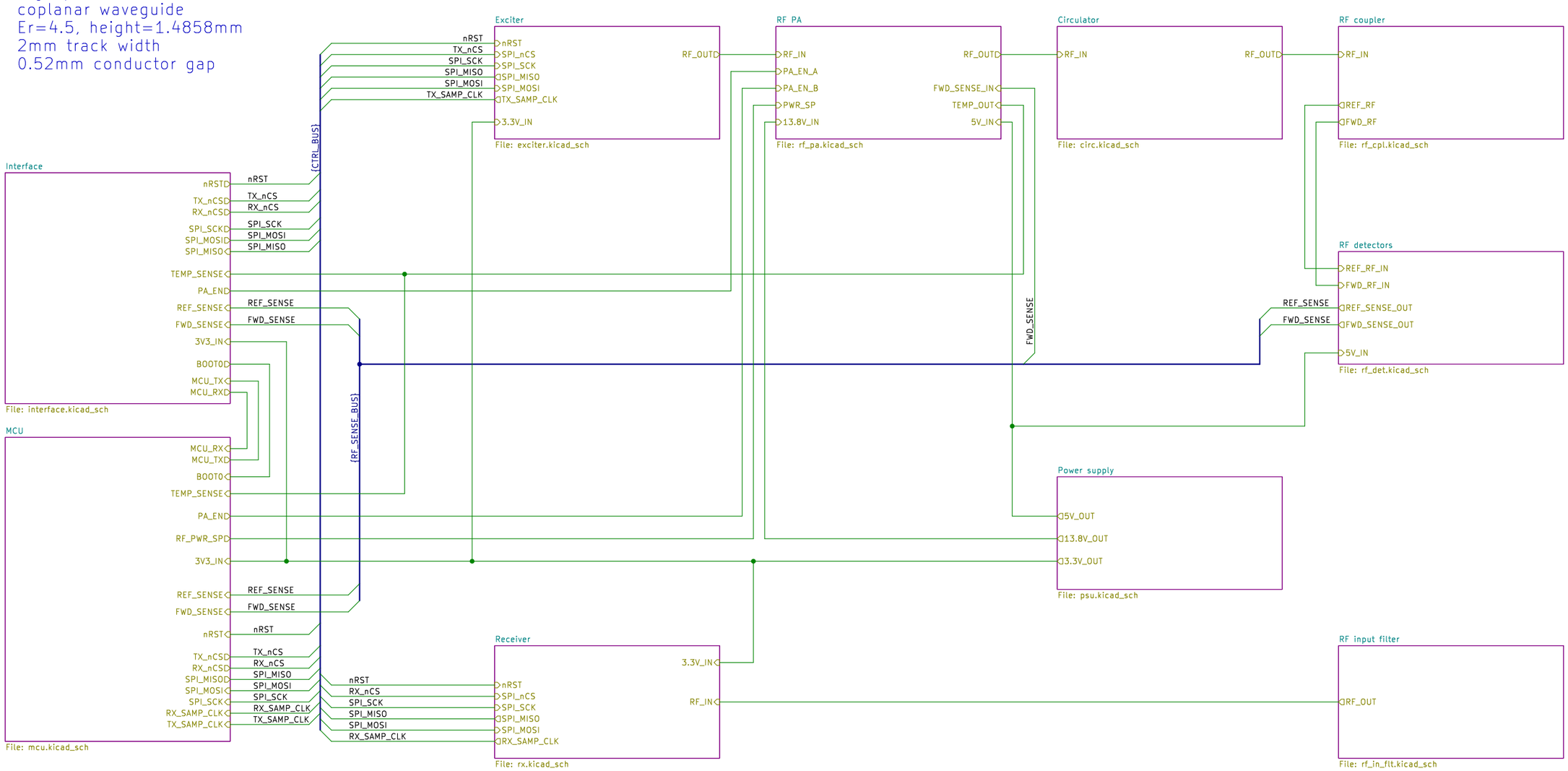
Low power RF tracks:
coplanar waveguide
Er=4.4, height=0.2104mm
0.25mm track width
0.052mm conductor gap

