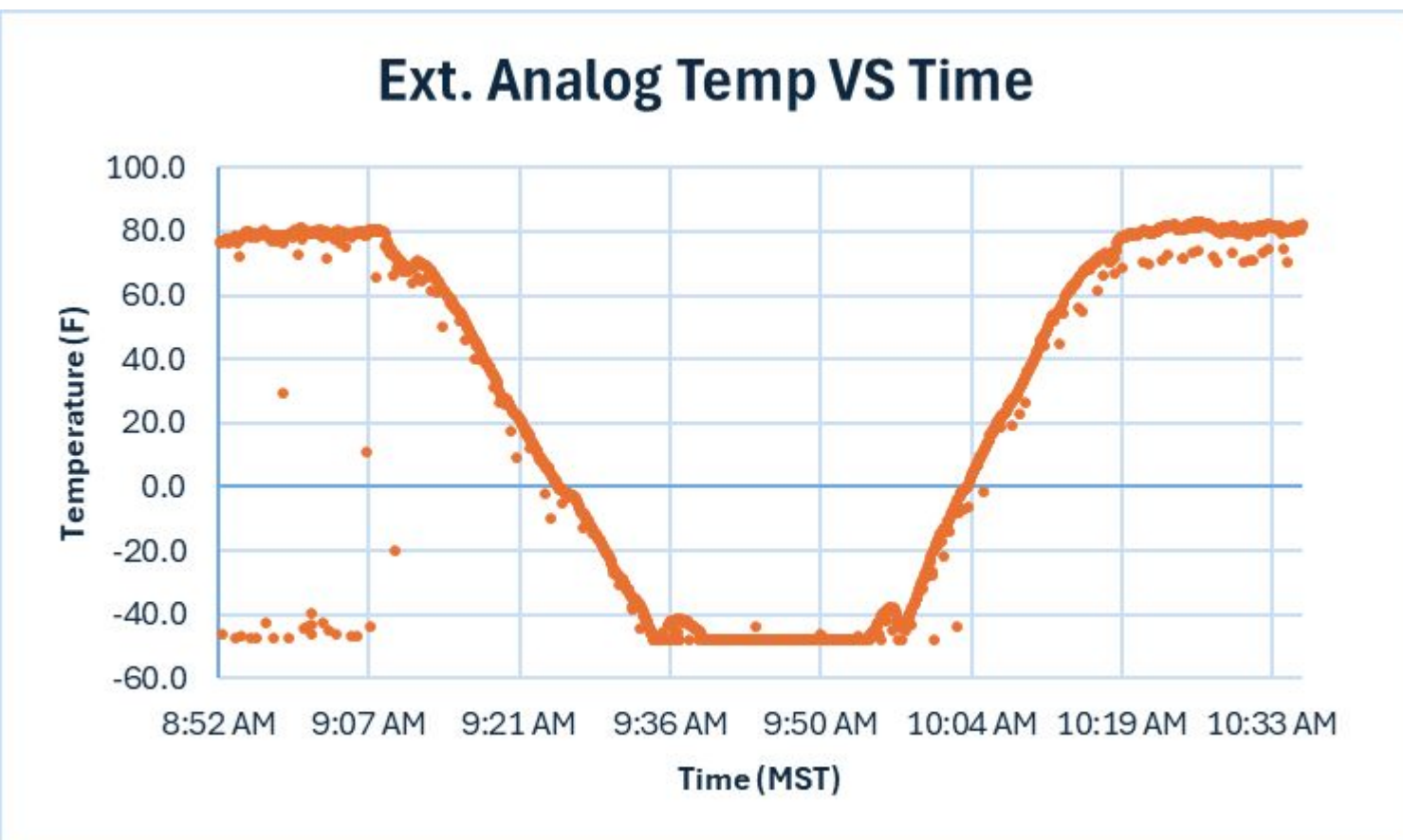


ASCEND SPRING 26

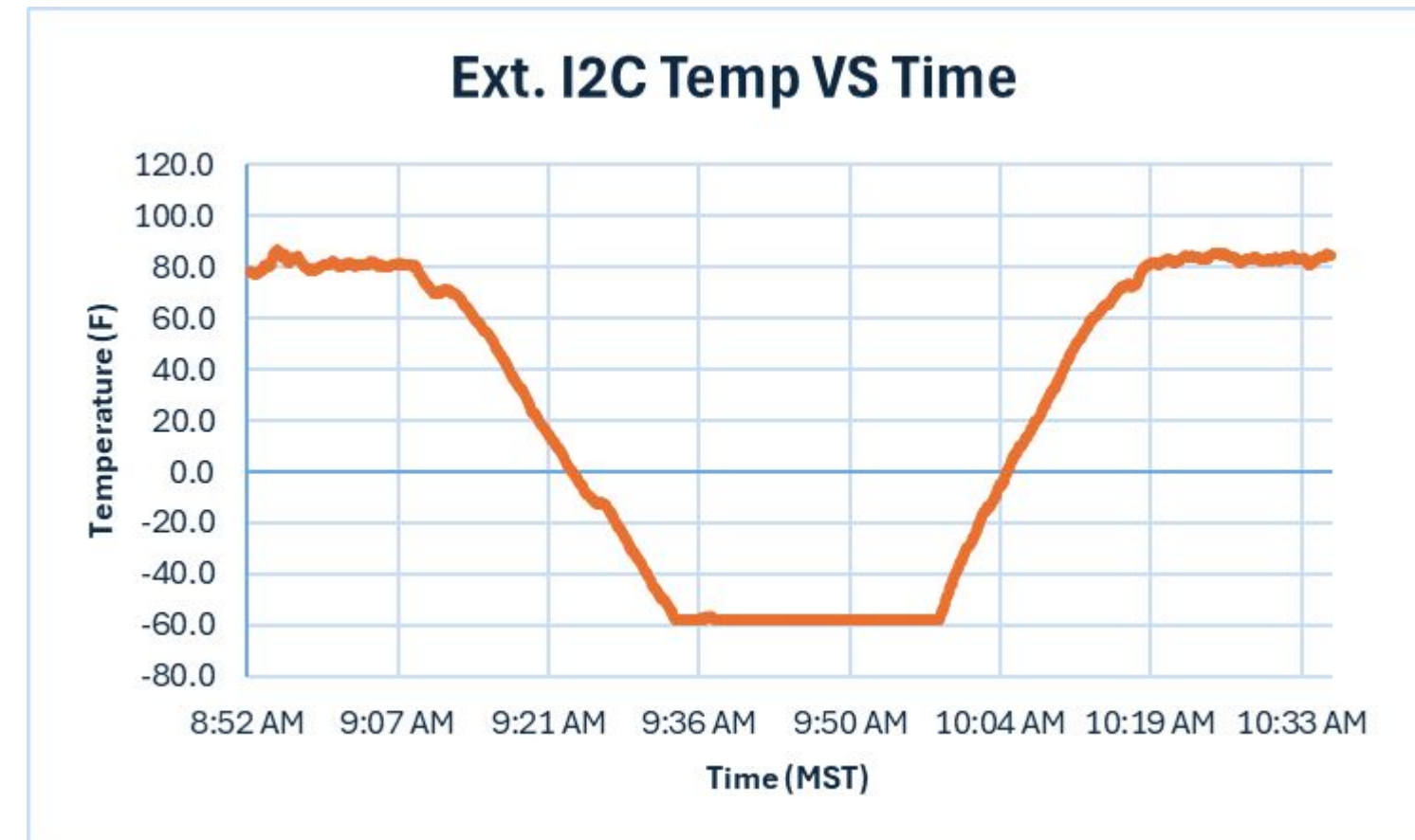
GCC Team 2 SpaceJunkies

Students: Adrian Jimenez | Caden Hess | Irwin Estrada Fernandez | James Petersen | Justin Thomas
 Faculty Mentors: Dr. Tim Frank & Rick Sparber

