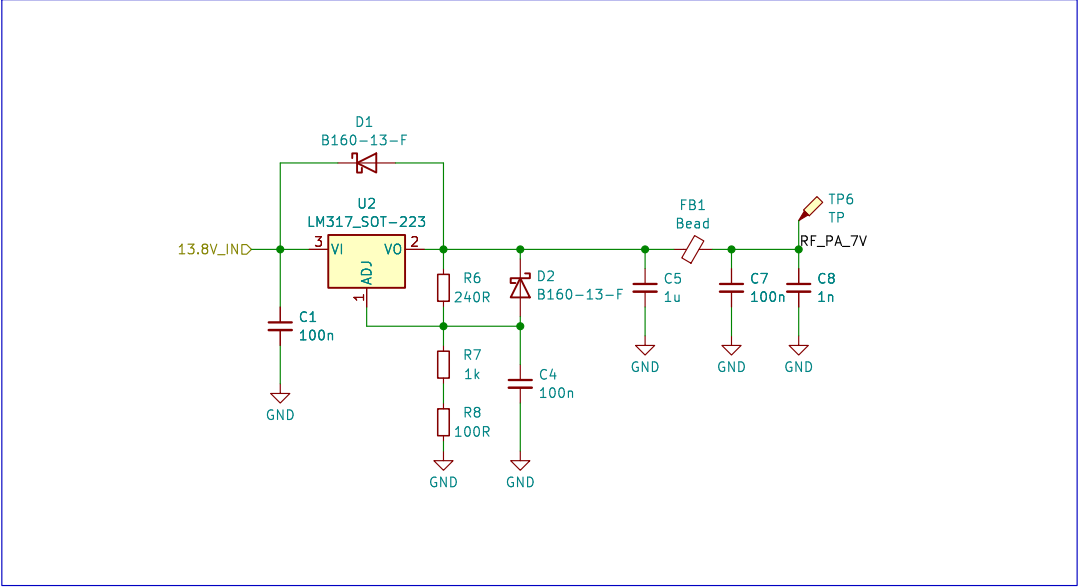
ALC



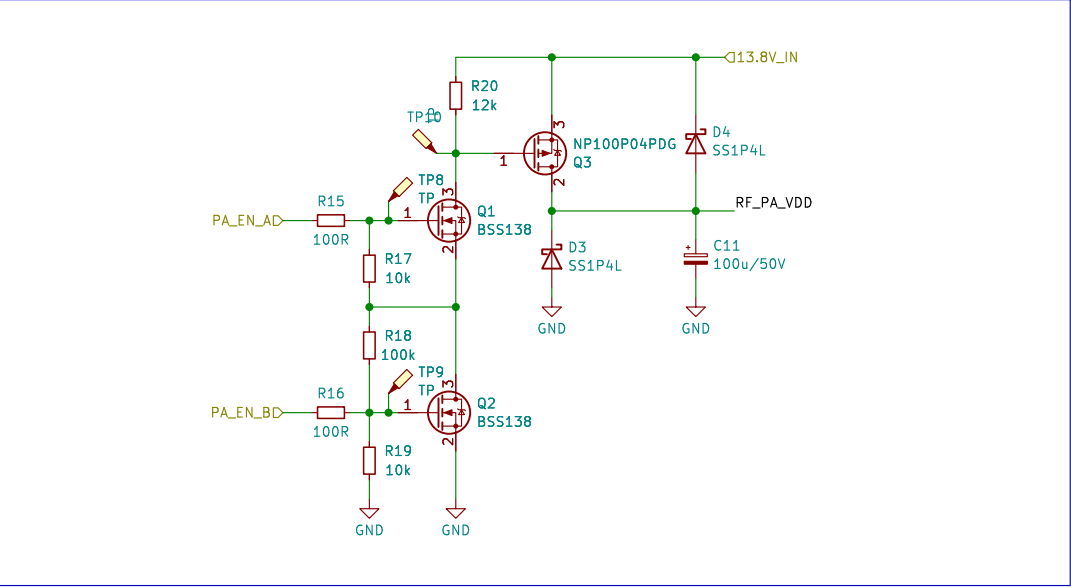
RF PA



Voltage reg.