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



Wojciech Kaczmarski, SP5WWP

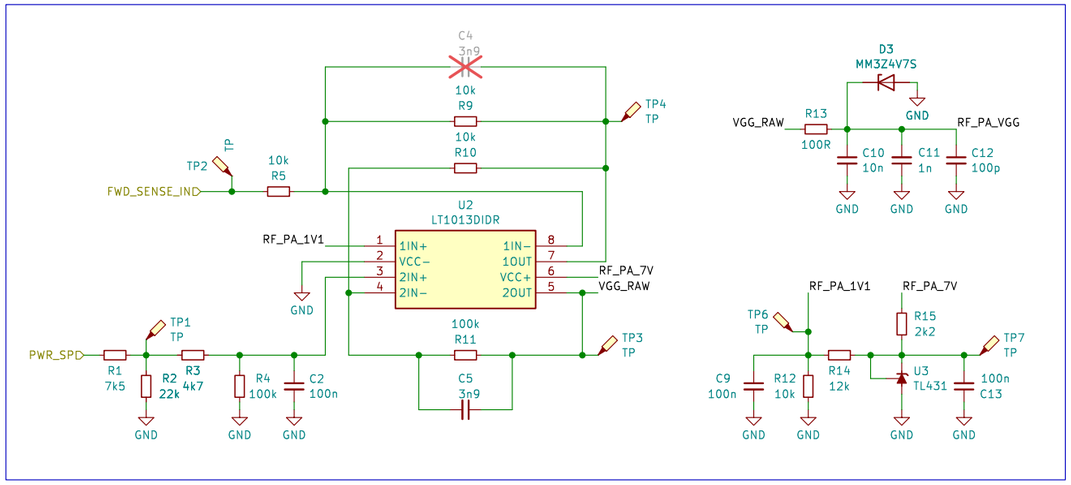
M17 Project

Sheet: /
File: m17-rru-rf.kicad_sch

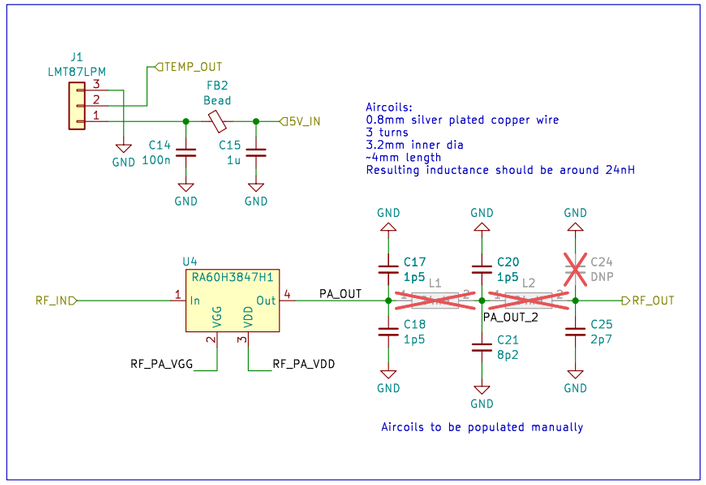
Title: Remote Radio Unit – RF board

Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 1/12

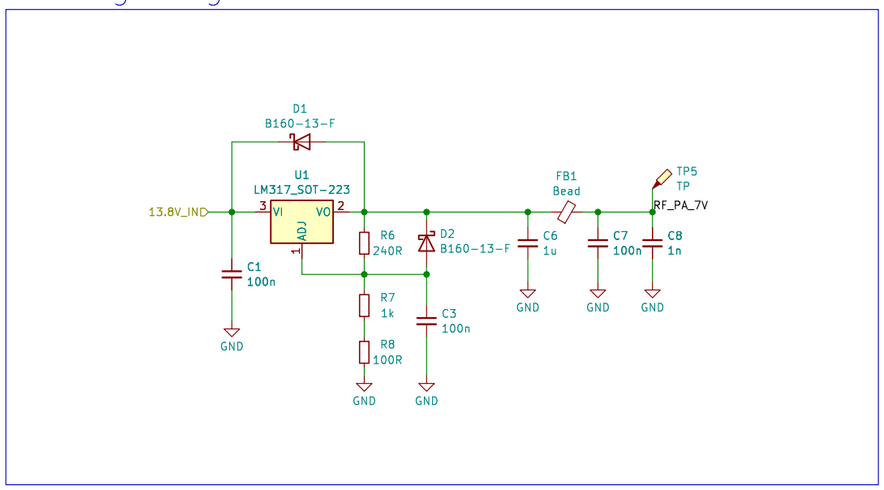
