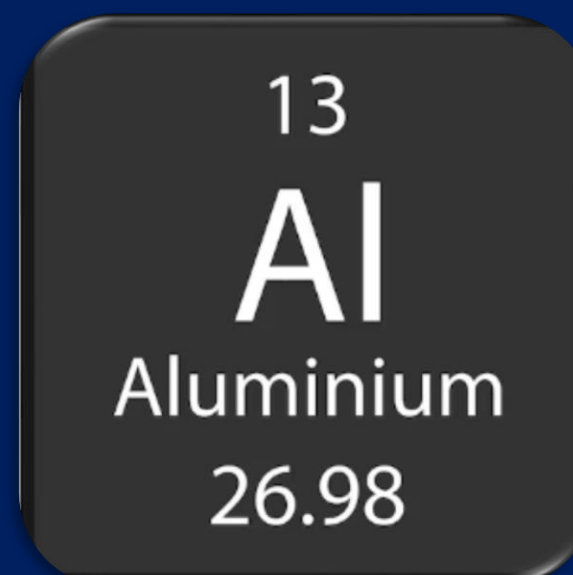


Specifications

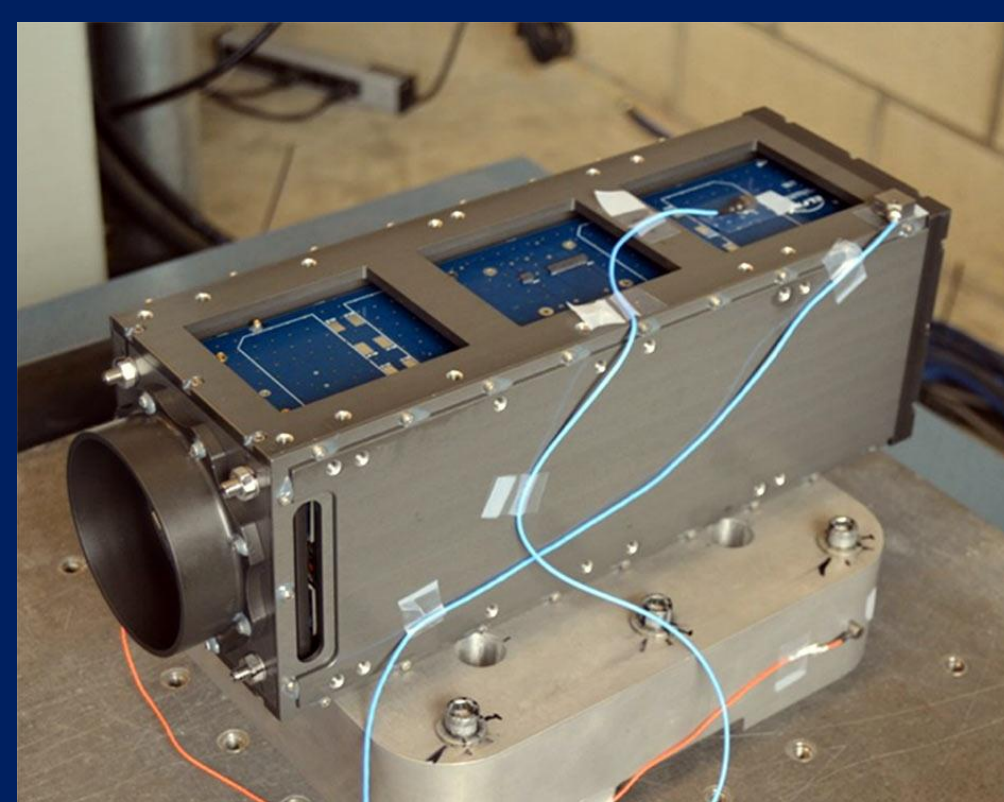
Why aluminum 6061?



- Aluminum 6061 is a precipitation hardened aluminum alloy containing magnesium and silicon.
- Combines high strength, and good workability with high resistance to corrosion.
- High thermal conductivity.
- It is widely available, and commonly used in aerospace applications.