Supply switching

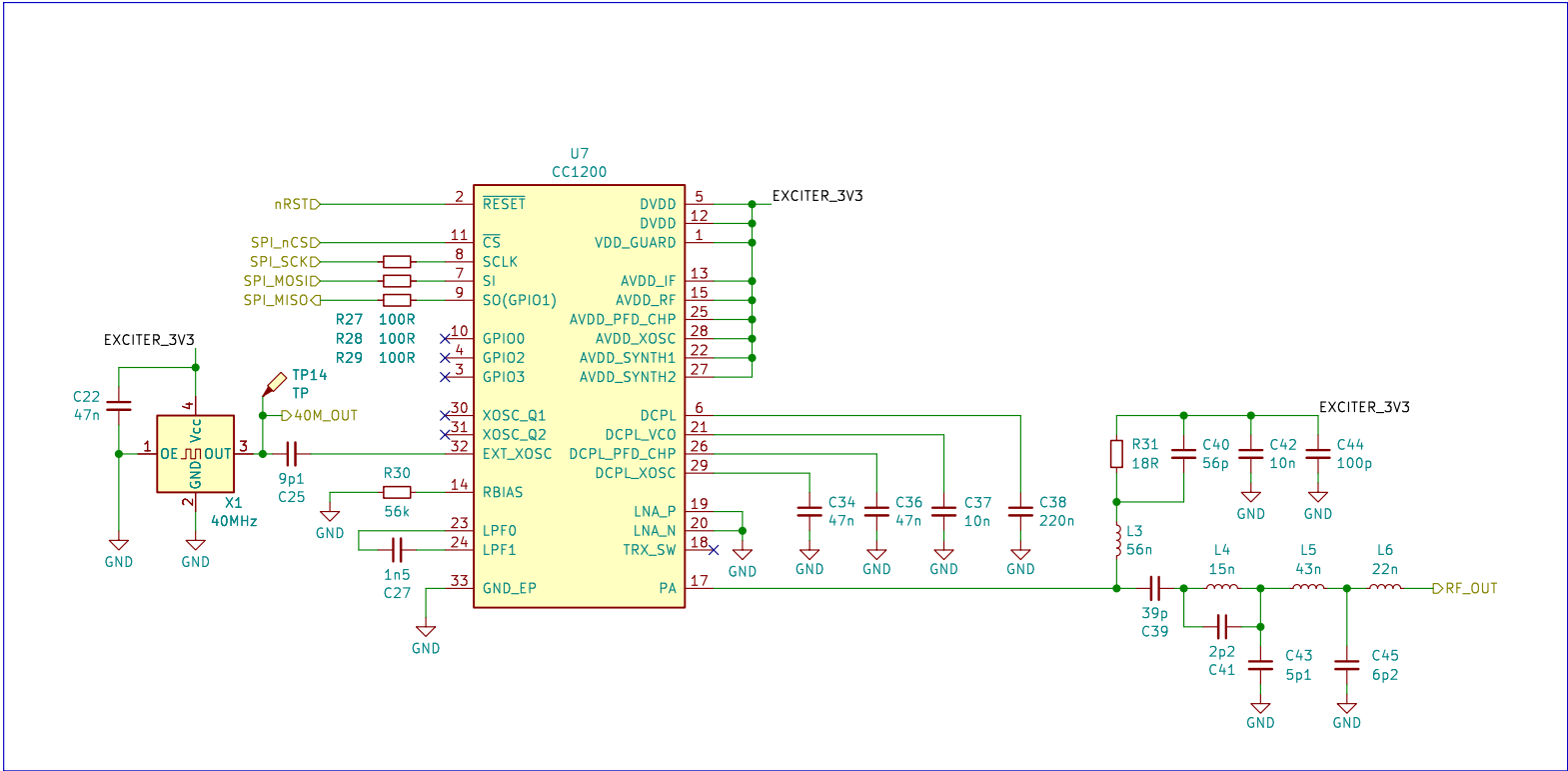


The schematic diagram illustrates a power management system with two DC-DC converters, U5 and U6, both of the TPS88156 model. The input voltage is 13.8V, supplied by J2. The system includes a PWR_FLAG signal and a GND reference. The output voltages are 3.3V (TP12) and 5V (TP13). The circuit components are as follows:

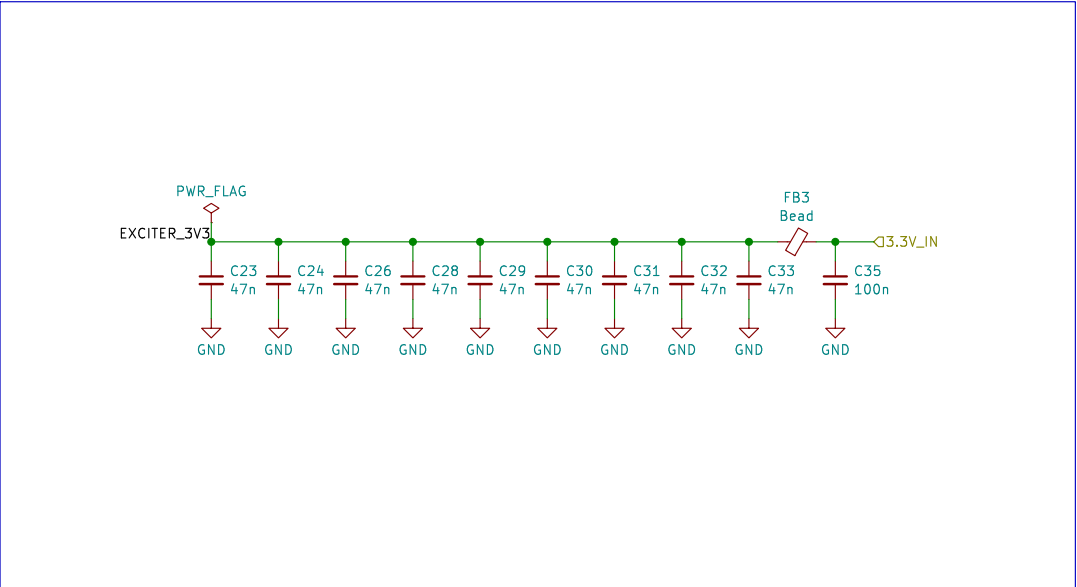
- Input Stage:** The input voltage is connected to the VIN pin of both converters. Input capacitors C13 and C14 (100u/50V) are connected to the VIN pin. Feedback resistors R21 and R22 (100k) are connected to the EN pin of U5 and U6, respectively.
- Converter U5 (TPS88156):**
 - Pin 1 (BST):** Connected to the SW pin (Pin 6) via capacitor C17 (100n).
 - Pin 2 (GND):** Connected to GND.
 - Pin 3 (FB):** Connected to GND via resistor R23 (24k).
 - Pin 4 (EN):** Connected to GND via resistor R21 (100k).
 - Pin 5 (VIN):** Connected to the input voltage.
 - Output:** The output voltage is 3.3V (TP12). The output capacitor C20 (22u/6.3V) is connected to the output. Inductor L1 (10u) is connected between the SW pin and the output.
- Converter U6 (TPS88156):**
 - Pin 1 (BST):** Connected to the SW pin (Pin 6) via capacitor C18 (100n).
 - Pin 2 (GND):** Connected to GND.
 - Pin 3 (FB):** Connected to GND via resistor R24 (24k).
 - Pin 4 (EN):** Connected to GND via resistor R22 (100k).
 - Pin 5 (VIN):** Connected to the input voltage.
 - Output:** The output voltage is 5V (TP13). The output capacitor C21 (22u/6.3V) is connected to the output. Inductor L2 (10u) is connected between the SW pin and the output.

