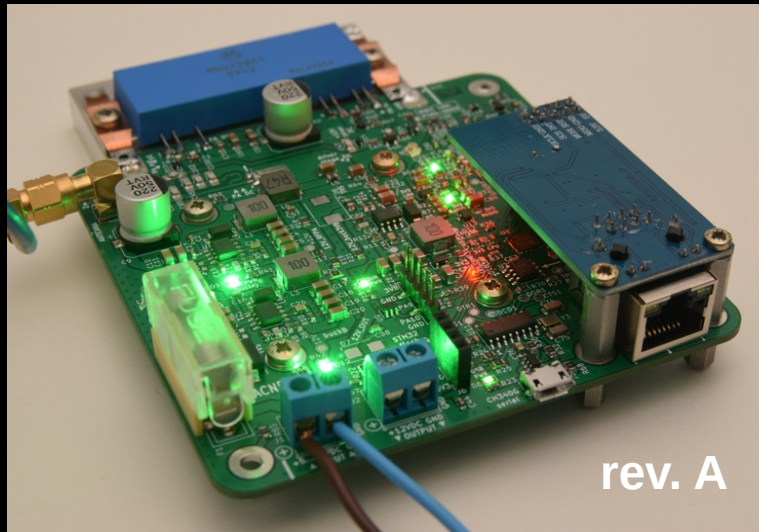


SCOMS TACNPR project

Binary-compatible New Packet Radio hardware
w/ integrated LNA, 20W RF PA, SRAM extension & USB serial console



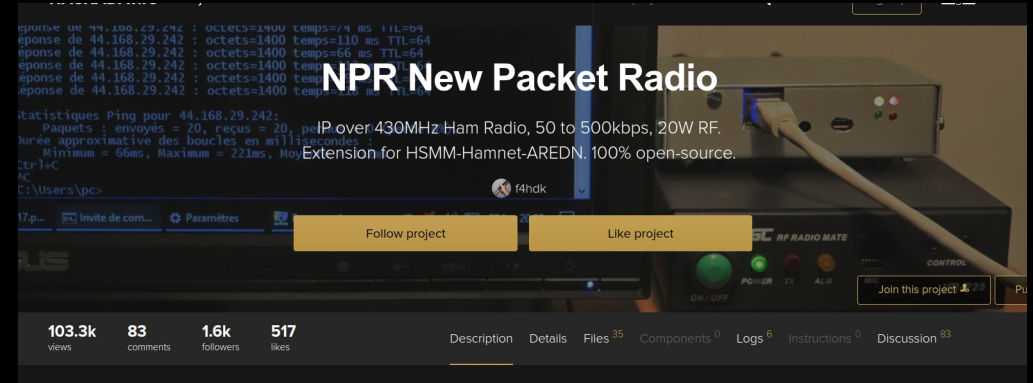
A HAM Radio project by
OH3HQB & OH2EAT & OH2FLO et al.
2021-2025

Status update at VUSHF2026 16.5.2026
Lasse OH3HQB

- **NPR = New Packet Radio, a project by Guillaume F4HDK**

Bidirectional protocol by F4HDK, optimized for point-to-multipoint (managed TDMA)