Testing:

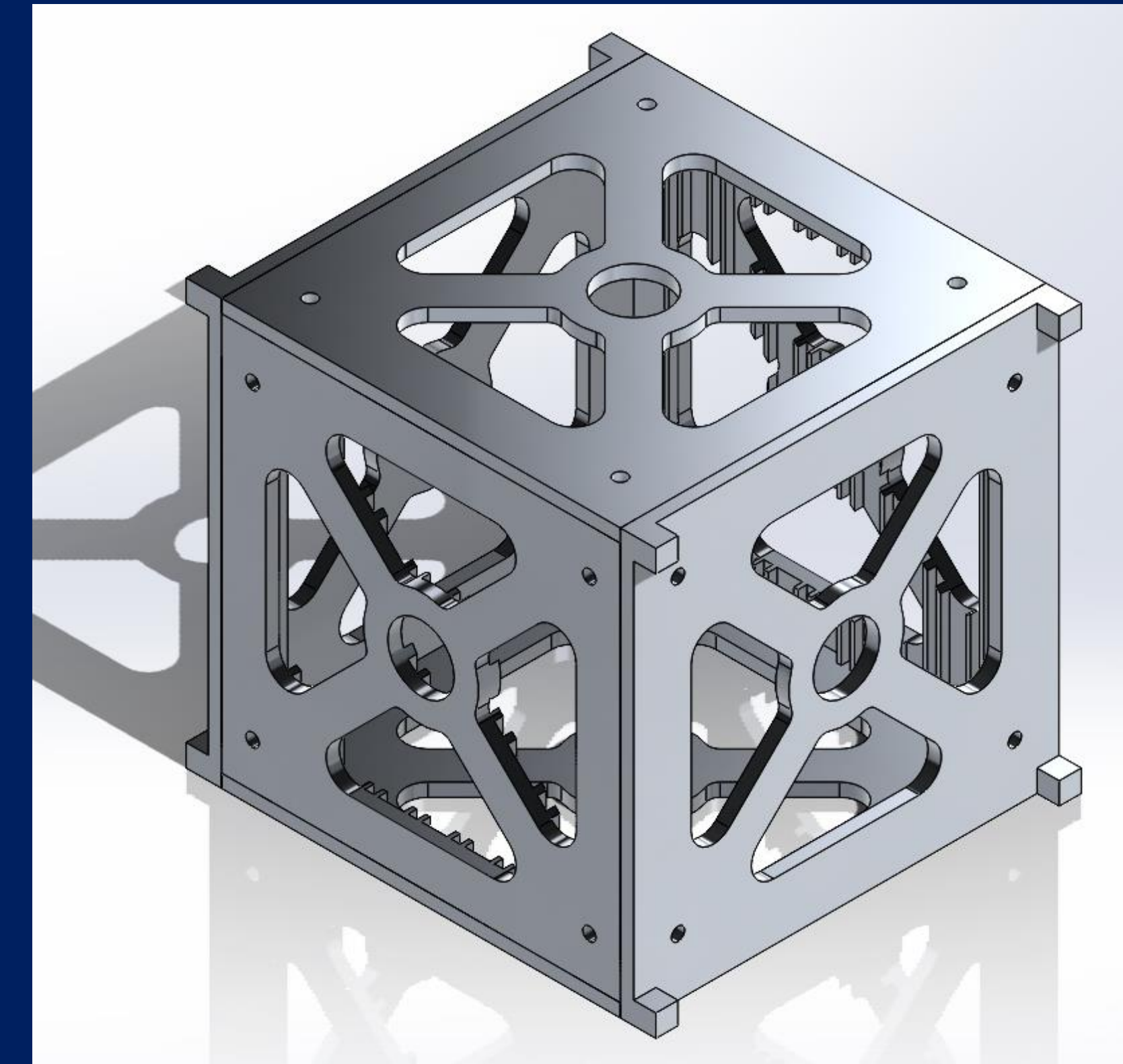
The CubeSat will undergo random vibration, thermal vacuum bakeout, and shock testing.



Project Overview

What is a CubeSat?

