

Quick Start: Raspberry Pi 5 + RFD900ux-US Telemetry Bundle

Overview

- Stream methane readings live over 915 MHz while logging to SD.
- Uses the IR-LOCK RFD900ux-US bundle (includes two radios, antennas, FTDI USB, ux cables).

Wiring (Air)

- Pi5 Pin 8 GPIO14 (TXD) -> RFD900ux RX (3.3V TTL)
- Pi5 Pin 10 GPIO15 (RXD) <- RFD900ux TX (3.3V TTL)
- Pi5 5V (Pin 2/4) -> RFD900ux +5V
- Pi5 GND (Pin 6) -> RFD900ux GND
- Attach 900 MHz antenna(s); keep vertical and clear of power wiring.

Enable UART on Pi 5

- raspi-config -> Interface Options -> Serial: Login shell = No; Serial hardware = Yes -> reboot.
- Device will typically be /dev/serial0 (or /dev/ttyAMA0).

Run

- Air: `python3 air_tx_pi5.py`
- Ground: `python3 ground_viewer.py <PORT>` (e.g., COM7 or /dev/ttyUSB0)

Notes

- Start TX power low (20–100 mW) for short range; increase only if needed.
- Keep diversity antennas vertical; secure u.FL pigtailed.