ALC



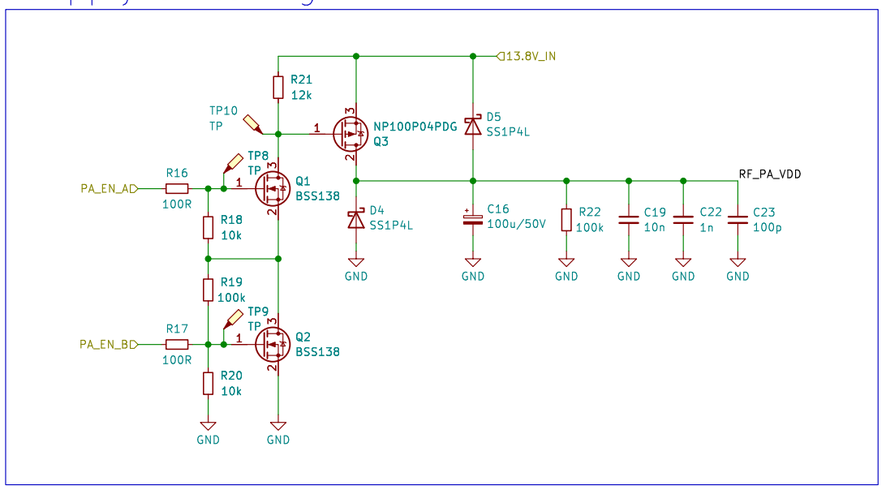
RF PA



Voltage reg.



Supply switching



Wojciech Kaczmarski, SP5WWP

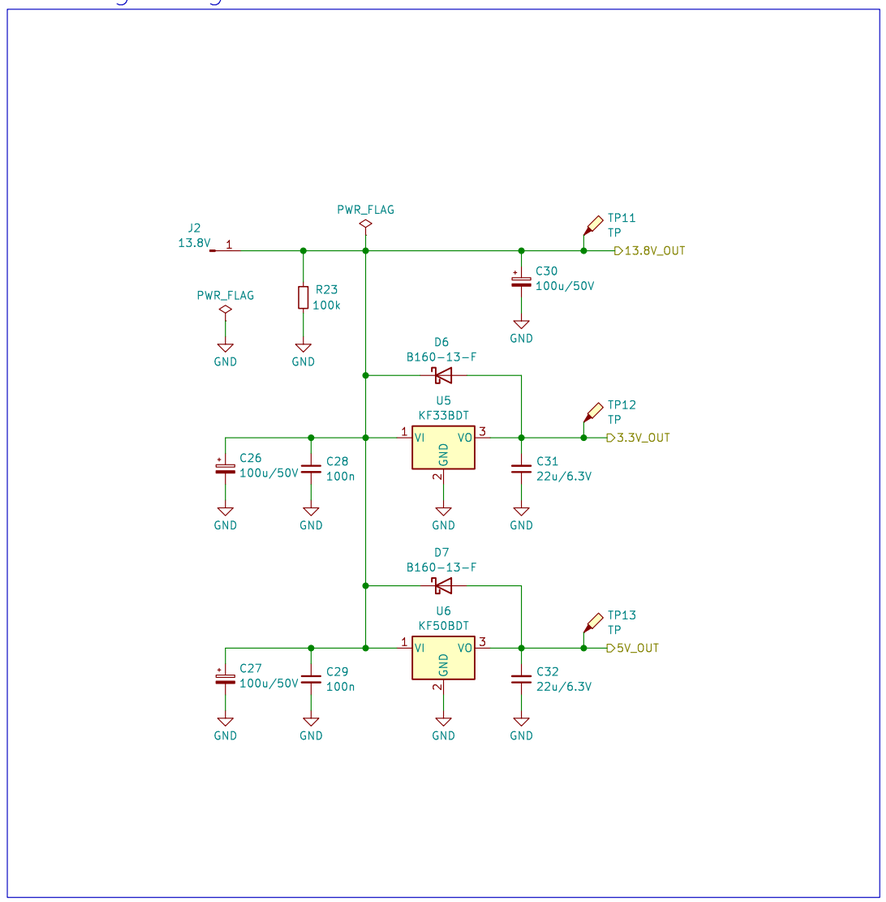
M17 Project

Sheet: /RF PA/
File: rf_pa.kicad_sch

Title: Remote Radio Unit – RF board

Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 2/12

Voltage reg.



