1. Price Budget
   1. Rocket
      1. [TARC Rocket](https://drive.google.com/file/d/1yJFcYlYI8Aa1bLbnM1Apm40EVxxGM075/view)
         1. Rocket which will carry the air sensor
         2. Price $10.00 for modifications
   2. *Motor*
      1. [*F35*](http://www.buyrocketmotors.com/f35-5-8-11-white-lightning-24-mm-reloadable-2-pack/)
         1. *Power rocket*
         2. *$10 each launch*
   3. Telemetry
      1. [Raspberry Pi 0](https://www.adafruit.com/product/2885)
         1. Interpretes received data, and transmits data
         2. *2 X Price $5.00*
      2. [Raspberry Pi 0 Case](https://www.adafruit.com/product/3252)
         1. Protects Raspberry Pi
         2. *2 X Price 4.75*
      3. *Male header for GPO Raspberry Pi 0 pins*
         1. [*https://www.adafruit.com/product/2822*](https://www.adafruit.com/product/2822)
         2. *0.95 x2*
      4. [***Raspberry Pi 3***](https://www.amazon.com/Raspberry-Pi-RASPBERRYPI3-MODB-1GB-Model-Motherboard/dp/B01CD5VC92) ***(prime)***
         1. ***Possible for ground receiving unit and logging***
         2. ***About $35.66***

434 MHz Both:

<https://www.sparkfun.com/products/10532>

<https://www.sparkfun.com/products/10534>

* + 1. [Alternate RF transceiver](https://www.adafruit.com/product/3229)
       1. 900MHz
       2. RFM69 radio (in some variant)
       3. Transmits and receives data at a frequency suitable for long range comms
       4. Price $9.95 per unit
    2. [Antenna](https://www.amazon.com/Stanley-30-485-2-Inch-Tape-Measure/dp/B0000950RN/ref=sr_1_4?ie=UTF8&qid=1519791683&sr=8-4&keywords=1%2F2+tape+measure) (can find alternate Prime)
       1. This isn’t even a hyperlink
       2. Helps boost the range of the transmission
       3. Price $4.19
       4. [Prime alternate](https://www.amazon.com/Stanley-33-212-12-Foot-PowerLock-Tape/dp/B00002X2GK/ref=sr_1_2?rps=1&ie=UTF8&qid=1520229370&sr=8-2&keywords=tape+measure+metal+12-by-1%2F2-Inch+Tape+Measure&refinements=p_85%3A2470955011)
       5. Our alternate is a tape measure, not an antenna
       6. Price $9.99\*
    3. [GPS Module](http://www.kr4.us/GPS-Receiver-GP-20U7-56-Channel.html?gclid=CjwKCAiA5OrTBRBlEiwAXXhT6HbElCa_uyOUXZvV8we387rNNGbBhtkXITQtU1D7Fa-Kp2_IdlEJlBoCXHoQAvD_BwE)
       1. Gives location of rocket
       2. Price $15.95
    4. [Lion Battery](https://www.amazon.com/uxcell-1200mAh-Rechargeable-Lithium-Polymer/dp/B0767CL7W9/ref=pd_sbs_107_7?_encoding=UTF8&pd_rd_i=B0767CL7W9&pd_rd_r=YGF1TJTHYN3YQG8CPQ9V&pd_rd_w=8CXFJ&pd_rd_wg=Nfnti&psc=1&refRID=YGF1TJTHYN3YQG8CPQ9V) ( Prime)
       1. Powers Raspberry Pi
       2. 2 X Price $9.99
    5. [***Voltage regulator***](https://www.amazon.com/L7805CV-Positive-Voltage-Regulator-Package/dp/B01M32I31S/ref=sr_1_1?s=photo&ie=UTF8&qid=1520273574&sr=8-1&keywords=voltage+regulator)
       1. ***Step down voltage to 5V***
       2. ***Pice $7.63***
    6. [***Boost converter***](https://www.amazon.com/LM2577-Voltage-Regulator-Step-Up/dp/B01N9ZVXTR/ref=sr_1_8?ie=UTF8&qid=1519347720&sr=8-8&keywords=boost+converter) ***(amazon prime)***
       1. ***Boosts 3.7V to 5V***
       2. ***Price $8.99 / 4 \****
    7. [TP4056 battery Power Charger](https://www.amazon.com/XCSOURCE-Lithium-Battery-Charger-TE585/dp/B01LZSC7I8/ref=pd_bxgy_121_2?_encoding=UTF8&pd_rd_i=B01LZSC7I8&pd_rd_r=65J6AZR9565ADCEHHT5W&pd_rd_w=l8fep&pd_rd_wg=lOQf7&psc=1&refRID=65J6AZR9565ADCEHHT5W) (amazon prime)
       1. Charge Battery
       2. Price 7.99 / 10\*
    8. [USB Analog to digital converter](https://smile.amazon.com/SparkFun-LYSB018RKKRVG-ELECTRNCS-SAMD21-Mini-Breakout/dp/B018RKKRVG/ref=sr_1_fkmr1_3?ie=UTF8&qid=1519602525&sr=8-3-fkmr1&keywords=8+Channel+USB+GPIO+Module+With+Analog+Inputs) (amazon Prime)
       1. Analyze air sensor data
       2. Price $20.95 \*
  1. [***Camera***](https://www.amazon.com/Raspberry-Camera-Module-OV5647-Adjustable/dp/B06XKLLT6G/ref=sr_1_8?ie=UTF8&qid=1519344260&sr=8-8&keywords=camera+for+raspberry+pi) ***(Amazon Prime)***
     + 1. ***Takes images and looks at earth***
       2. ***Price $15.99* \***
  2. [sensors](https://www.amazon.com/dp/B016KABTDK/ref=sspa_dk_detail_6?psc=1&pd_rd_i=B016KABTDK&pd_rd_wg=nXqIS&pd_rd_r=7Y41MJH5VFK80VB1J2XK&pd_rd_w=xdutt)
     + 1. Observers content of air
       2. Price $28.99\*
  3. HDMI mini to macro
     1. <https://www.amazon.com/gp/product/B0111HRJT0/ref=ox_sc_act_title_7?smid=A130RVB6PSAL46&psc=1>
     2. 5.89
  4. Perf Board
     1. Mounting for sensors :2” x 2”, $3
     2. <https://www.sparkfun.com/products/8811>
  5. [*Altimeter*](http://www.perfectflitedirect.com/products/APRA-Altimeter.html)
     1. [*http://www.perfectflitedirect.com/products/APRA-Altimeter.html*](http://www.perfectflitedirect.com/products/APRA-Altimeter.html)
     2. *Find altitude*
     3. *Price $26.96 (reuse the TARC?*

1. Mass Budget
   1. Max 250g
   2. Raspberry pi 0
      1. 9g
2. Sensors
   1. Abraham Li
3. Software
   1. Claire Chen
4. Rocket/Launch Range/Deployment/Recovery
   1. Thomas Dudley
5. Camera
   1. Carl Ledorf
6. Analysis
   1. Osman
7. Telecommunications
   1. Brian Tam
8. Antenna
   1. Kelvin Tam
9. Mechanical/Flight Packaging

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