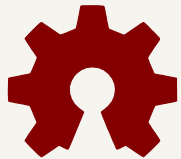
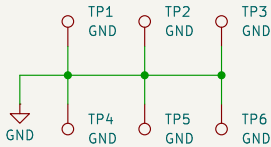


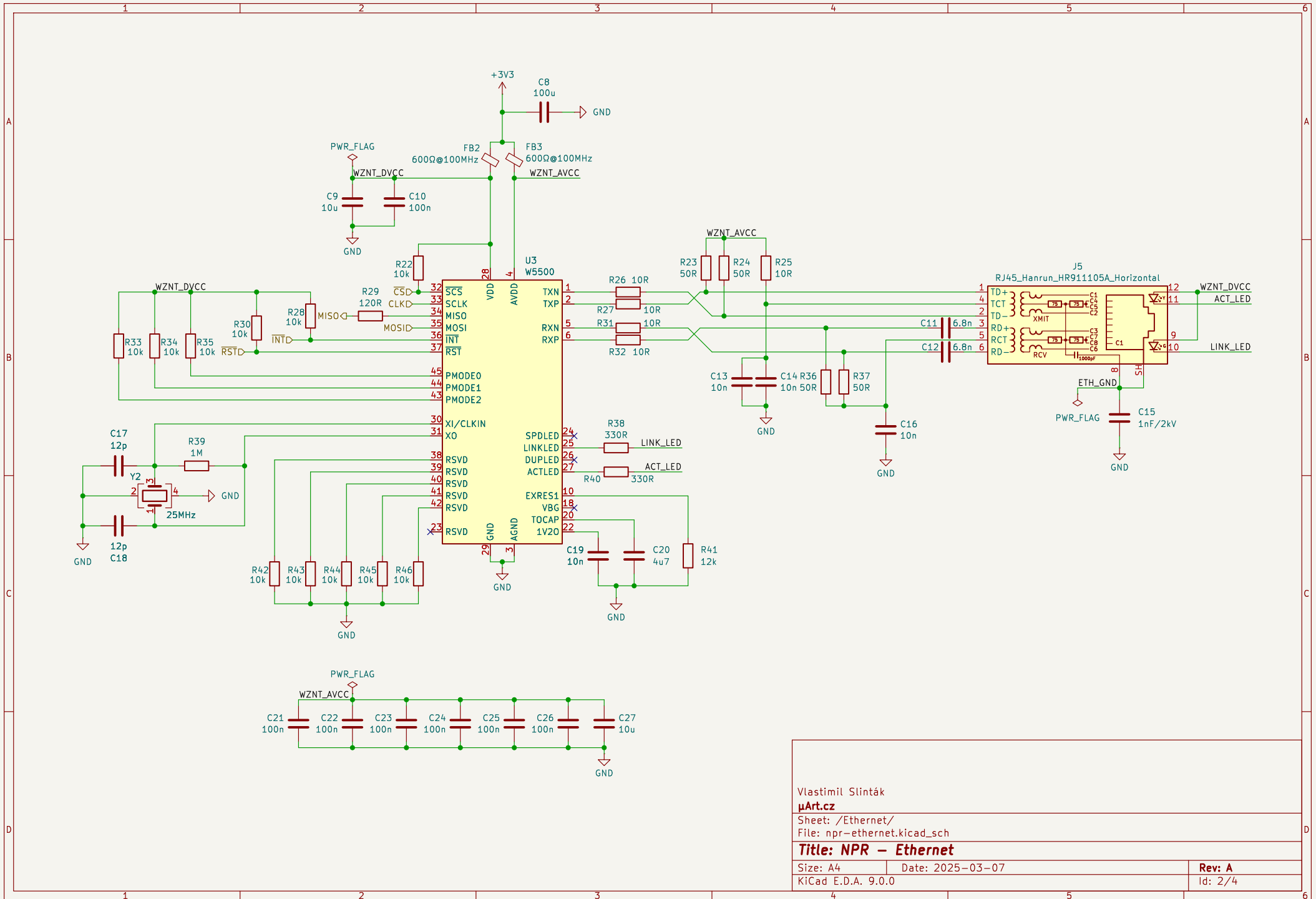
USB data lines on a 2-layer 1.6 mm thick FR4 board:
 Width = 0.8 mm
 Space = 0.16 mm
 Zdiff = 90.18 Ω



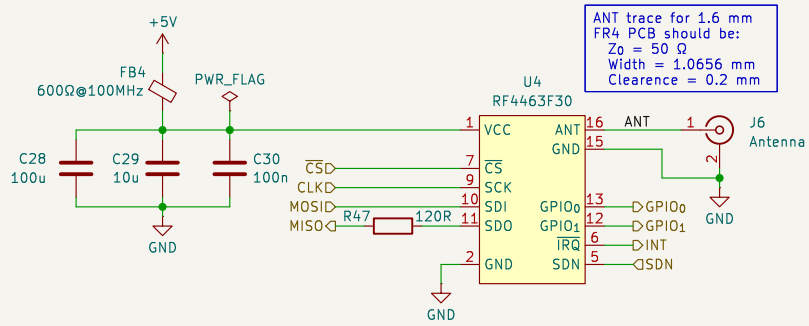
This design is Open-Source Hardware.
 Based on the project by F4HDK.