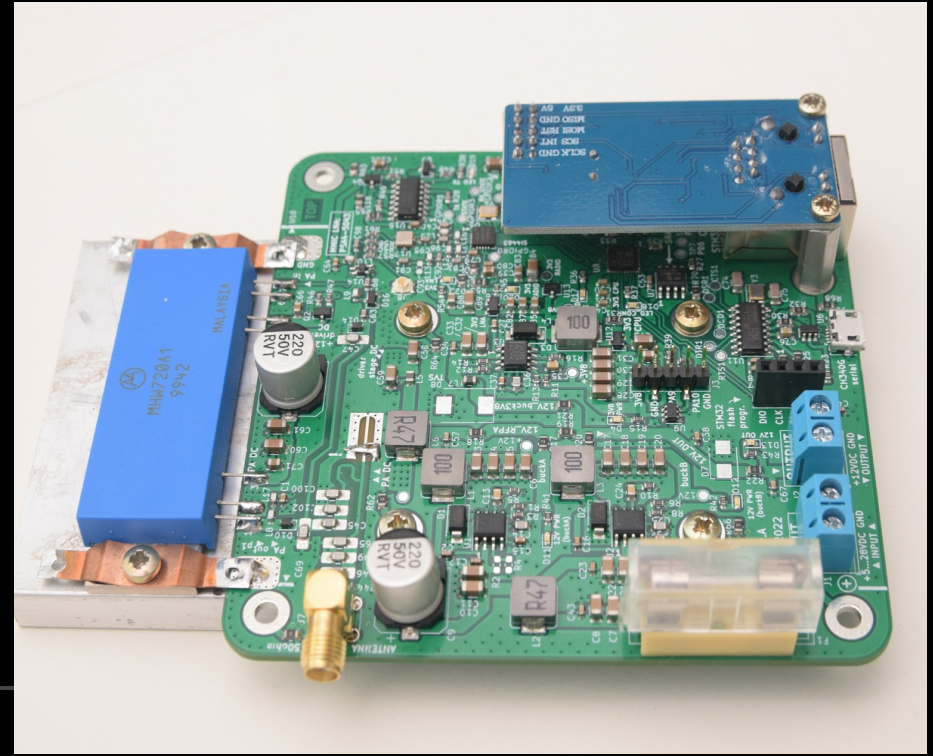
- 110 kbps to 1 Mbps (raw), **50-500 kbps (net) on 70cm HAM band**
- Original design was based on ISM radio module (SI4463) and STM32 eval board, intended to be easy & cheap to build
- **Ethernet** connection, no special software on PC
- **Open-source**: open HW, open SW, open protocol specification

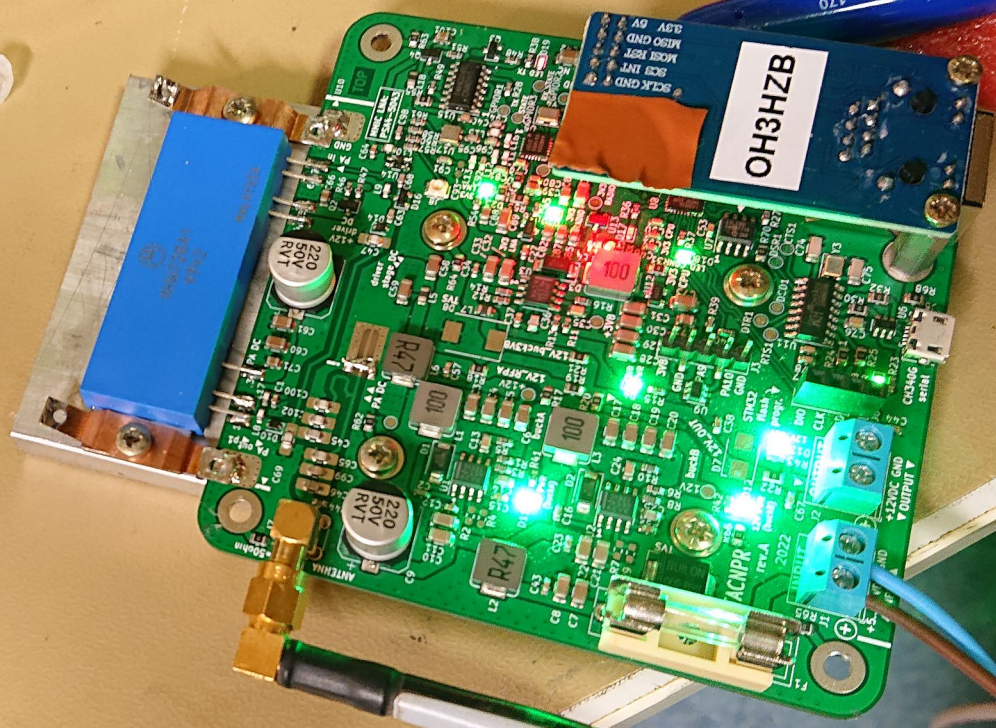
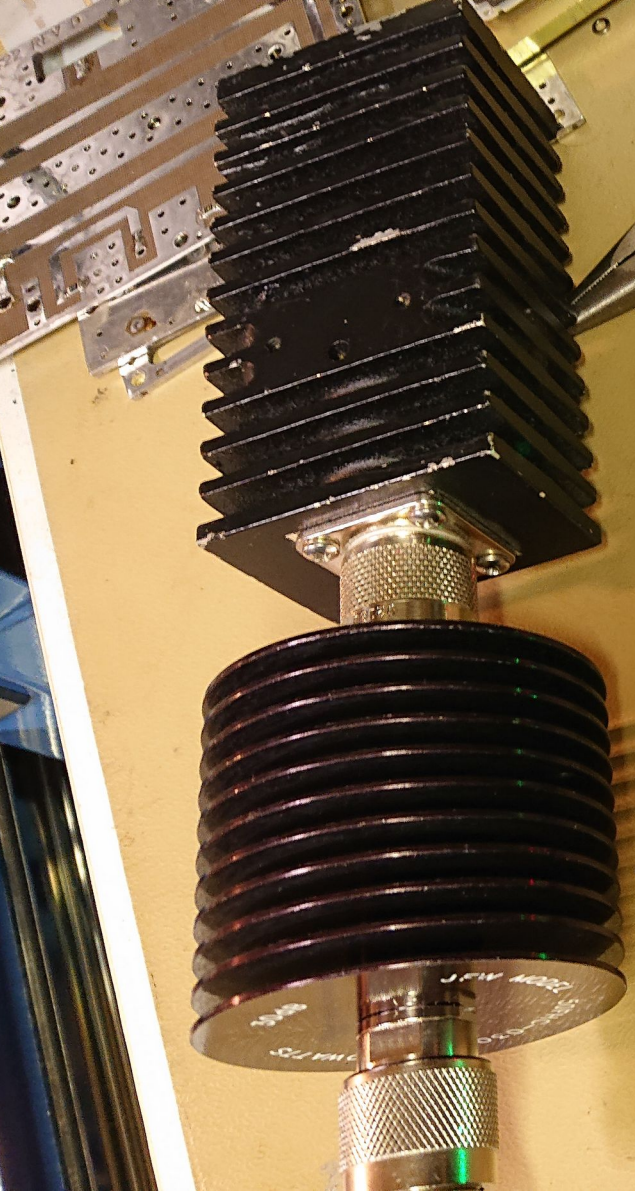


