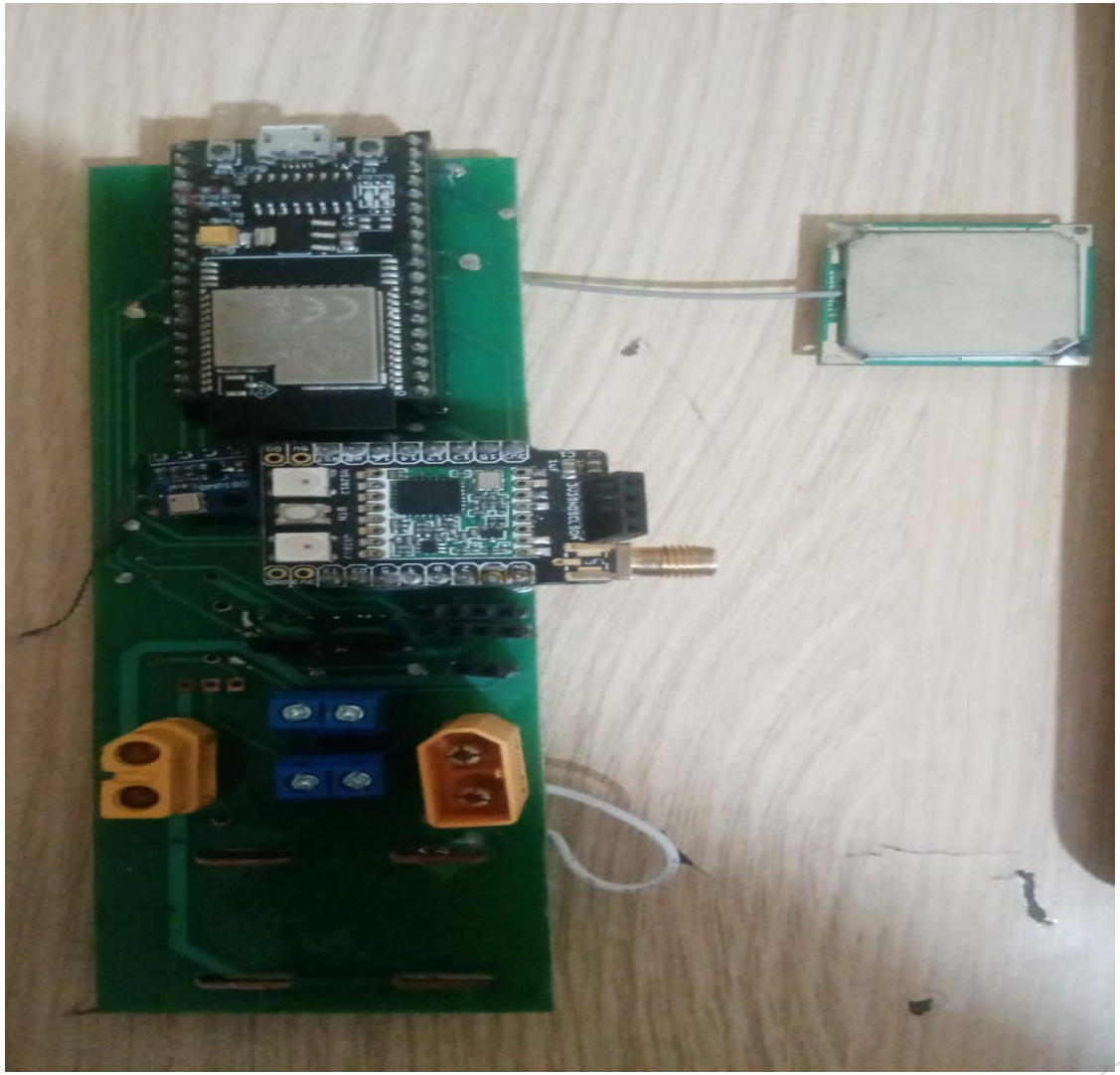
AVIONICS WEEK 8 PROGRESS REPORT

Presented by James Macharia

Tasks Completed last week

- Due to the trip to Malindi Space Centre not much was done during the week though some tasks were done while others are still in progress
- The new PCB was soldered and tests for continuity were conducted
- A new flight software has been worked on
- We established that the FPV camera Tx is beyond salvage