Wojciech Kaczmarski, SP5WWP

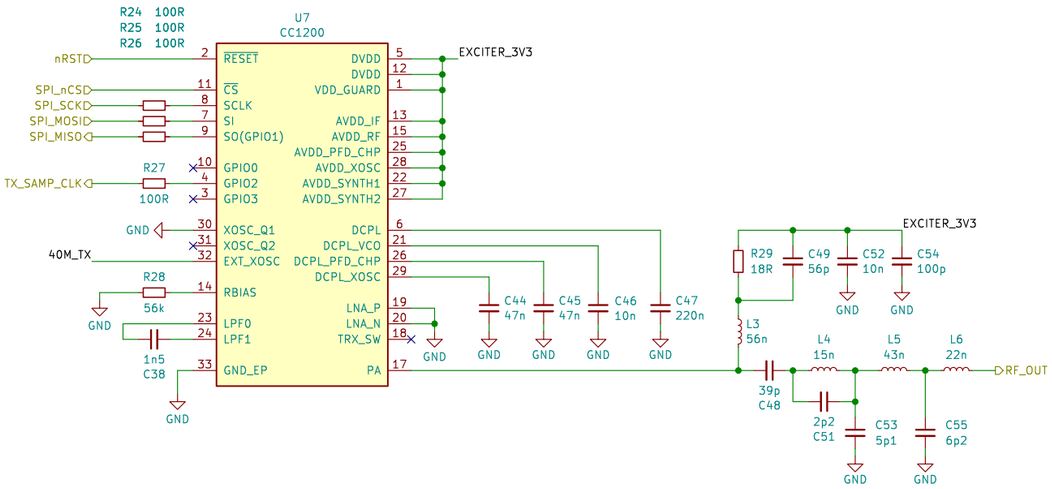
M17 Project

Sheet: /Power supply/
File: psu.kicad_sch

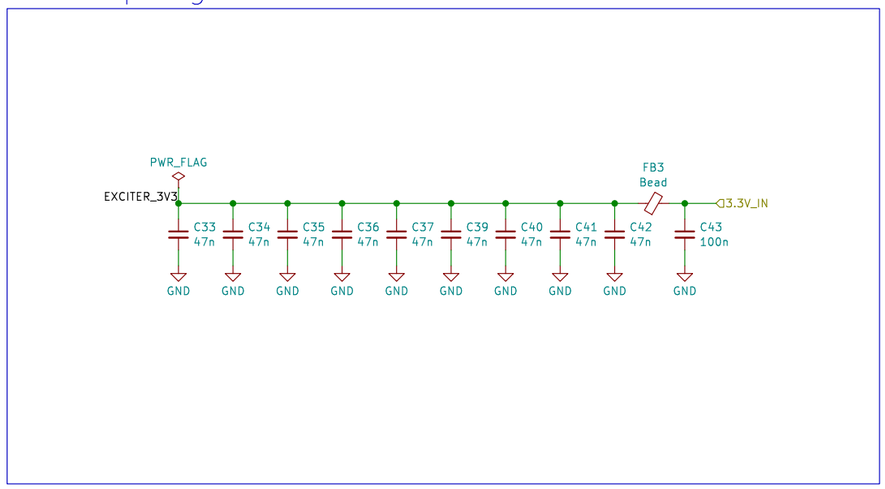
Title: Remote Radio Unit – RF board

Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 3/12

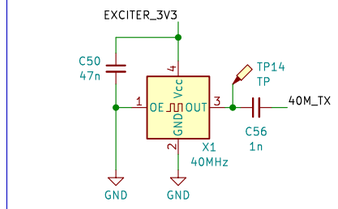
Exciter



Decoupling



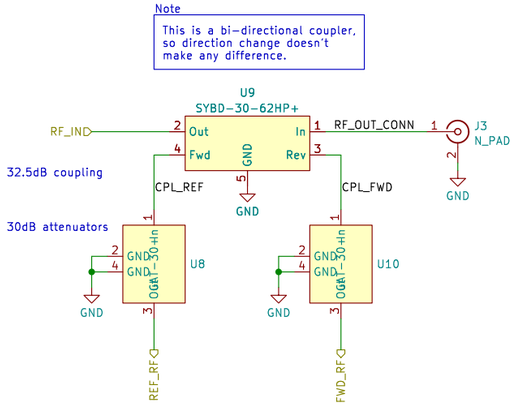
Local 40MHz reference



Wojciech Kaczmarski, SP5WWP
M17 Project
Sheet: /Exciter/
File: exciter.kicad_sch