<https://hackaday.io/project/164092-npr-new-packet-radio>

TACNPR project

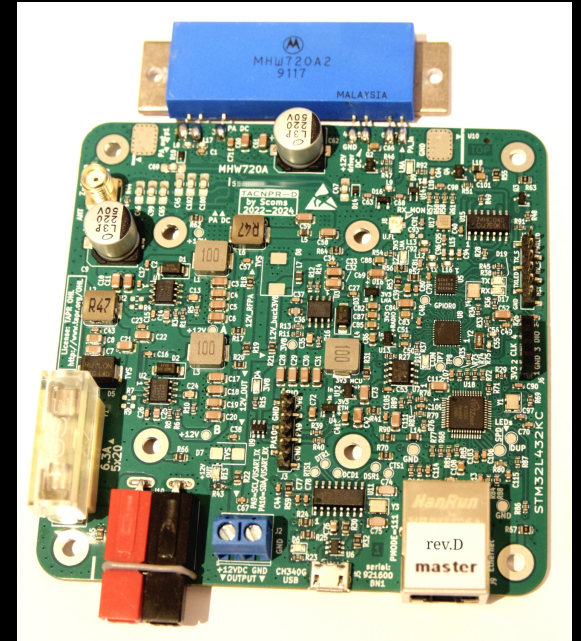
- Integrated LNA, PA & SRAM extension
- revA using Ethernet add-on module,
 - since revB: integrated Ethernet
- 10 cm * 10 cm, 4-layer PCB, layout design by Tatu OH2EAT (RF) & Lasse OH3HZB (the rest of the board)
- Holes for heat spreader
- Started 2021, finished 2025 (revE)
 - revA presented at VUSHF2022