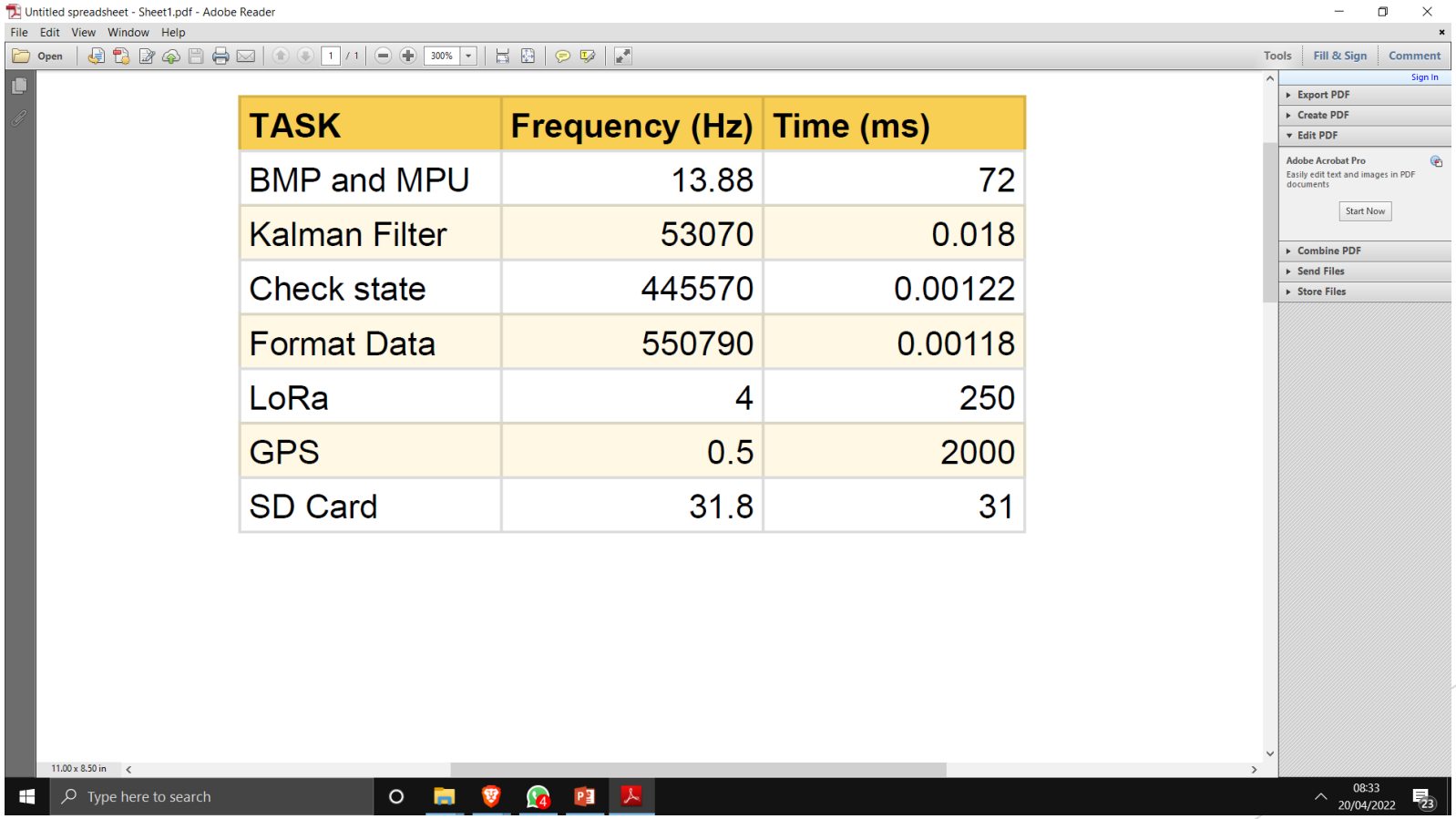
Soldering of the new PCB



Configuration of a new RTOS

- A new Real Time Operating System was configured
- First core- Fetching Telemetry data and writing to SD card#
- Second core-Transmitting the data using Lora

RTOS Guide



TASK	Frequency (Hz)	Time (ms)
BMP and MPU	13.88	72
Kalman Filter	53070	0.018
Check state	445570	0.00122
Format Data	550790	0.00118
LoRa	4	250
GPS	0.5	2000
SD Card	31.8	31

Challenges Faced

- The software does not run on the PCB and we are yet to establish the problem
- LoRa datastream is generally slow hence the team will be migrating to Wifi after the testflight

FPV CAMERA

- It was established that the FPV camera transmitter was beyond salvage
- However the receiver is perfectly fine and functional
- We will be requesting another transmitter from Pixel Electronics in the course of the day
- The camera setup might be ready on time for the test flight if the transmitter is delivered on time

Tasks This Week

- Fabricate New PCB
- Integration of Flight Control