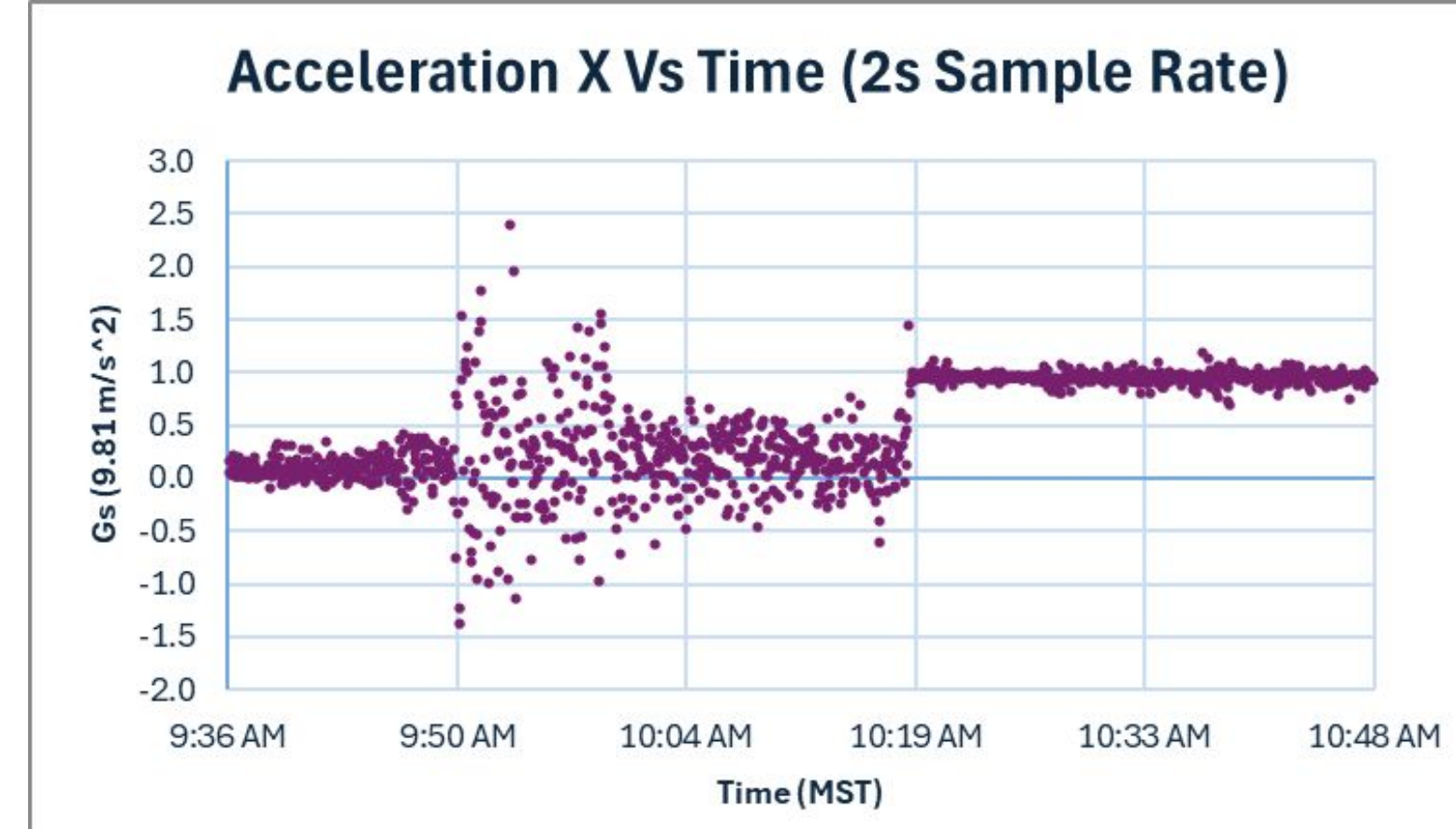
Proven Foundation: In Fall 2025, we built two payloads that hit 100k feet and returned temperature, pressure, and acceleration data.
Sensor Upgrades: Integrated new I2C components this term, including a radio receiver for signal