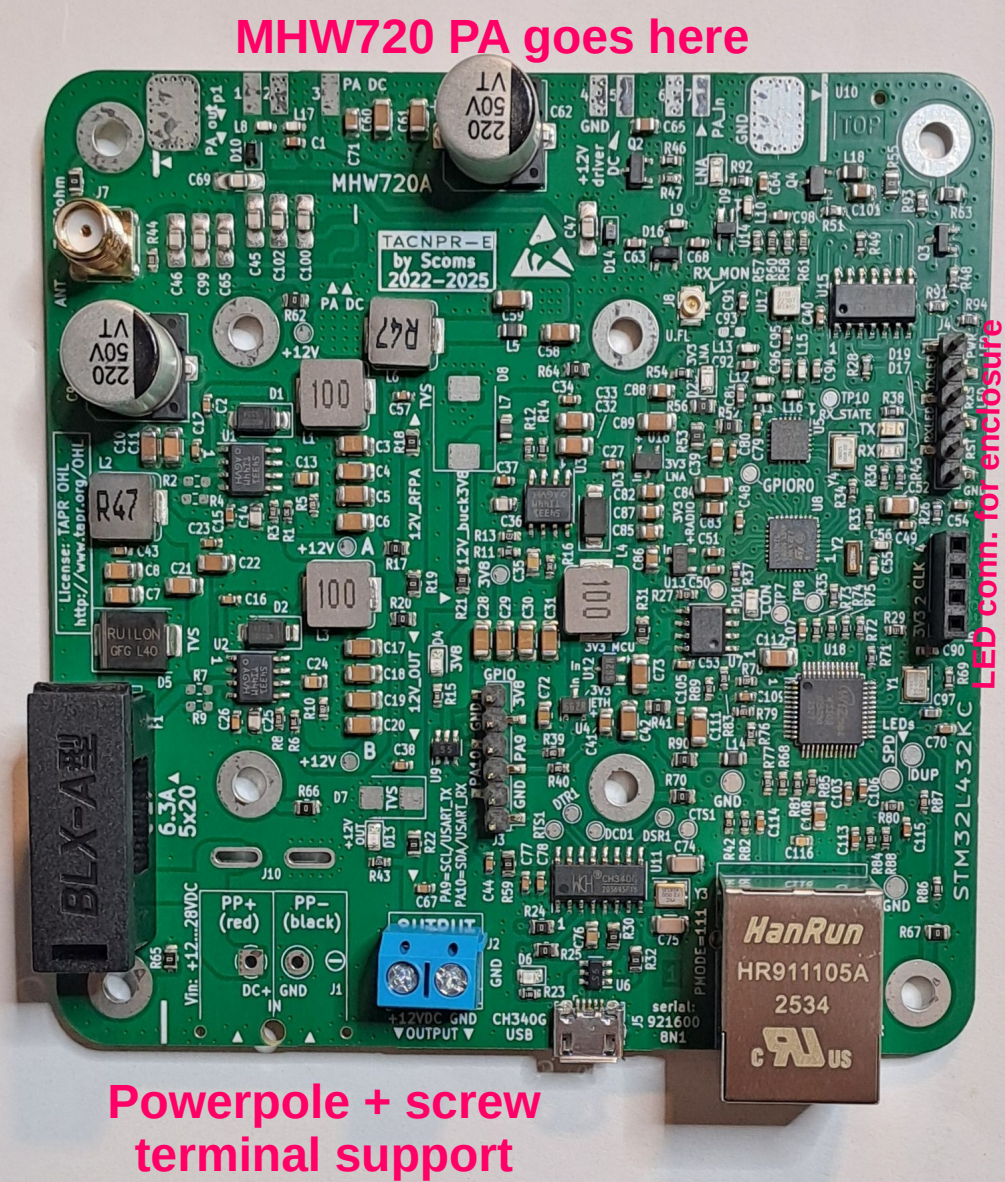
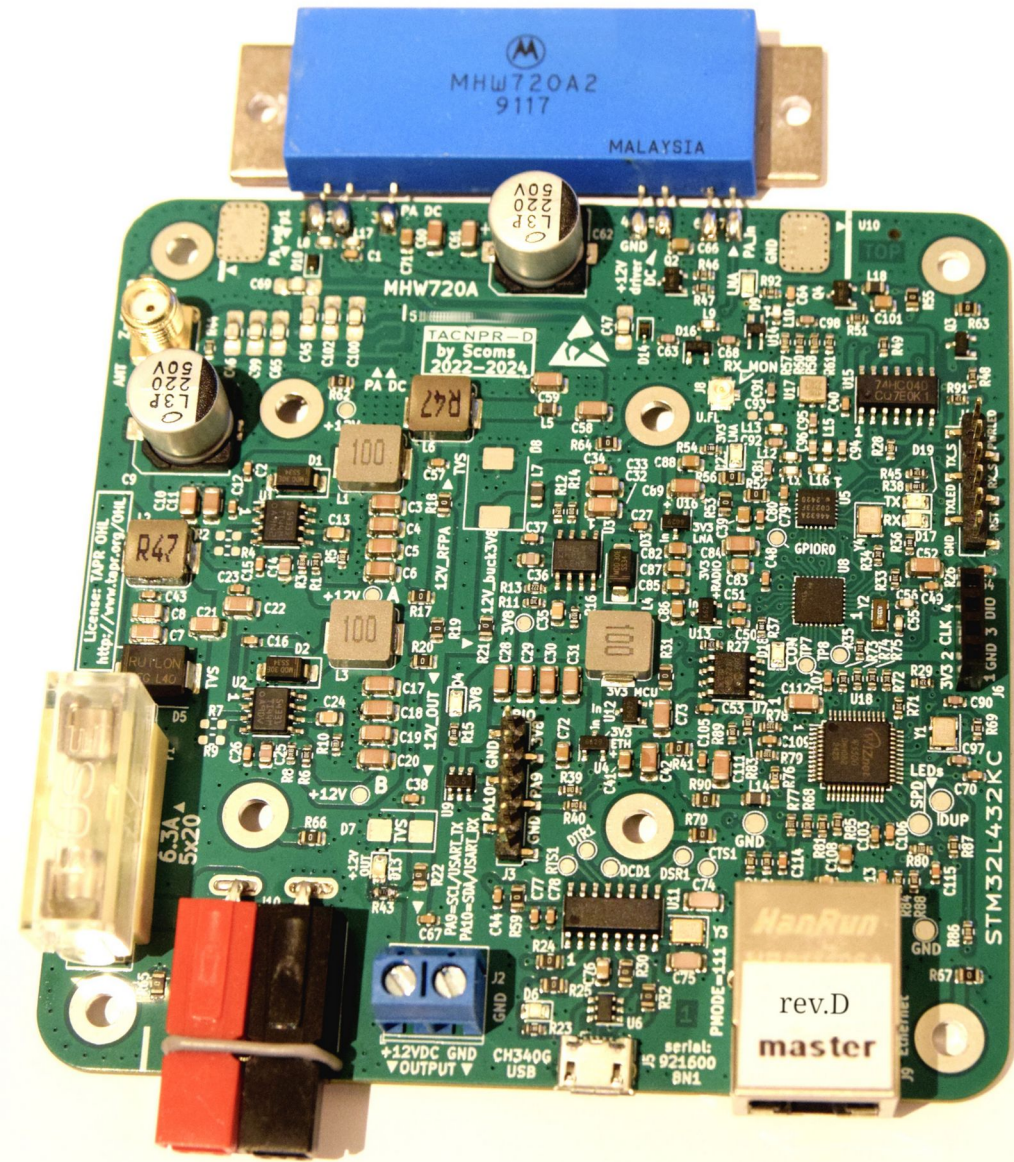