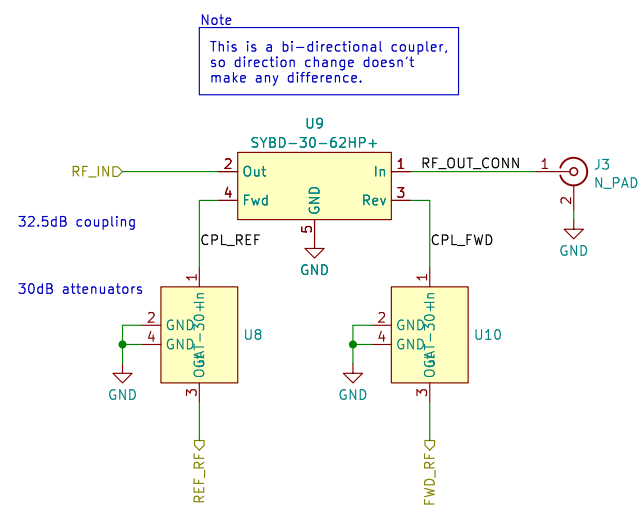
Id: 3/12

Exciter



Decoupling





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Sheet: /RF coupler/

File: rf_cpl.kicad_sch

Title: M17 Remote Radio Unit – RF board

Size: A3

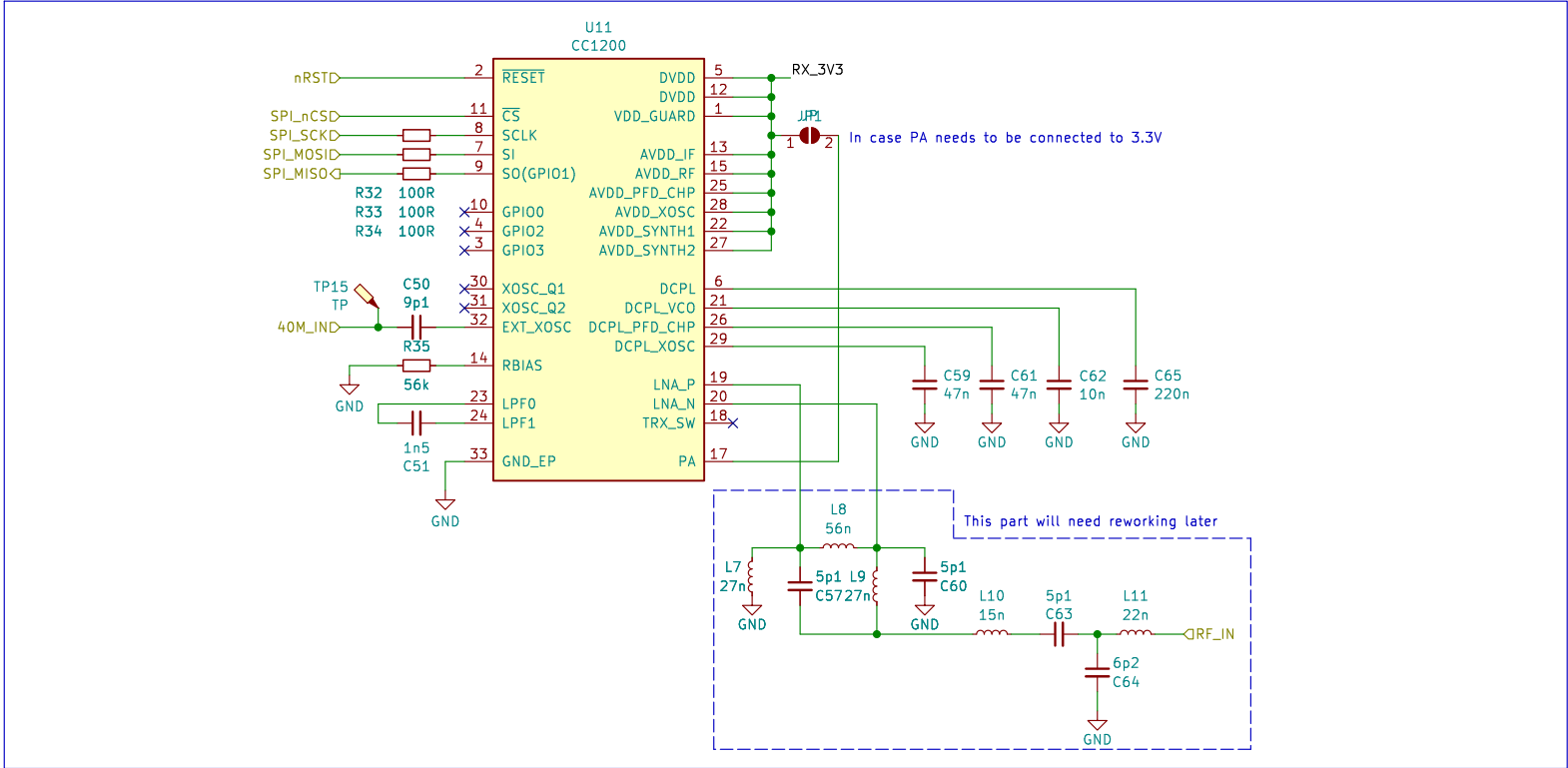
Date: 28-10-2023

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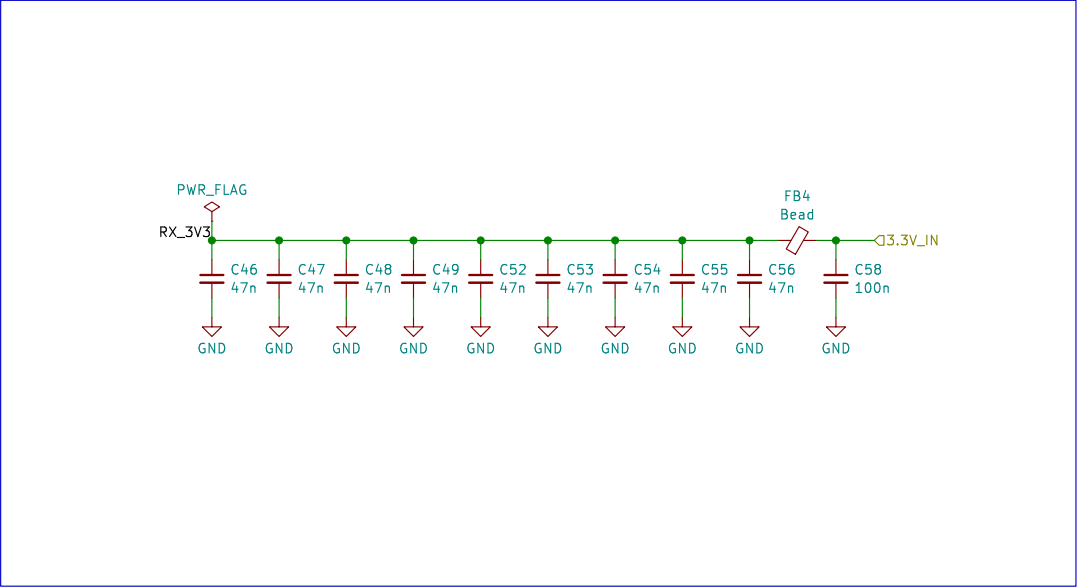
Size: A3	Date: 2
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Receiver