Vlastimil Slinták	
µArt.cz	
Sheet: /	
File: npr-revA.kicad_sch	
Title: The New Packet Radio (NPR)	
Size: A4	Date: 2025-03-07
KiCad E.D.A. 9.0.0	Rev: A
	Id: 1/4



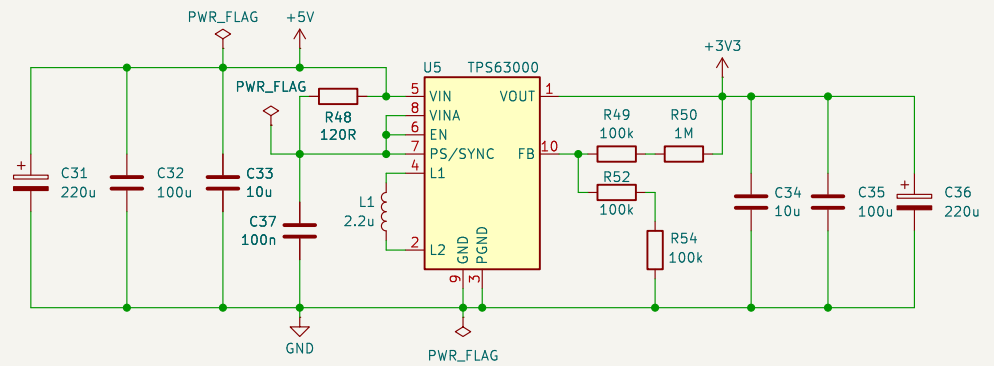
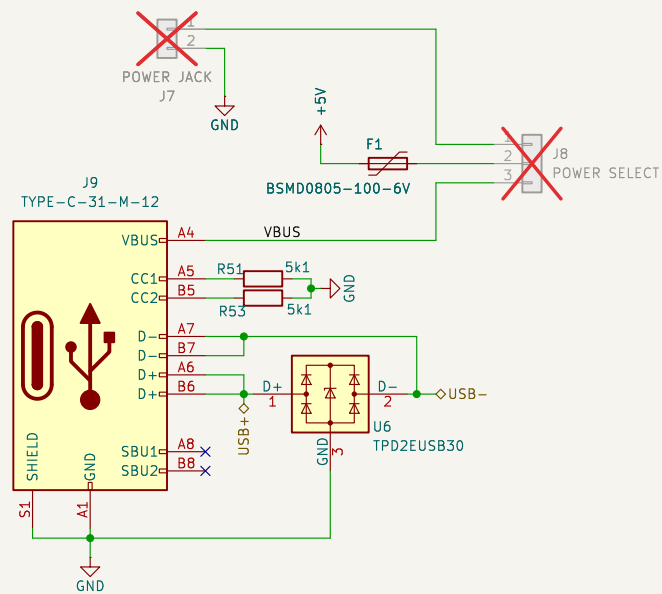
Vlastimil Slinták
 µArt.cz
 Sheet: /Ethernet/
 File: npr-ethernet.kicad_sch
Title: NPR – Ethernet
 Size: A4 | Date: 2025-03-07
 KiCad E.D.A. 9.0.0 | Rev: A
 Id: 2/4



ANT trace for 1.6 mm
FR4 PCB should be:
Z₀ = 50 Ω
Width = 1.0656 mm
Clearance = 0.2 mm

From datasheet:
Pin 15 (ANT GND) is connected
to the ground of antenna, do
not connect to the ground of
power supply. The routing
between antenna pad and
antenna shall be as short as
possible, and
thickness larger than 1mm.

Vlastimil Slinták	
μArt.cz	
Sheet: /Radio/	
File: npr-radio.kicad_sch	
Title: NPR - Radio	
Size: A4	Date: 2025-03-07
KiCad E.D.A. 9.0.0	Rev: A
	Id: 3/4



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Sheet: /Power/
 File: npr-power.kicad_sch

Title: NPR - Power

Size: A4 Date: 2025-03-07

KiCad E.D.A. 9.0.0

Rev: A

Id: 4/4