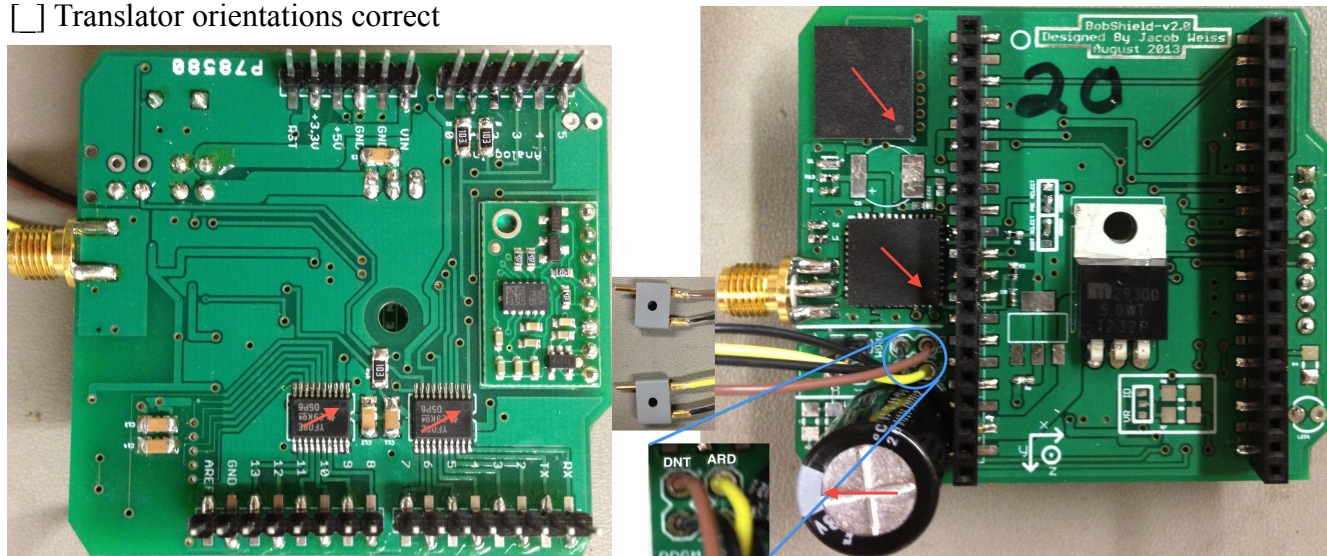Shield Version ___   Shield Number ___   Battery Pack Number ___   Date ___/___/___

Arduino Label ___   DNT Label _____   Person Testing _____

Visual Inspection

[_] Flash oriented correctly
[_] GPS oriented correctly
[_] Power wires connected correctly
[_] Winchesters connected correctly
[_] Capacitor polarity correct
[_] Translator orientations correct
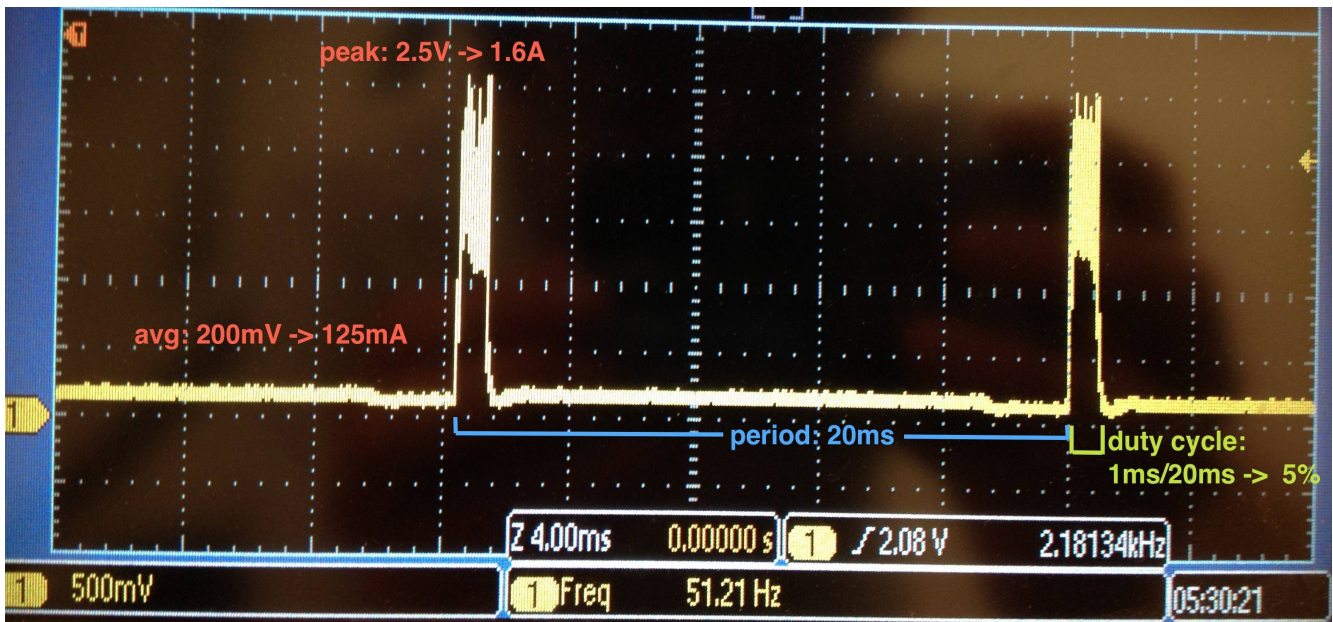

Power-Ground Separation

[_] Arduino and DNT battery grounds connected
[_] Arduino battery and Arduino board grounds connected
[_] Arduino and DNT battery positive leads not connected

[_] Arduino battery leads not connected
[_] DNT battery leads not connected

[_] GND and Arduino 5V not connected
[_] GND and Arduino 3.3V not connected
[_] GND and Arduino Vin not connected

Current Checks

- Connect the Arduino, shield, and DNT radio. Load ShieldTest1 onto the Arduino.

Current of the Arduino powered alone _____ (should be ~ 50mA)

- Power both the DNT and Arduino and measure the DNT current draw.

[_] Receiving DNT data. [_] No unexpected resets in the timestamp.

Baseline current _____ (should be ~ 150mA) |
Peak current _____ (should be ~ 1,250mA) |
Period of the peaks _____ (should be ~ 20ms) |
Duty cycle _____ (should be ~ 5%) |
                                                      |
                                                      |
Sketch → |
                                                   |_____

Functionality Tests

- Load ShieldTest2 onto the Arduino. Connect PIP_OUT and PIP_IN. Run while collecting DNT data and rotating the device. Load BobDump onto the Arduino and collect the NAND data.

[_] Good GPS data (realistic time and coordinates)

[_] Good compass data
- Accelerometer yields reasonable values and responds to rotating the payload
- Magnetometer yields reasonable values and responds to rotating the payload

[_] Analog pins OK
- PIP_CTRL generates a response at PIP_OUT
- PIP_IN accurately records this response when wired to PIP_OUT

[_] NAND works
- Can read/write data to the flash
- Dumped data matches the DNT data reasonably well

- Load ShieldTest3 onto the Arduino. Send data to the Bob over the DNT radio

[_] Bob receives DNT data
- Response received for each message sent to the Bob
- Response is not garbled