RTT Drone Payload Updated CAD Design - Preliminary Sketch

General System Overview

—: Power

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Drone

- Skyport
- Expansion Board
- Voltage Regulator
- (GPS Antenna) ACTPATI54-01-IP
- NEO-M9N

Top

- USB-A
- UP7000
- USB Splitter
- USB
- Antenna
- Nooelec LoNA

Middle

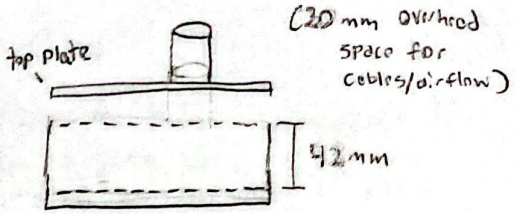
- Sik Telemetry Radio V3
- USRP B200
- Antenna

Bottom

Cables

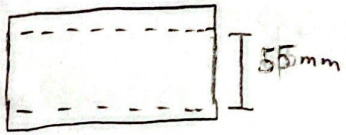
IN: Power Cable (Skyport)

OUT: Regulator Wires
GPS wire connectors

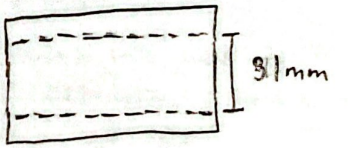


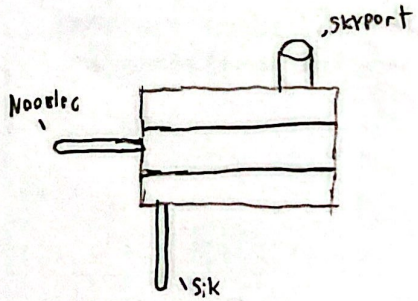
IN: Regulator Wires
GPS Wire Connectors

OUT: USB Cable (Sik Radio)
SMA Connector to USRP
USB Cable to USRP

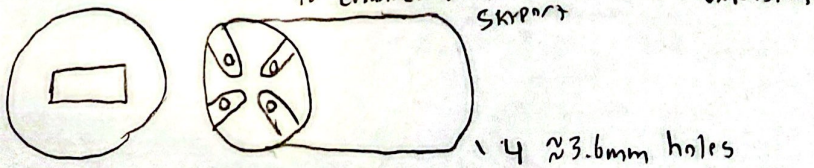


IN: USB Cables (Sik Radio)
SMA Connector to USRP
USB Cable to USRP





Skyport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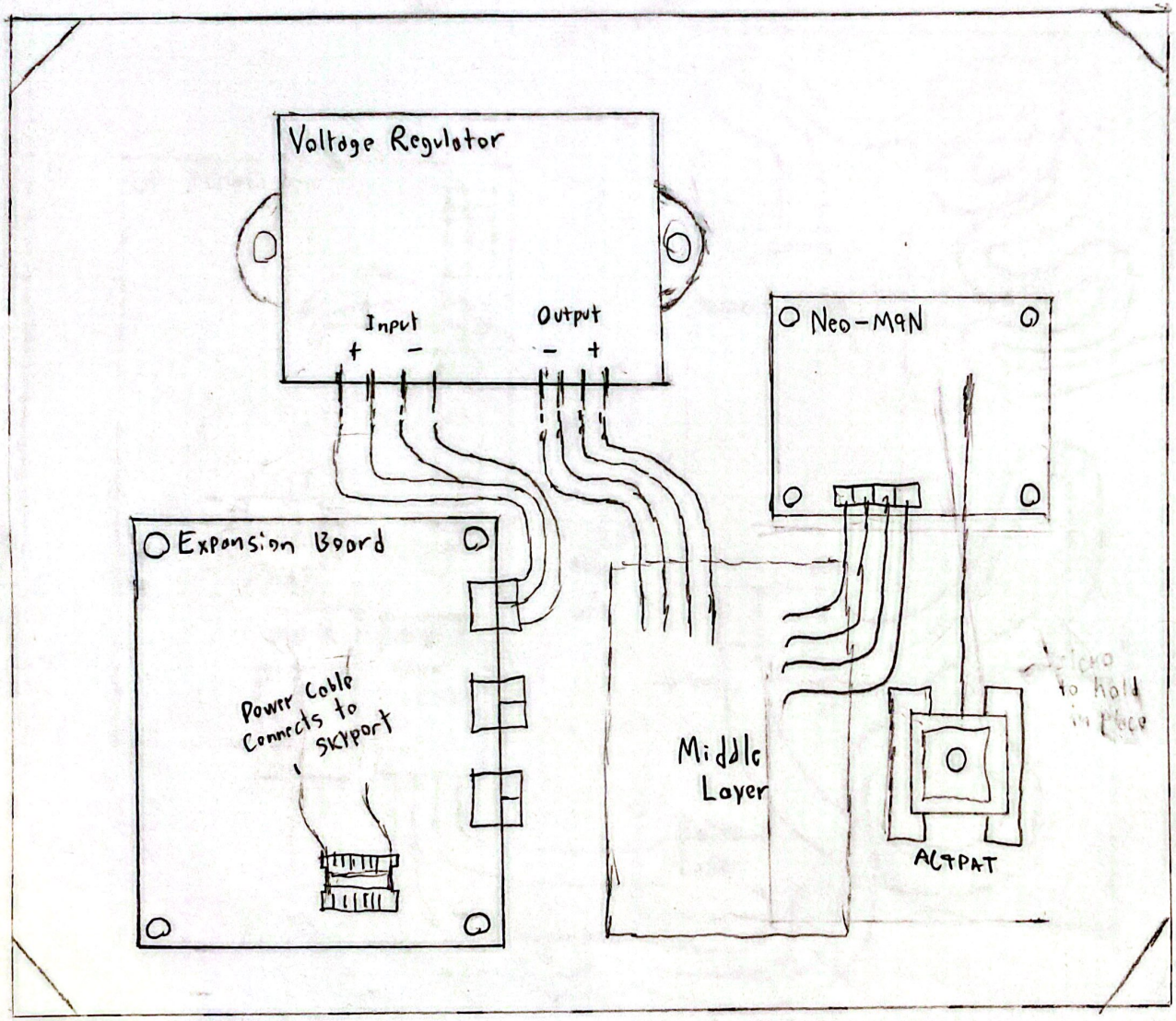
Top Layer Sketch



Mounting

- Velcro for ACTPAT
- 2 4.06mm holes for regulator
- 4 3.5mm holes for expansion board.
- 4 3.5mm holes for Neo-M9N

