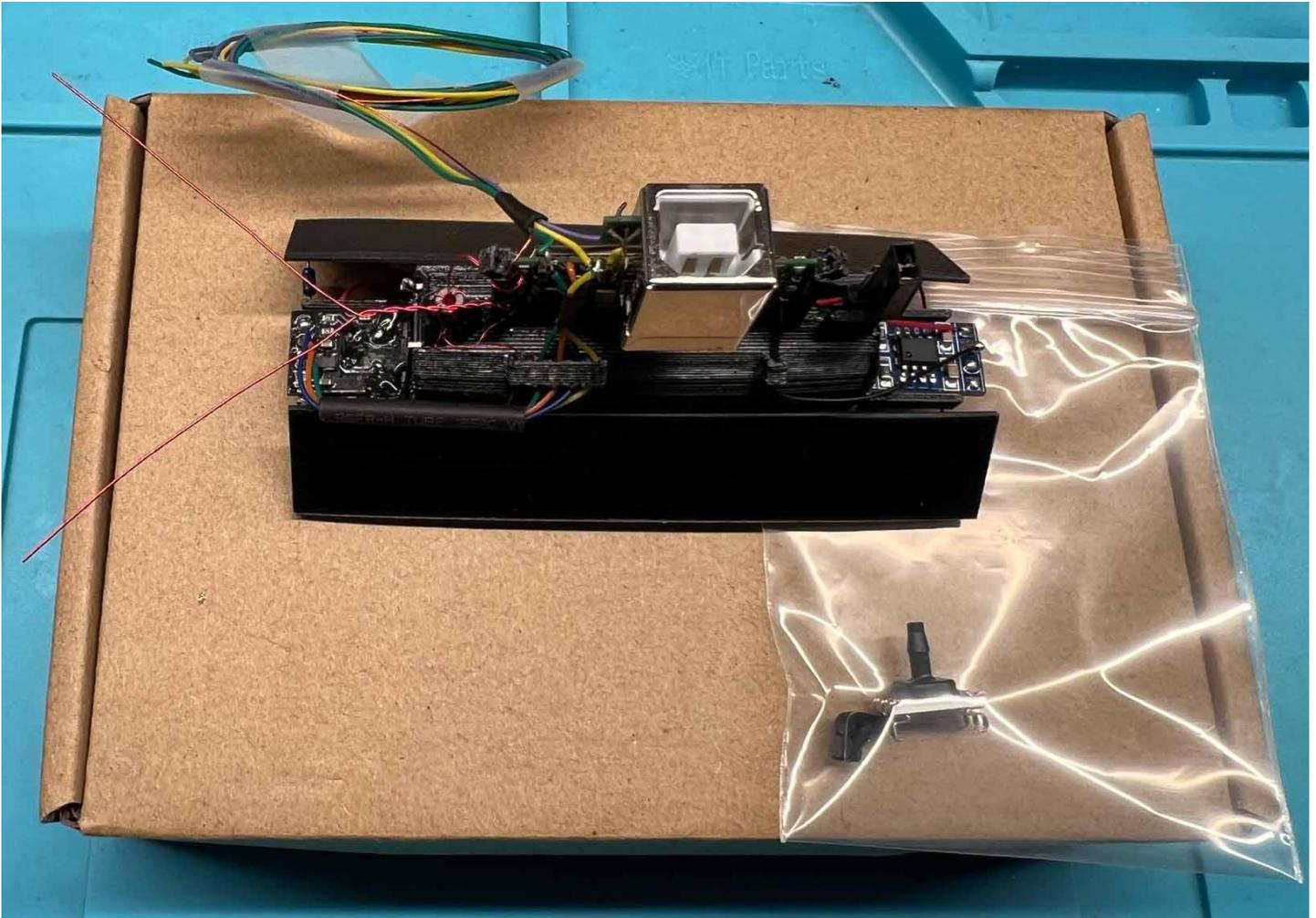


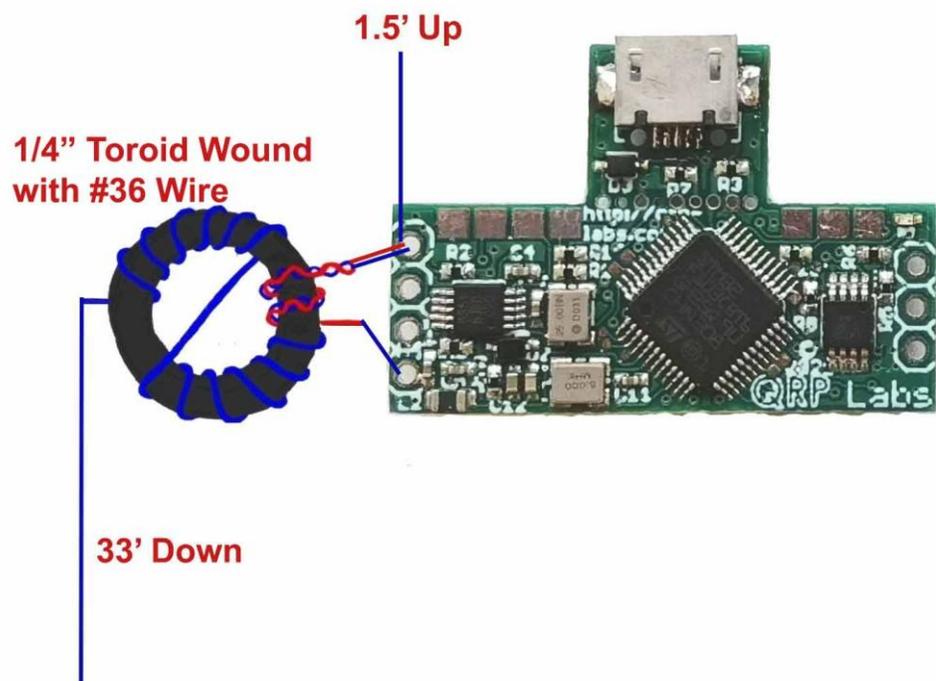
TALARC AIP40J – Design and Construction (Launch in December)



Current State of Construction – Moving from left to right you can see the GPS dipole antenna wires, the IR sensor circuit board glued to the 3D printed frame, ¼” Unun toroid, U4B circuit board with USB-B connector, battery connection jumper and MPPT solar battery charger circuit board. The yet to be connected pressure sensor is in the plastic bag in the foreground, while the wires to be connected to it are seen in the top left of the photo. The antenna 1.5’ counterpoise is included in the wire bundle, which will go upwards toward the balloon. Total mass of the