Title: Remote Radio Unit – RF board

Size: A3	Date: 05–04–2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 4/12



Wojciech Kaczmarski, SP5WWP

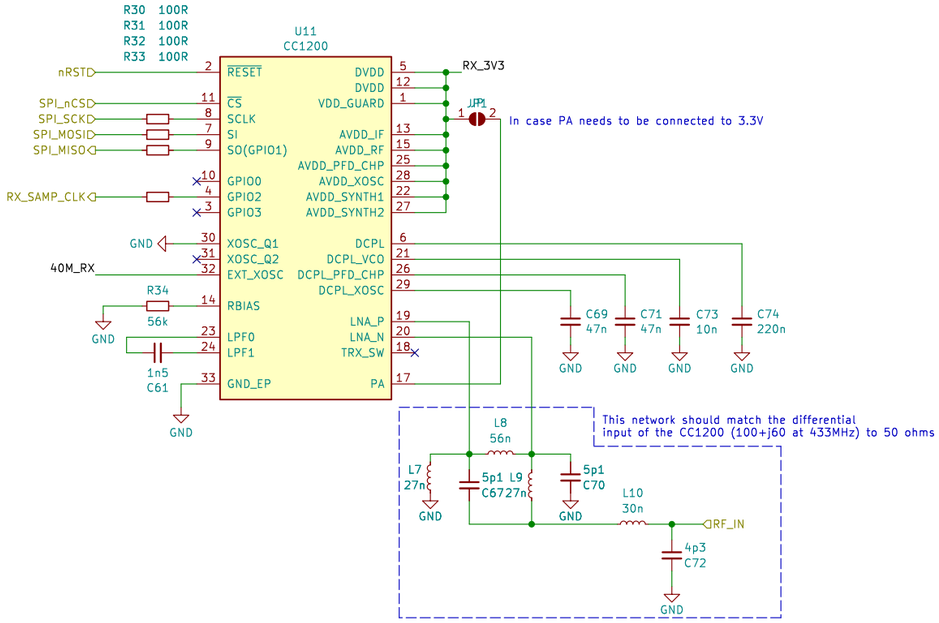
M17 Project

Sheet: /RF coupler/
File: rf_cpl.kicad_sch

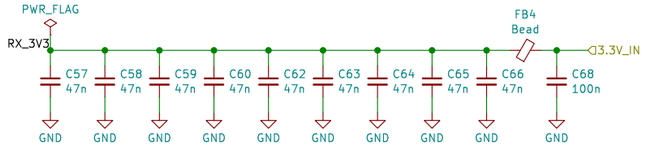
Title: Remote Radio Unit – RF board

Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 5/12

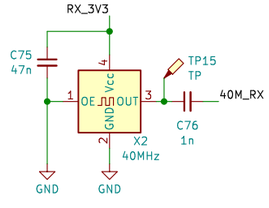
Receiver



Decoupling



Local 40MHz reference