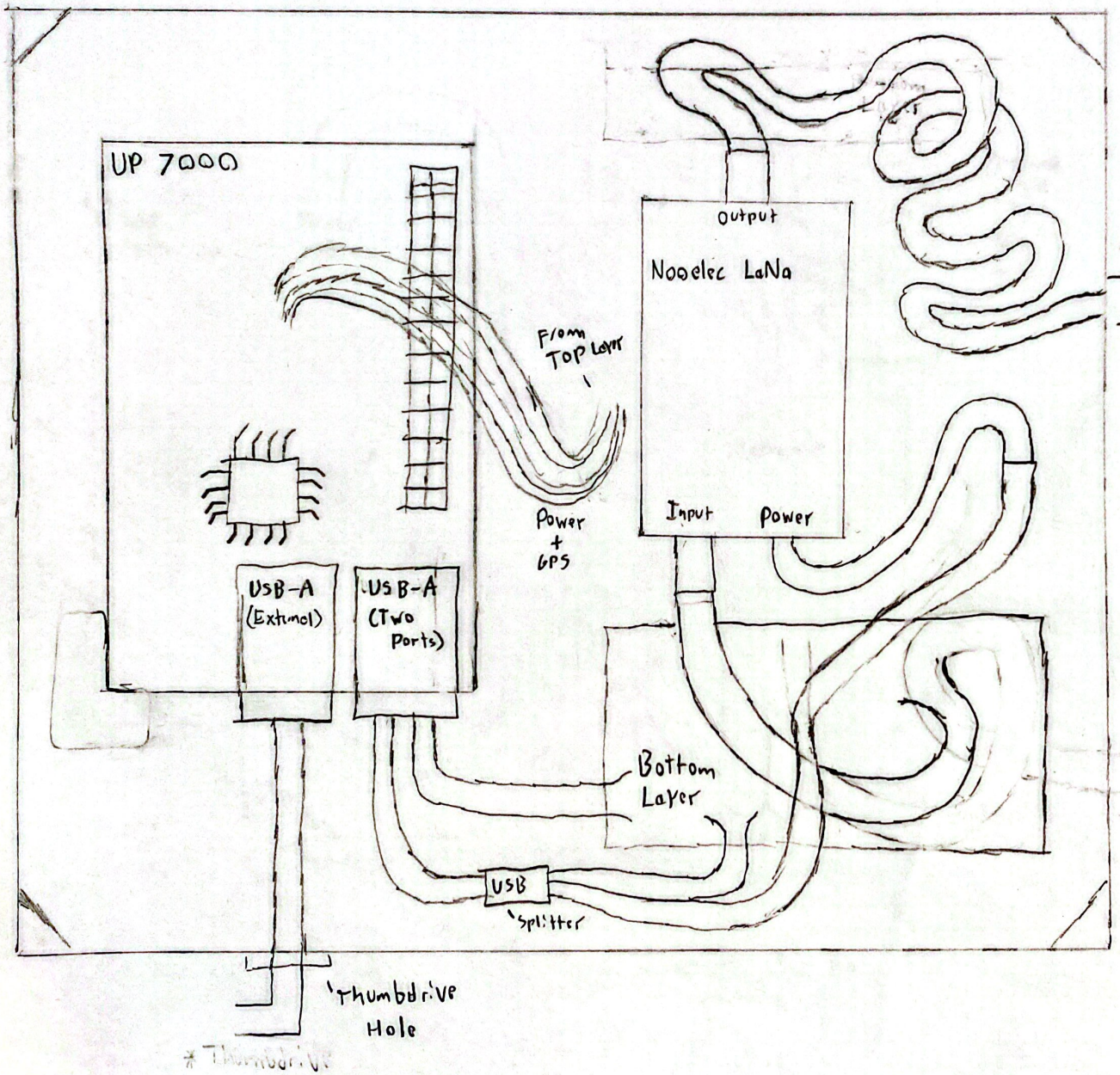
Routing

- All cables going out will go through a hole connecting the top and middle layer.
- Power cable will come from skyport to provide power to payload

Notes

- Updated design will use the same/similar socket heads to screw each layer in place, 4 3.6mm holes

Middle Layer Sketch



Mounting

- Velcro for Nooelec LaNa since it has no screw holes.
- Friction fit for the UP 7000

