THINGS TO TEST

Check for shorts to ground from +3.3V, VBAT, VIN, VLIPO

Check IC orientations

One IC is off 90 degrees.

Some silkscreen information missing.

Check for solder bridges

Solar Circuit

* Characterize the VIN signal from the solar panel when in varying amounts of light – is there a lot of fluctuation?
  + Do this with and without the battery.
  + When VIN is around 4.3V or less, DPMM starts. It shouldn’t go lower than this.
* Check that the CHG LED works
* How long will the battery last? Long term test needed.
  + Proper test with solar panels needs to happen in AZ with the housing
  + For now, I can run it in a corner with a fully charged battery and see how long it takes to drain with passive measurements.

Hall Sensor & status LED

* Try magnet in both orientations – do the LEDs turn off when expected?

Moisture Sensor

* Confirm 2.5MHz oscillation
* Test in air and in water, measure the total voltage deflection.
  + Use a wet towel instead of immersing the PCB
  + Adjust resistor values if needed. 1k-10k possible range?
  + Soil capacitance MIGHT range from 1pf to 500 pf
* Are the filters appropriately designed?

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| --- | --- | --- | --- | --- | --- |
| Air | No Added Water | Medium Wetness | Lots of water | Just Water | baked |
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Upload software, change to support new analog signals (2 soil moisture, 2 soil temp, 1 light)

Test humidity sensor with mux

Test Light Sensor analog input

Install temp sensors, test them

Build a sensor network

* Start with a client/server configuration. Scale it up so that any number of sensors (2-4 I guess) can be used.
* Test Wifi power consumption – if continuously streaming, will the battery get drained?