Wojciech Kaczmarski, SP5WWP

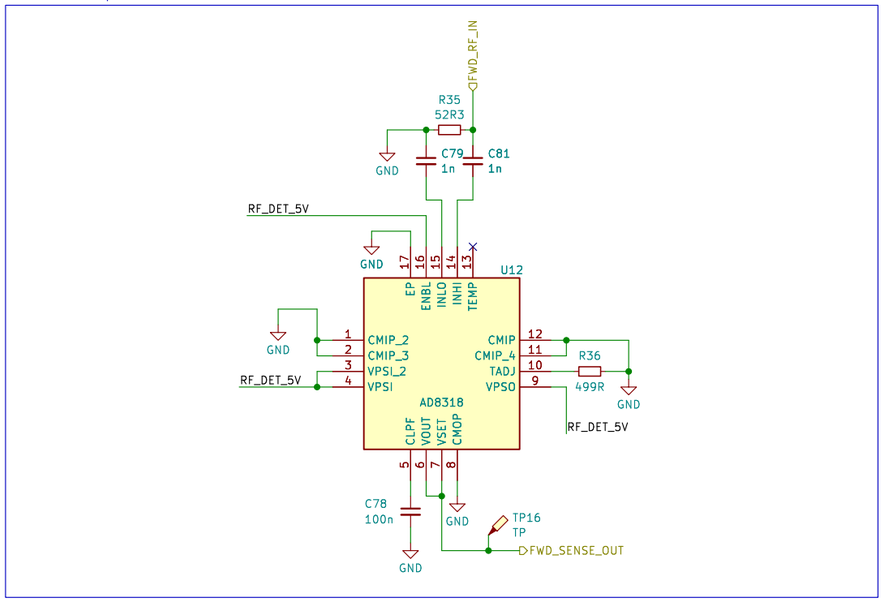
M17 Project

Sheet: /Receiver/
File: rx.kicad_sch

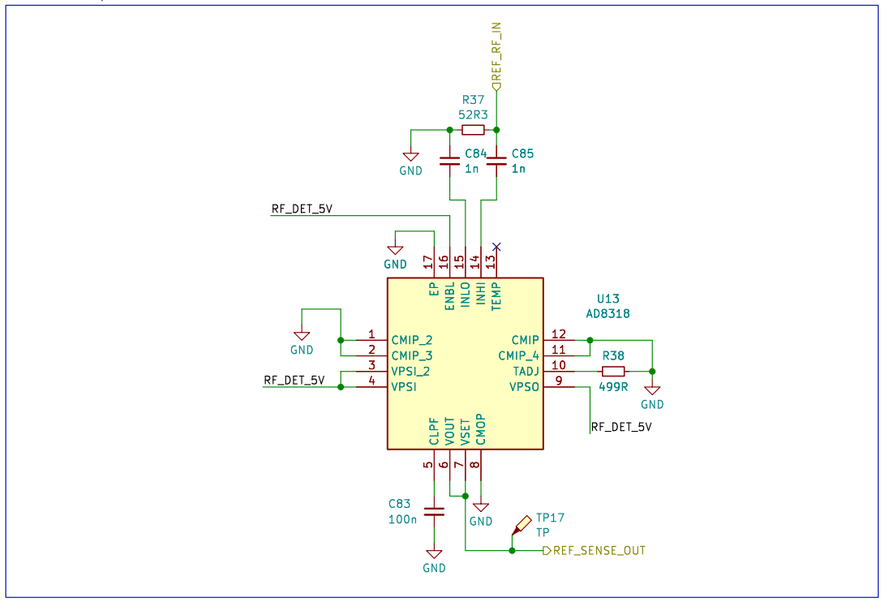
Title: Remote Radio Unit – RF board

Size: A3	Date: 05–04–2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 6/12

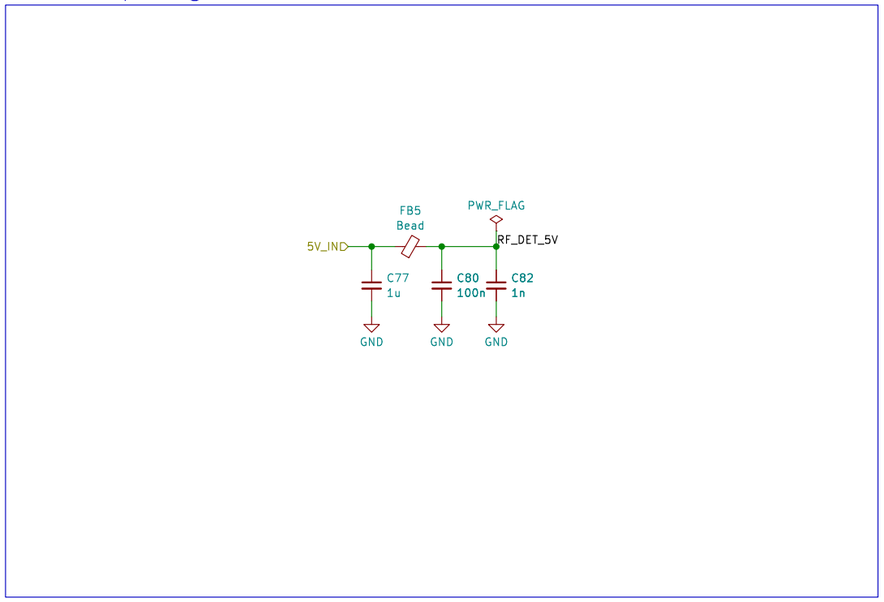
FWD power sense



REF power sense



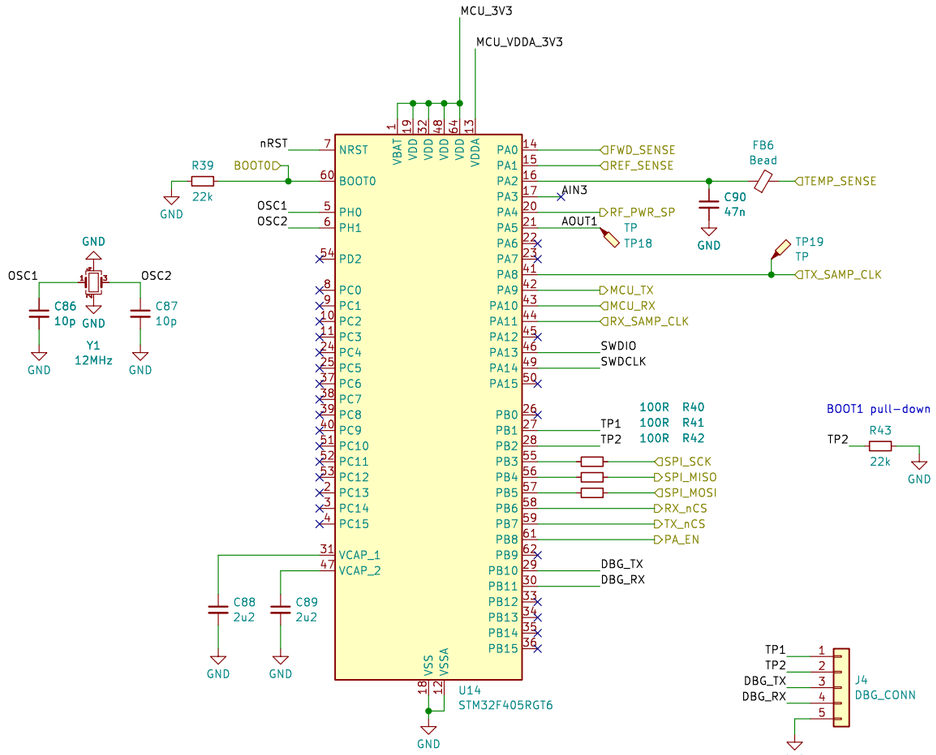
Decoupling



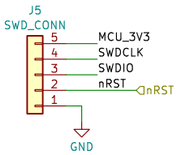
Wojciech Kaczmarski, SP5WWP