mapping and a temp/humidity sensor for data verification between analog and digital sensors.
Smart Weight Management: To stay under ANSR's weight limits, we flew the GNSS module on one payload and the Iridium Satellite Modem on the other payload.
Inter-Payload Linking: We used a Bluetooth Transmitter (HC05) data link to transmit data packets between the two payloads before sending to the ground via satellite by using an iridium modem.
Live Telemetry: Established a 5-minute data loop via the Iridium network, feeding a web dashboard for real-time flight monitoring.



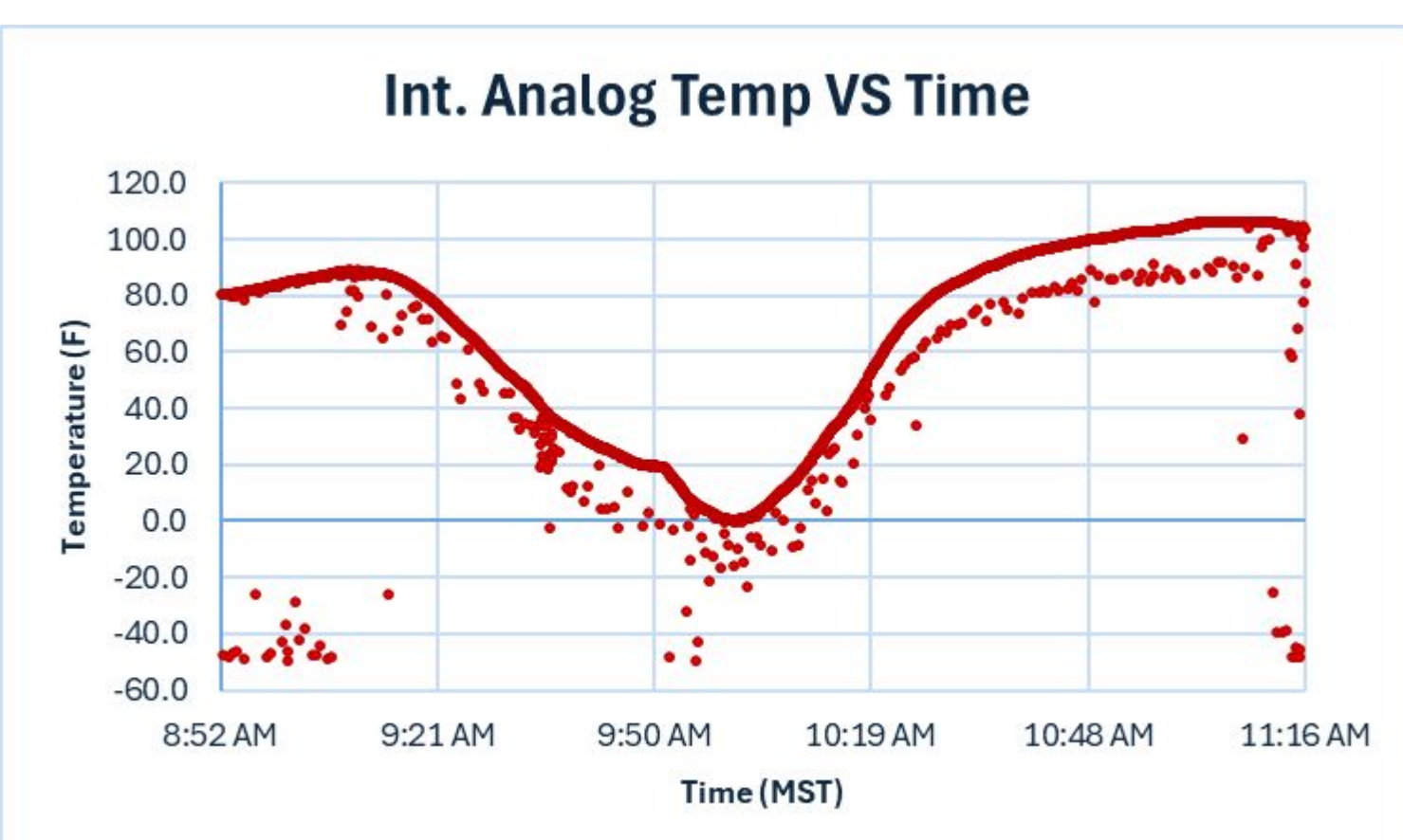
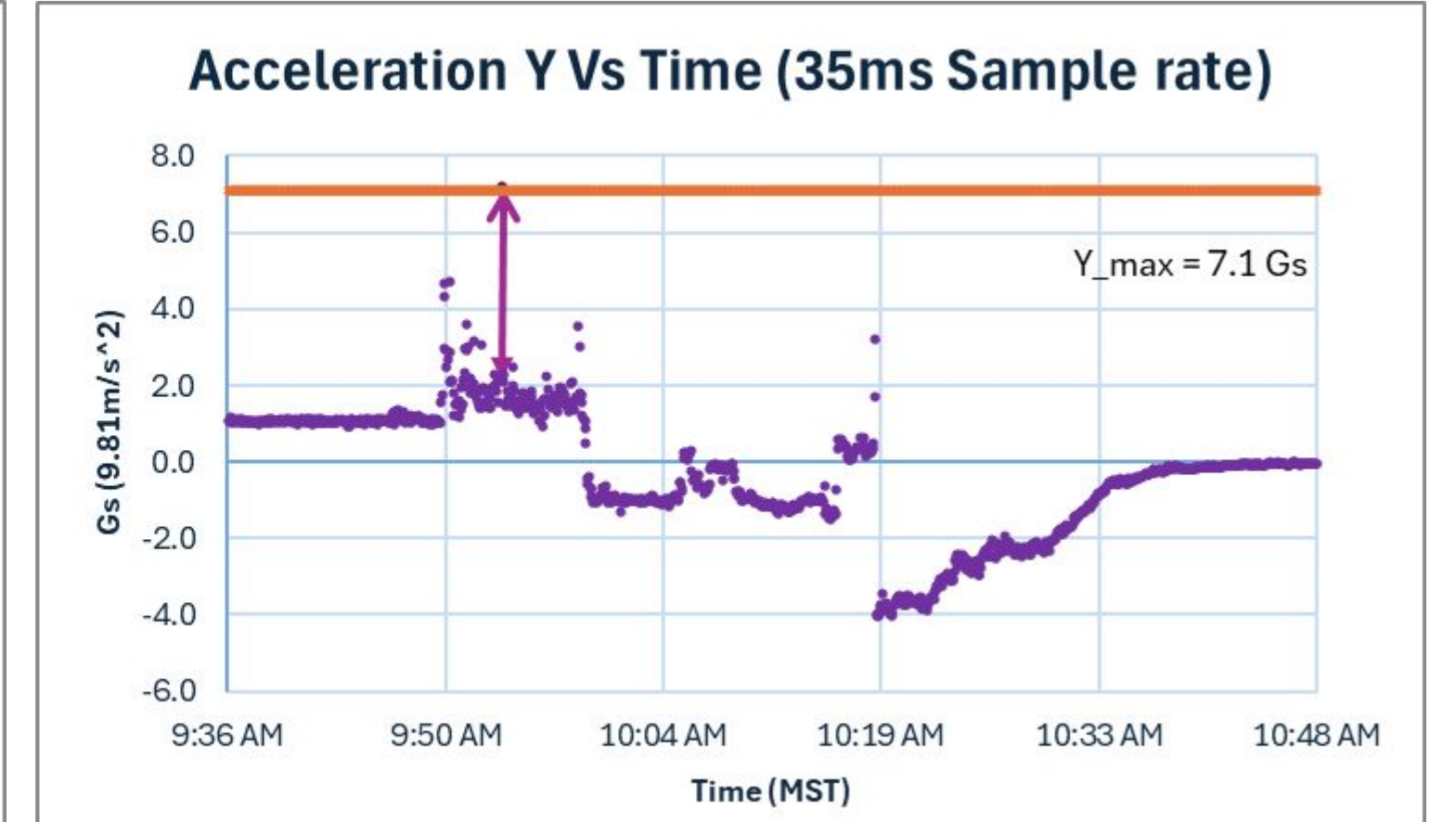
- Analog external temperature
- Sensor tapped out at -50F



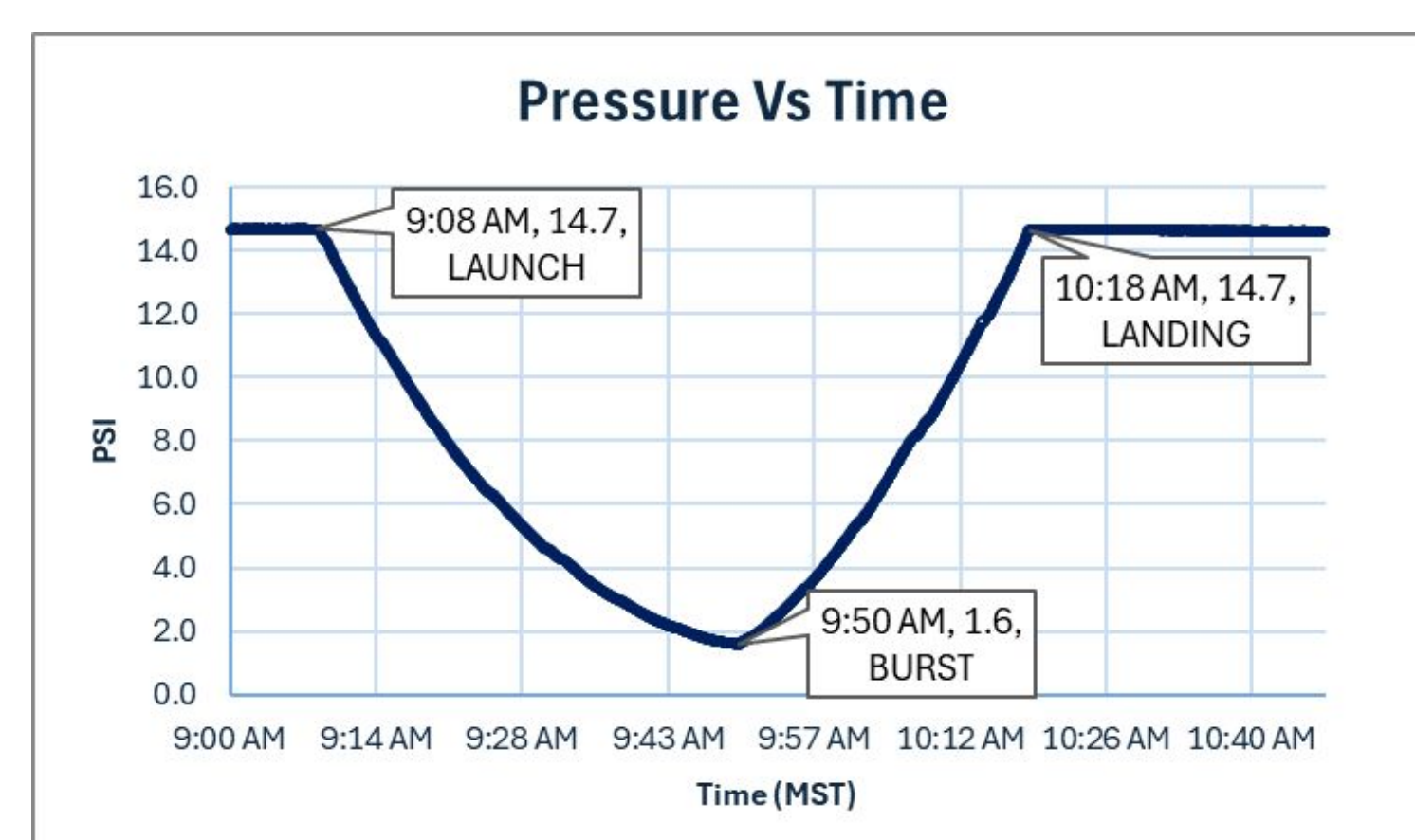
- I2C External Temperature sensor
- Less noisy than the analog!