payload is approximately 43.25 grams plus 5 grams float, and the balloon has a mass of 78 grams. The estimated float altitude is ~40,000’.

Experiments and Data to be Collected

- U4B PCB Temperature
- Battery Compartment Temperature
- IR Temperature Sensor Pointed Toward Earth
- Balloon Pressure
- MPPT Solar Charging Circuit
- Lithium Battery Viability
- 20m End Fed Antenna VSWR Tested at 1.5:1
- CW Transmissions Reverse Beacon Net



Antenna Construction schematics above and Rudi, K7RAW, installing the Unun toroid below





Honeywell ABP Series Pressure Sensor



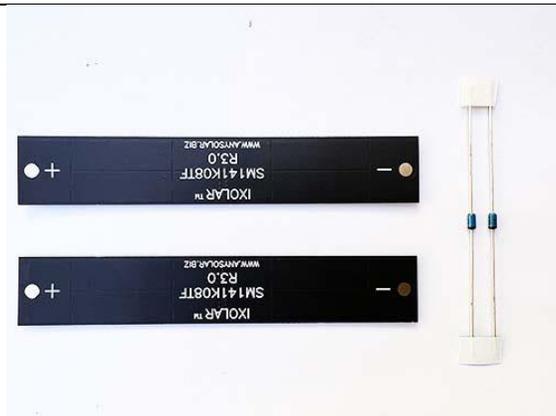
MPPT Solar Charger



IR temperature sensor, TBP-I2C-H04



TLI-1550A/Z2/T



Solar Panels and Diodes