M17 Project

Sheet: /RF detectors/		
File: rf_det.kicad_sch		
Title: Remote Radio Unit – RF board		
Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 7/12

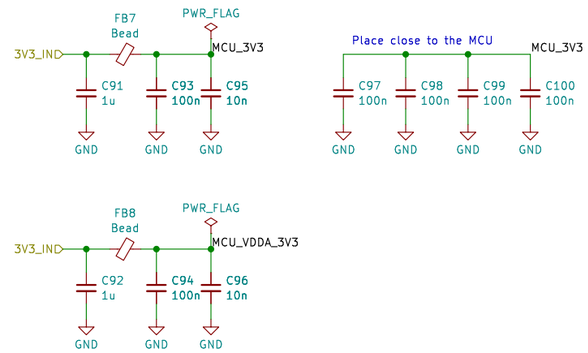
MCU



SWD



Decoupling



Wojciech Kaczmarski, SP5WWP

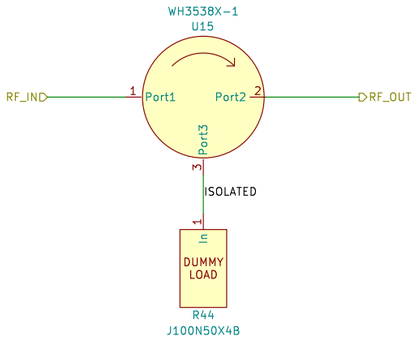
M17 Project

Sheet: /MCU/

File: mcu.kicad_sch

Title: Remote Radio Unit – RF board

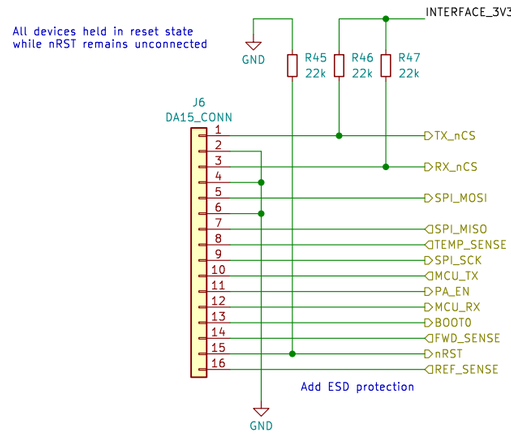
Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 8/12