- Sensor tapped out at -60F



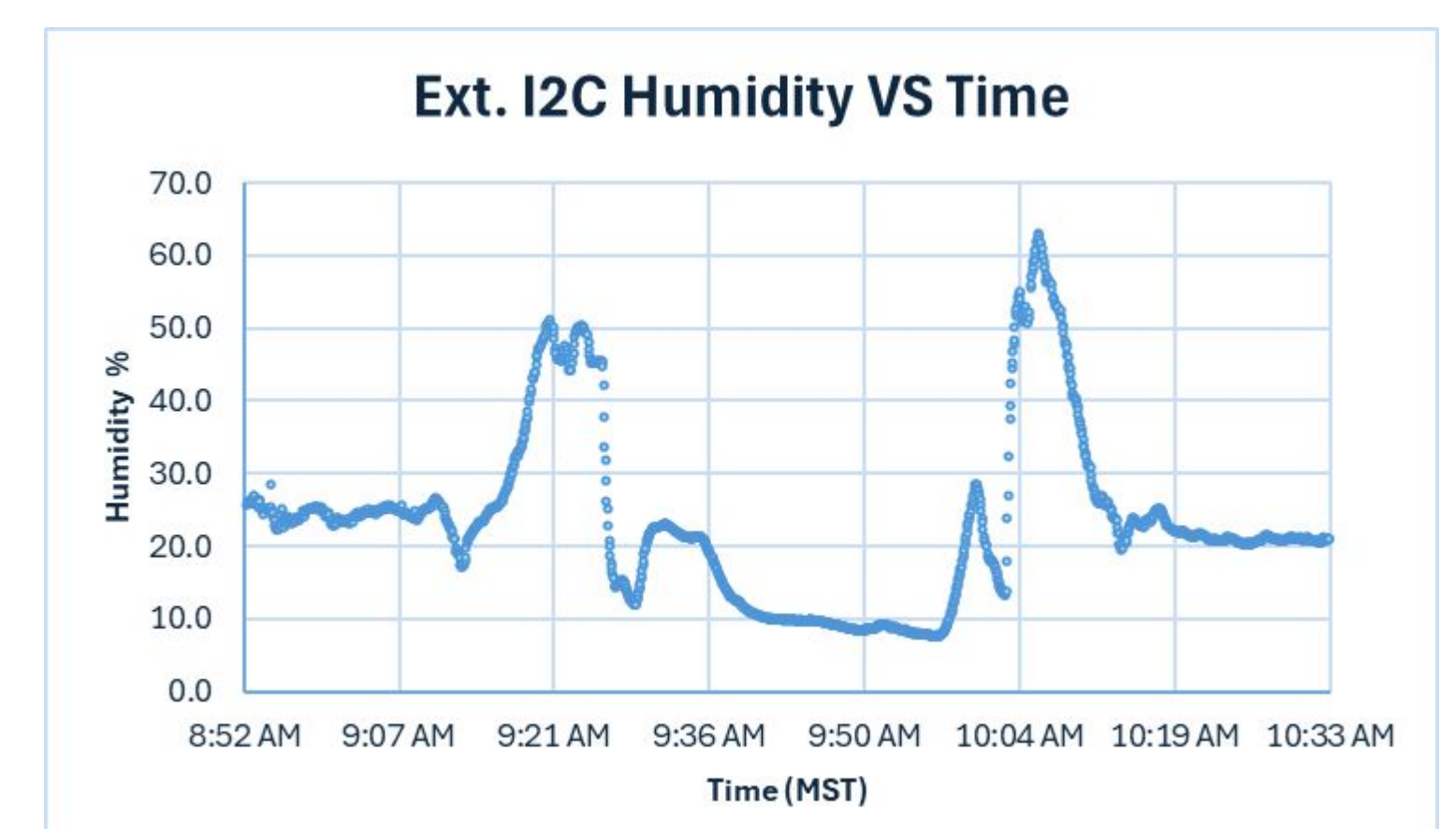
- Vertical and Horizontal Acceleration data.
- Max Gs experienced: 7.1G



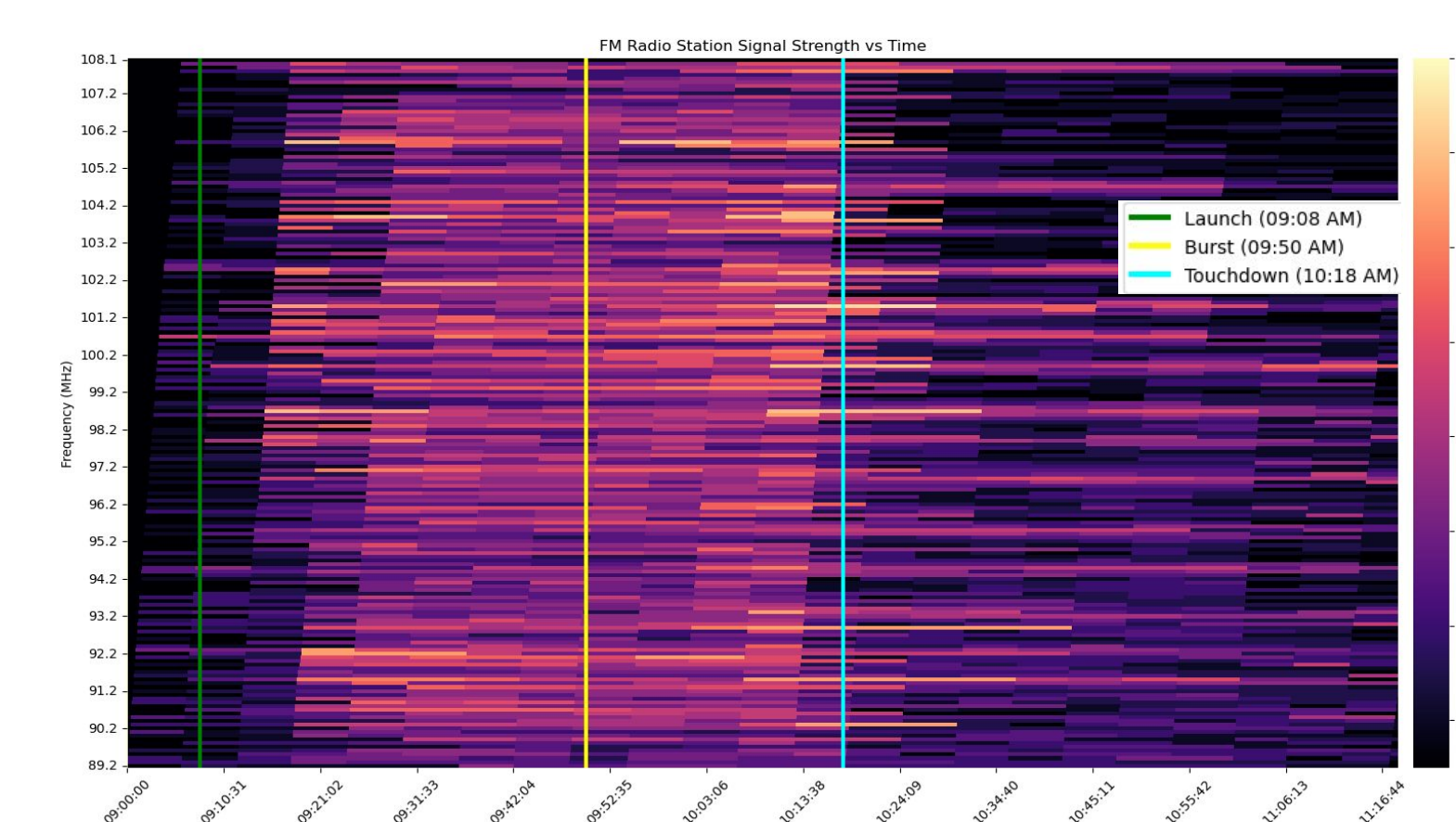
- Analog internal payload temperature