Decoupling



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M17 Project

Sheet: /Receiver/

File: rx.kicad_sch

Title: M17 Remote Radio Unit – RF board

Size: A3

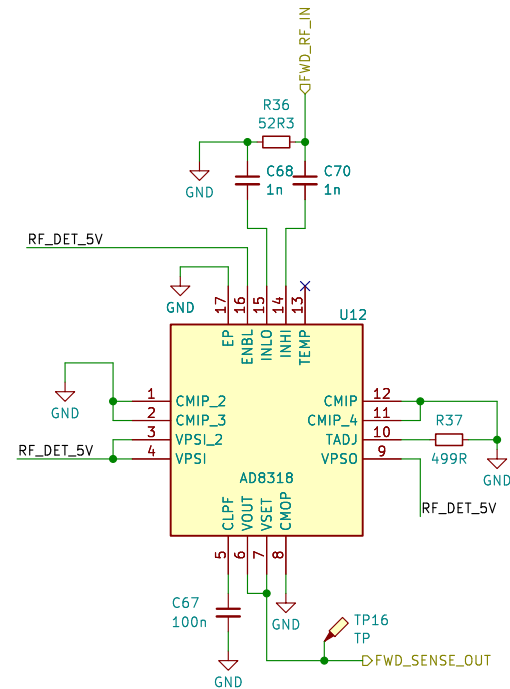
Date: 28-10-2023

Rev: A

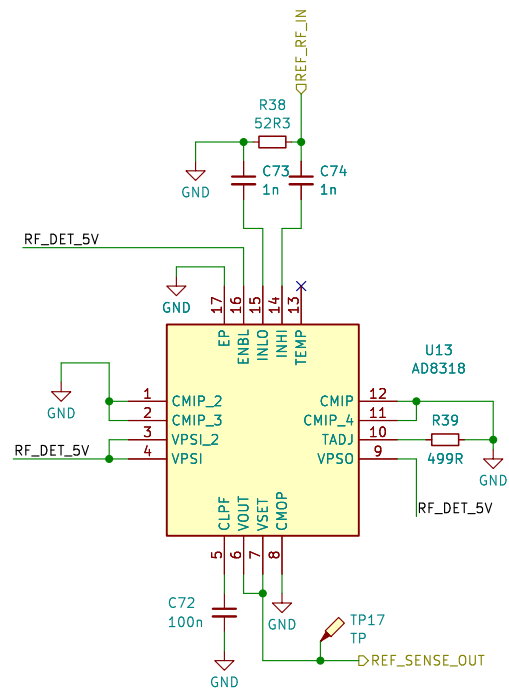
KiCad E.D.A. kicad 7.0.8

Id: 6/12

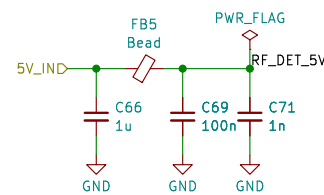
FWD power sense



REF power sense



Decoupling



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M17 Project

Sheet: /RF detectors/

File: rf_det.kicad_sch

Title: M17 Remote Radio Unit – RF board

Size: A3

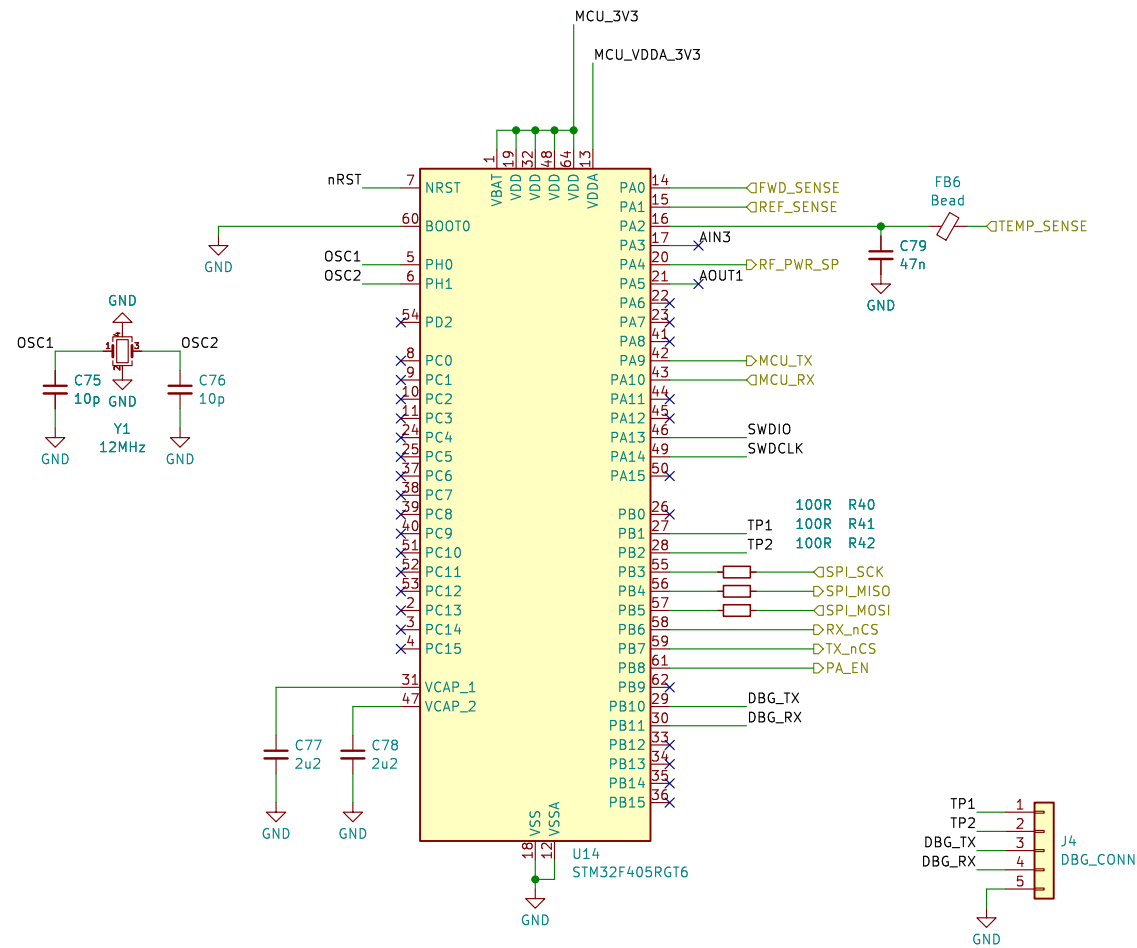
Date: 28-10-2023

Rev: A

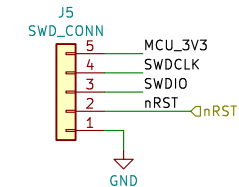
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Id: 7/12