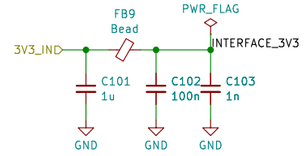
Wojciech Kaczmarski, SP5WWP
M17 Project

Sheet: /Circulator/		
File: circ.kicad_sch		
Title: Remote Radio Unit – RF board		
Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 9/12

External connector



Decoupling



Wojciech Kaczmarski, SP5WWP

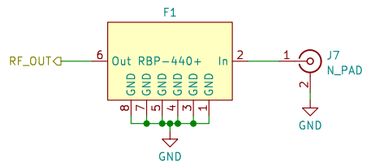
M17 Project

Sheet: /Interface/

File: interface.kicad_sch

Title: Remote Radio Unit – RF board

Size: A3	Date: 05–04–2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 10/12



Wojciech Kaczmarski, SP5WWP

M17 Project

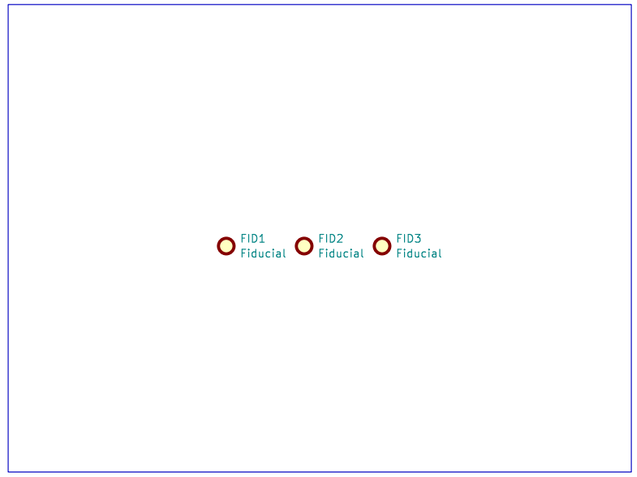
Sheet: /RF input filter/

File: rf_in_flt.kicad_sch

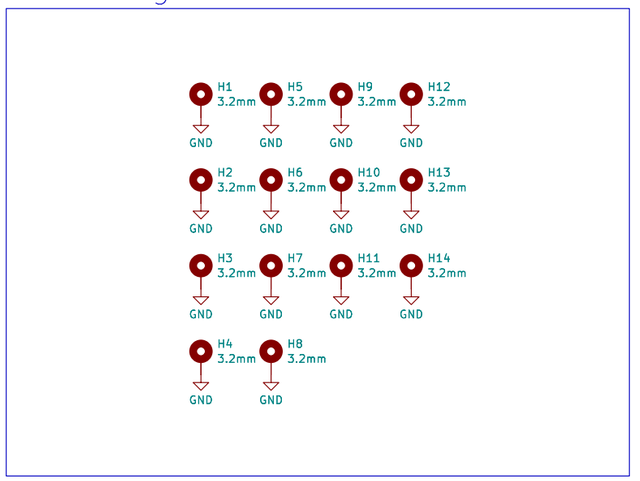
Title: Remote Radio Unit – RF board

Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 11/12

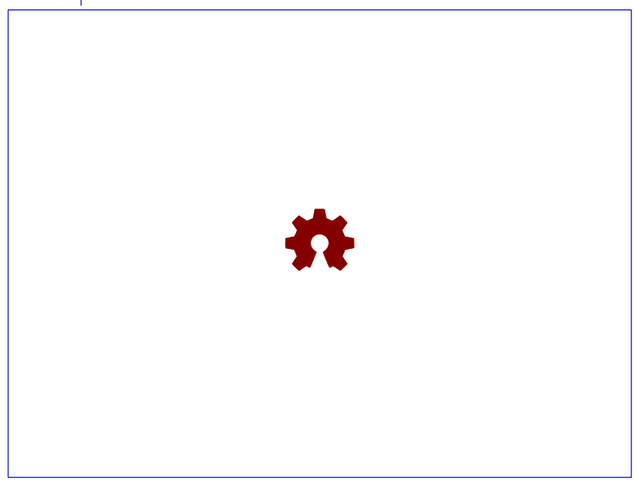
Fiducials



Mounting holes



Graphics



Wojciech Kaczmarski, SP5WWP

M17 Project

Sheet: /Mechanical/
File: mech.kicad_sch

Title: Remote Radio Unit – RF board

Size: A3	Date: 05-04-2024	**Rev: C**
KiCad E.D.A. 8.0.4		Id: 12/12