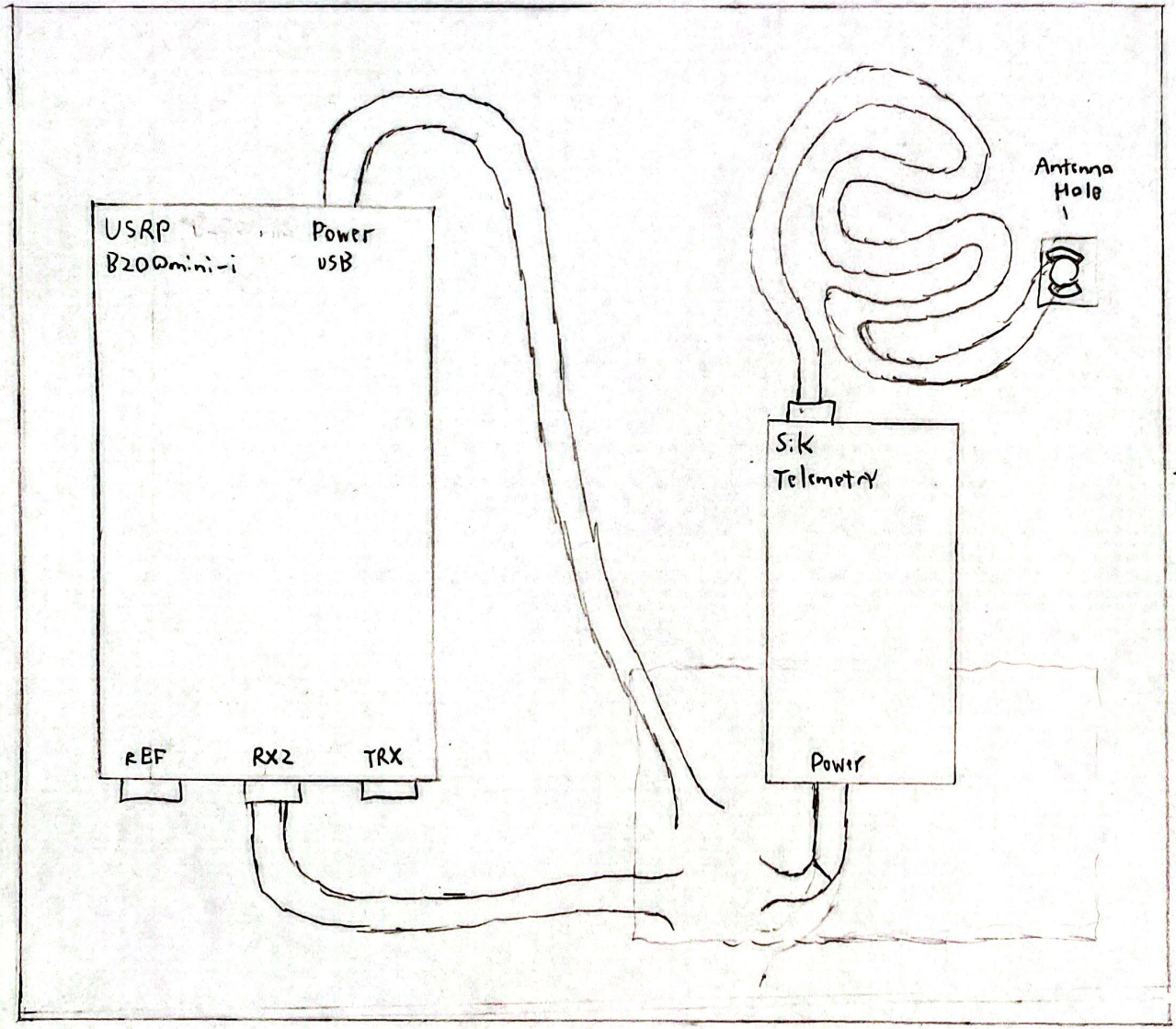
Routing

- Cables from top layer all connect to the UP7000.
- One USB-A port saved for thumbdrive access externally, as well as a hole for antenna via SMA.
- One hole leading to bottom layer, input of Nooelec LaNa, and two usb cables (1 male & 1 female) for power.

Notes

- USB splitter is 1 male -> 2 female
- USB-A external will need some space away from thumbdrive hole

Bottom Layer Sketch



Mounting

- Velcro or friction fit may be used for the USRP and Sik Radio, due to lack of screw holes

Routing

- Cables from the middle layer come through a hole, 2 usb cables to power the USRP & Sik Radio.
- A cable from the Hoperlec LoNo connects to the USRP.
- An SMA cable from the Sik Radio connects to an external antenna from the bottom.