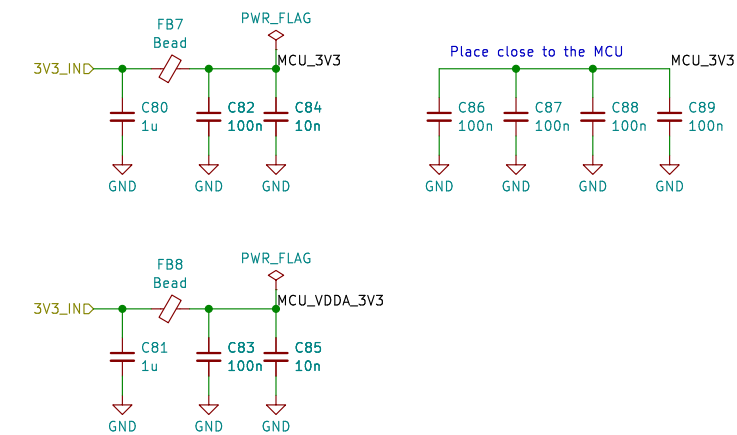
MCU



SWD



Decoupling



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M17 Project

Sheet: /MCU/

File: mcu.kicad_sch

Title: M17 Remote Radio Unit – RF board

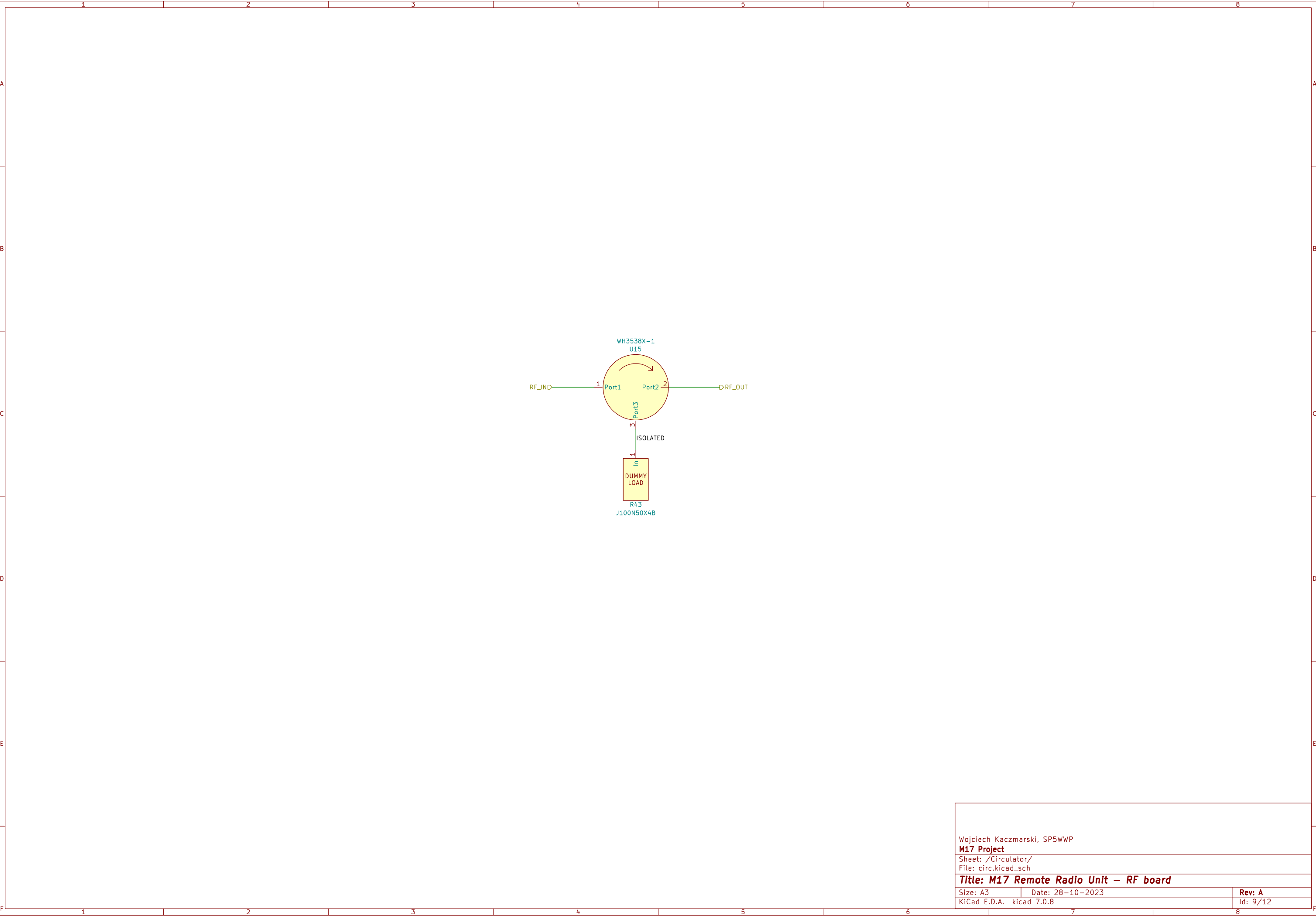
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Date: 28-10-2023