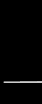
Development since VUSHF2022

- **Project milestones and current status**
 - RevA: First version with Ethernet add-on module.
 - RevB: Integrated Ethernet.
 - RevC: RF performance enhancements.
 - RevD: Powerpole connector option added.
 - RevE: TX/RX LEDs (J4)
- Electronics HW project ready.
- Separate project to design and order **an aluminum enclosure – ongoing**



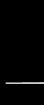


Availability

- batch of 50 revE boards ordered, will be available as a non-commercial (i.e. non-profit) group-buy kit in Finland
 - organized by Jouni OH2JIU
 - “a kit” means that the PA module and power connector(s) must be soldered by the buyer, as well wire LEDs from pin header to the enclosure
 - currently the plan is to bundle the aluminum enclosure, if possible
 - information will follow “soon”
-
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Firmware enhancements

- some improvements to original NPR firmware
 - especially to enhance usability of the CLI
- under investigation: possibility to port the FW from mbed to FreeRTOS
- TACNPR HW is binary-compatible with the original, so the FW improvements benefit the both



More information

- Original NPR project (firmware, docs etc):
 - <https://hackaday.io/project/164092-npr-new-packet-radio>
 - **TACNPR @ Github:**
 - <https://github.com/partio-scout/scoms-tacnpr/>
 - Scoms
 - <https://scoms.fi/>
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