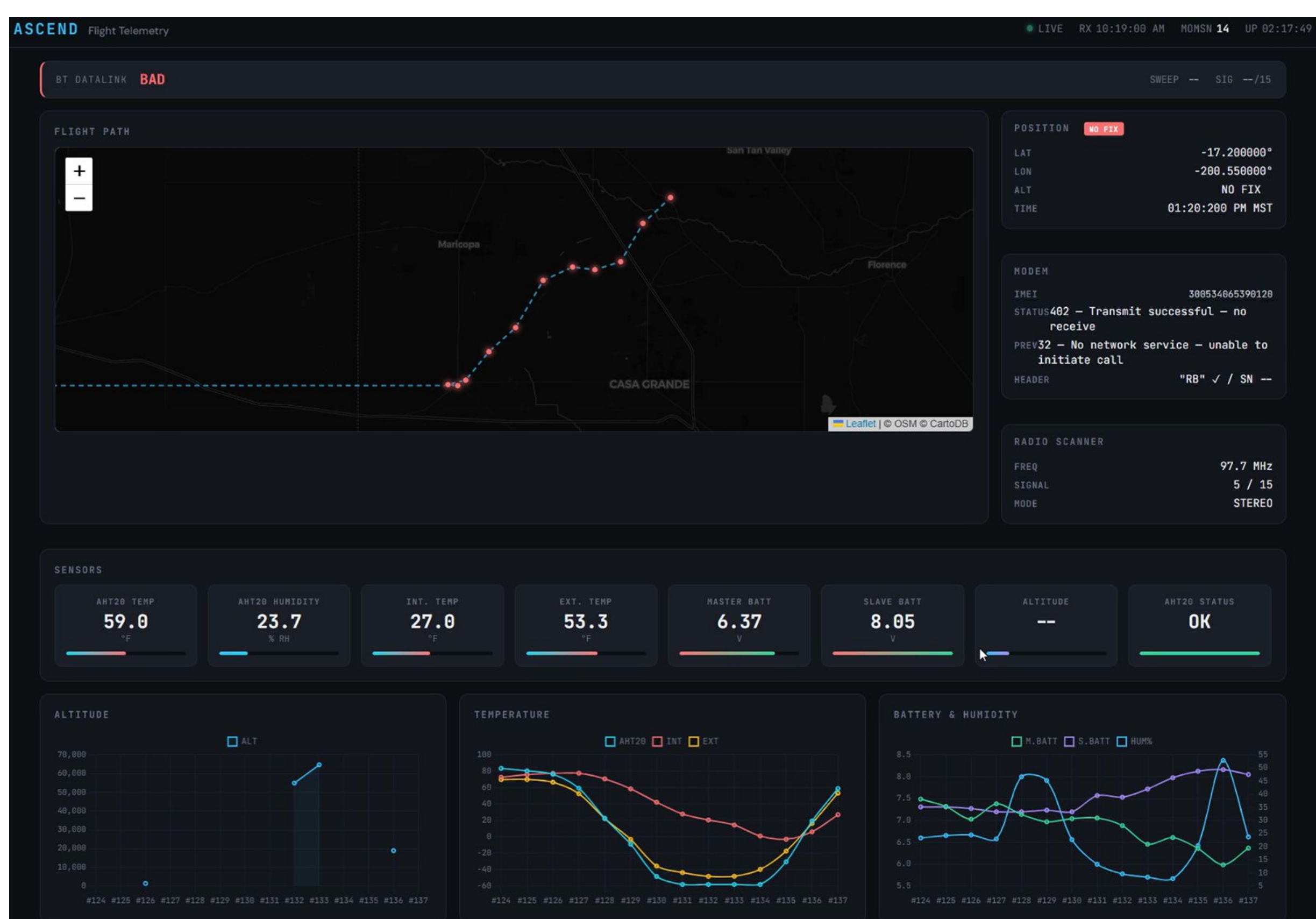
- Pressure inside the payload
- Lots of details to be noticed
- (Launch, Ballon burst, Landing)



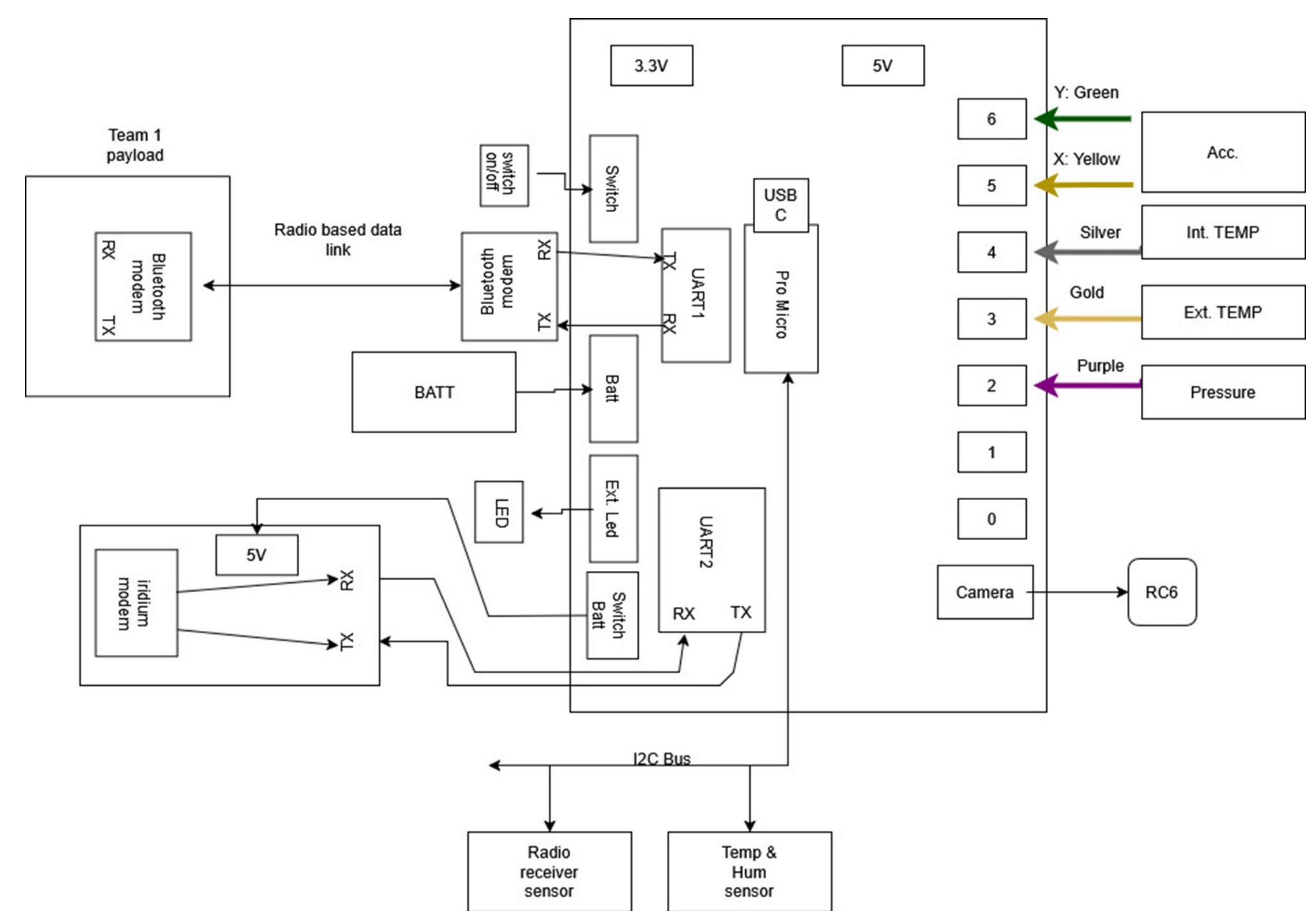
- I2C Humidity sensor
- We flew through clouds!!!



- Heat map display of Radio signal strength during flight.



- Dashboard showing live data from the sensors and location of the payload!



- System-Block Diagram showing the location and components inside our payload.

