

Nakuja Internship

Avionics Progress Report

Week 5

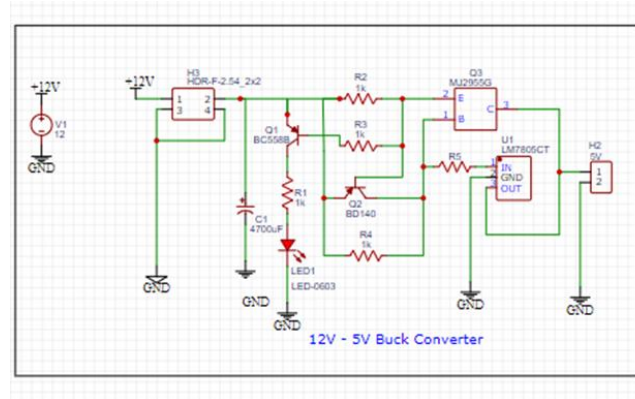
Junn Hope

# Tasks completed this week

- [#Issue 83] : Power Management – In Progress
- [#Issue 30] : Research on Camera
- [#Issue 51] : Inquire on GEGIS drone

## [#Issue 83] : Power Management- In Progress

- We designed a power management board with an input voltage of 11.1V 5200mAh. The board distributes voltages to : a stable 12V, 5v and 3.3 V.
- Power is sourced from a li-po battery (11.1V 5200mAh 3S 35C)
- Current concerns were raised over the power consumption of the flight control's motor, where we opted to go with a 1 higher rated li-po battery.



## [#Issue 30] : Research on Camera

- We noticed that the fpv camera we are currently using cannot store data to the onboard storage, we thus sought to use the connectors to store the footage on the ground station.
- A recommendation was also made during the static test to have a camera on the nozzle, we are currently researching on how we can implement the same.

## [#Issue 51] : Inquire on GEGIS drone

- Having gotten the go-ahead to use the GEGIS drones, we spoke to Dr Muchiri, who is a licensed drone expert, to help us carry out tests.
- The test has been scheduled for Friday 25<sup>th</sup> February 2022.
- We seek to test our components capabilities in storing and transmitting data over 100m range.
- You are all welcome.

# Tasks in this week

- [#Issue 83] : Power Management
- [#Issue 26] : Improve on Kalman filter performance

## Timeline

Month	Intern week	Tasks
Jan	Week 1	Onboarding Getting acquainted with avionics and telemetry resources
	Week 2	Research on ground station & ground station dashboard Research on camera module Research on Data transmission
	Week 3	Avionics bay design Launch pad design
Feb	Week 4	Research on apogee detection logic Improve Kalman filter performance
	Week 5	Program Avionics and Telemetry boards
	Week 6	Test the boards
	Week 7	Testing and launch of N2