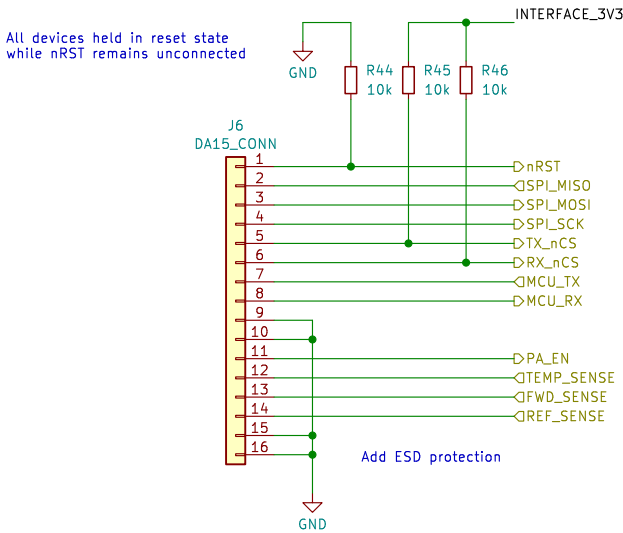
Rev: A

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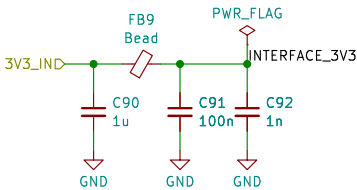
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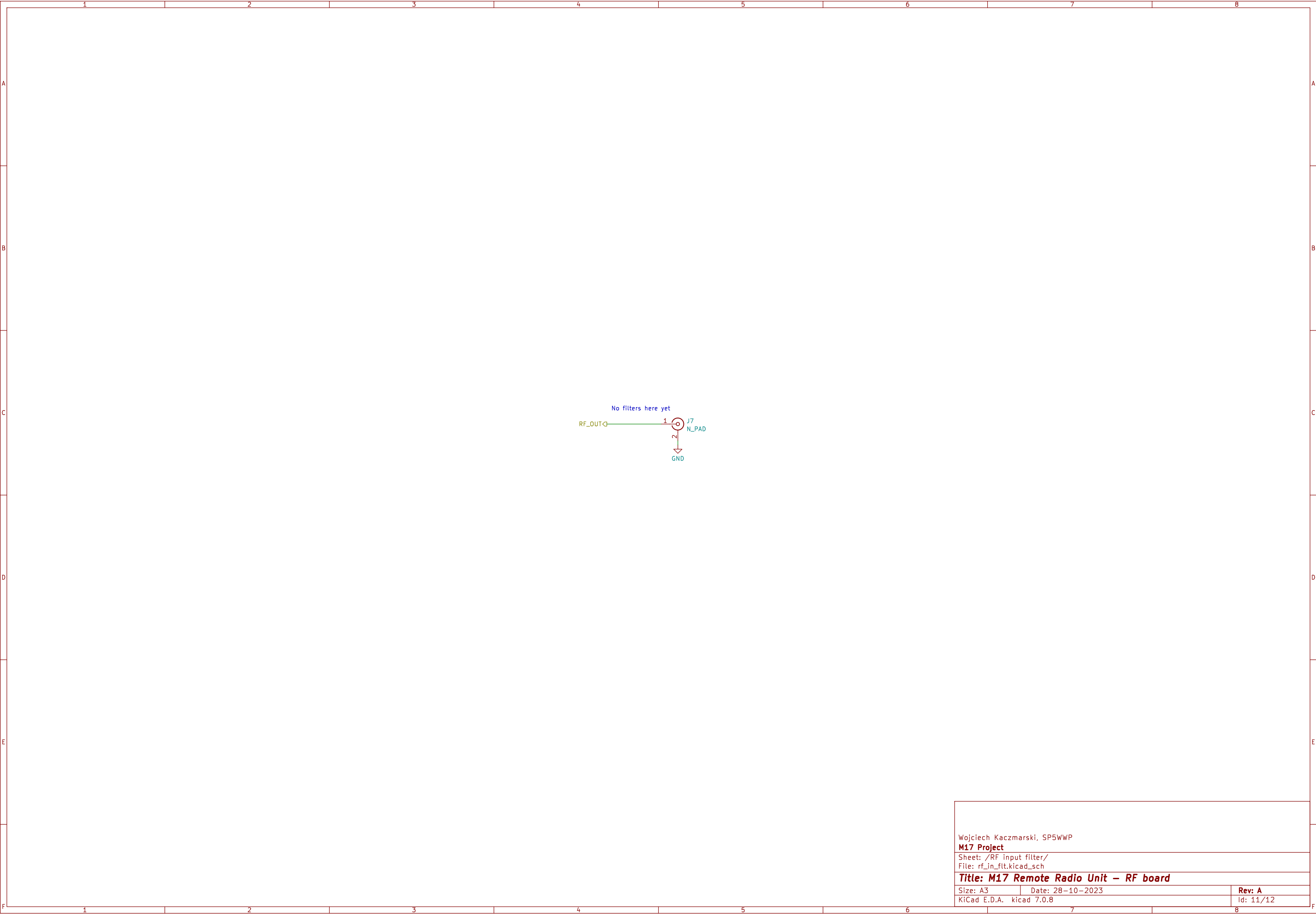


