Nakuja Project

Week 6 Progress Report

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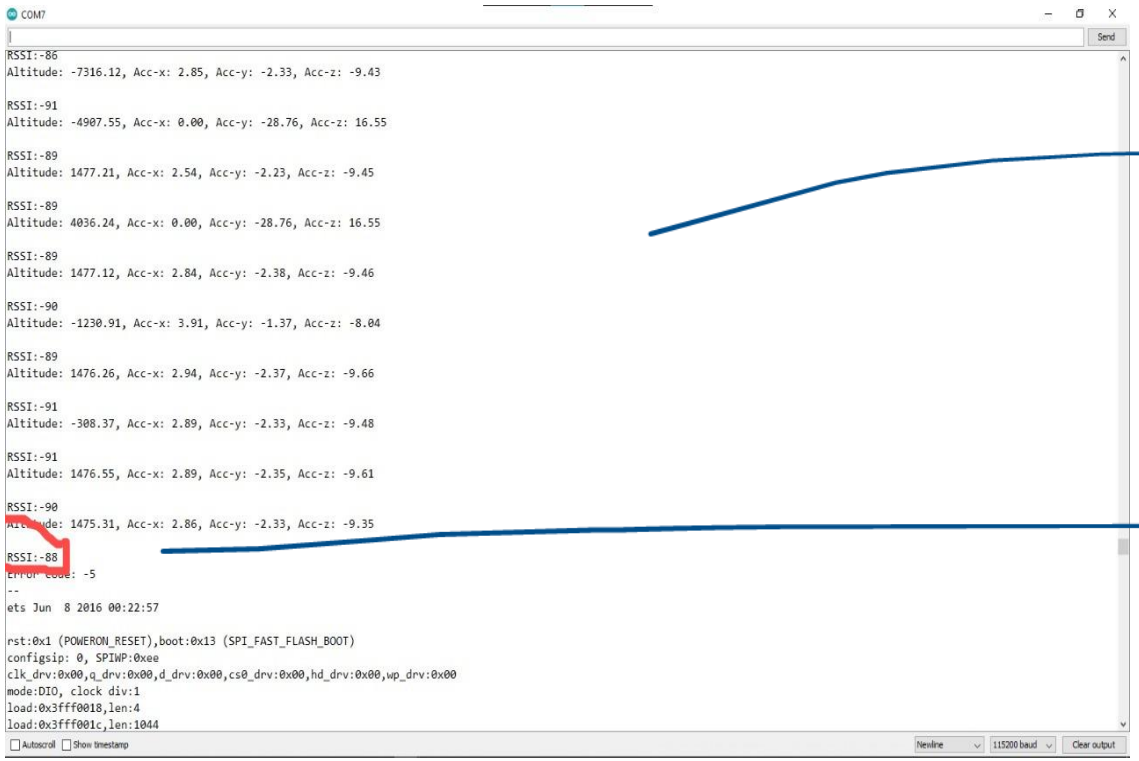
Tasks this week

- [#] : Test Payload
- [#Issue 83] : Power Management
- Flight computer programming and documentation

[#] : Test Payload

- We performed payload tests on Friday,25th Feb.
- Signal strength was also severely affected as we got RSSI values as low as -88, which was below our estimated range of -50 to -70
- The test brought to light factors we had not looked into:
  - 1) Electromagnetic interference –The data received from the sensors gave negative result, a result of the interference. The drone rotors motion caused an electromagnetic field which affected the sensors operation-particularly the BMP 180.
  - 2) signal interference – the RF signals from the drone interefered with the RF signals within our Wi-Fi network.

[#] : Test Payload



Some data received on ground
But none during flight

Very low RSSI Wifi signal values
Better antenna power needed

Flight computer programming and documentation

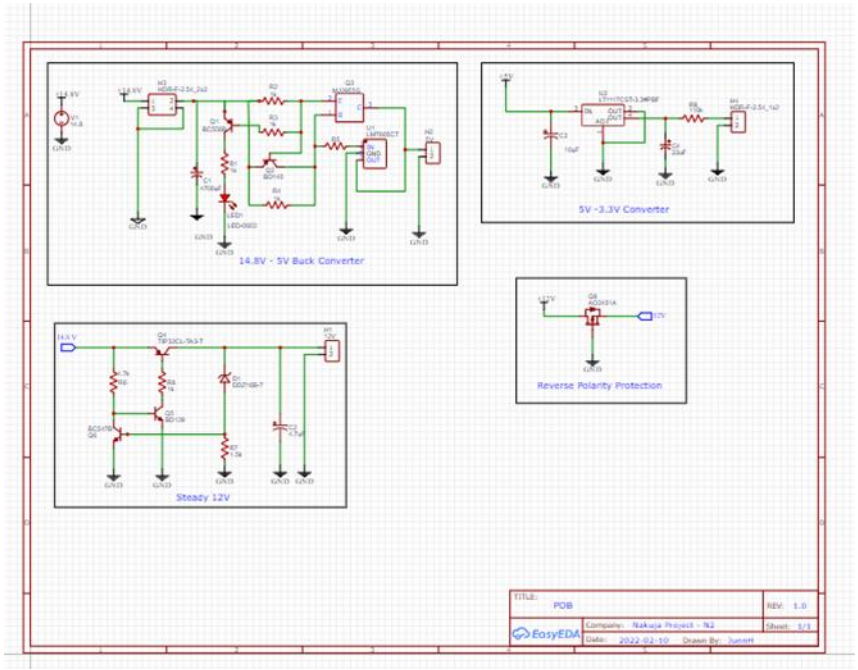
- Ongoing programming of flight computer
- Restructuring code as a state machine
- Every interval is a state. E.g

State	Description	Waiting for event
0	Launch	Waiting for lift-off
1	Lift-off detected	Waiting for apogee

- This will help in scaling the software for future versions
- Observation: need to have a means of restarting the flight computer remotely

[#Issue 83] : Power Management

- The design of the power distribution board is done and is currently under review



Tasks this week

- [#Issue 26] : Improve on Kalman filter performance
- [#Issue 103] : Build Wi-Fi Amplifier
- [#Issue 34] : Programming the Flight Computer
- [#Issue 18] : Launch pad design