External connector



Decoupling





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M17 Project

Sheet: /RF input filter/
File: rf_inflt.kicad_sch

Title: M17 Remote Radio Unit – RF board

Size: A3

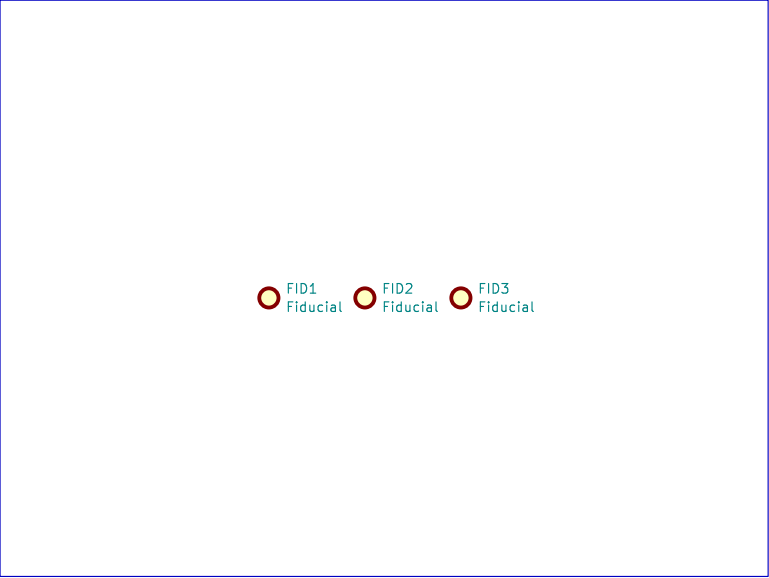
Date: 28-10-2023

Rev: A

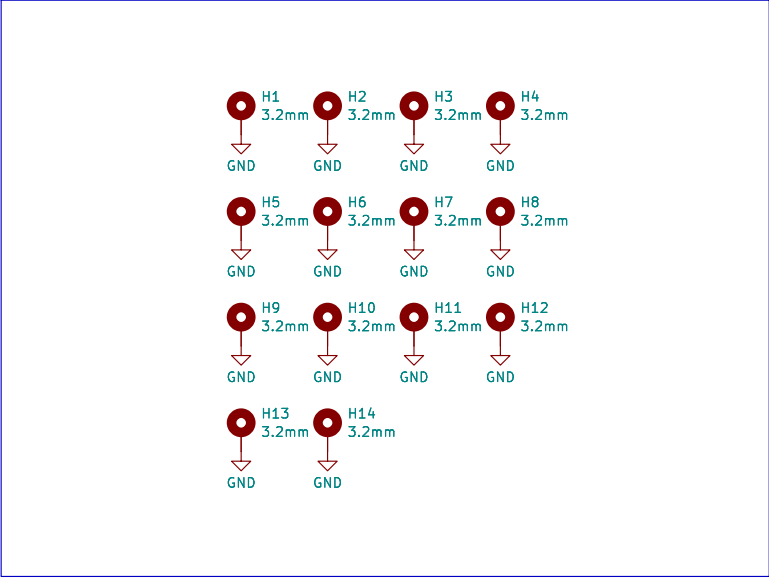
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Id: 11/12

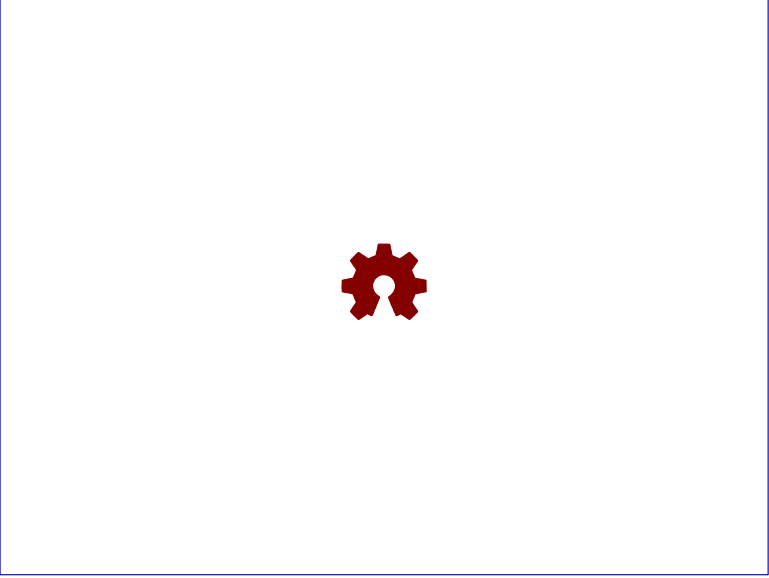
Fiducials



Mounting holes



Graphics



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M17 Project
Sheet: /Mechanical/
File: mech.kicad_sch

Title: M17 Remote Radio Unit – RF board

Size: A3	Date: 28-10-2023	Rev: A
KiCad E.D.A. kicad 7.0.8		Id: 12/12