- Functions:
 - Various scientific tests such as radiation testing
 - Carries small scientific payloads to space on upcoming rocket launches
- Uses:
 - Primarily educational
 - Remote Sensing
 - Communications



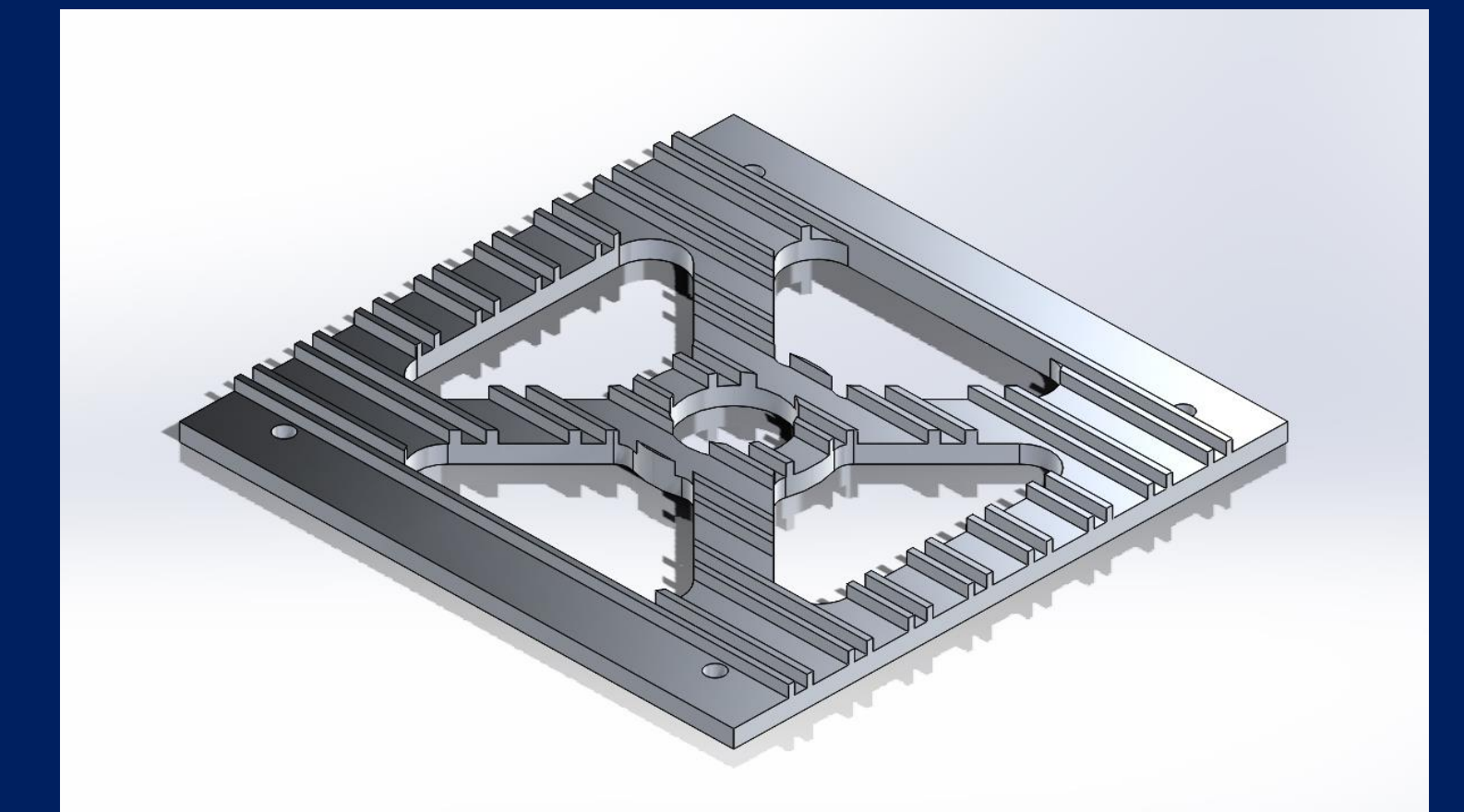
Mission Statement:

- Texas State's physics department obtained a satellite kit, but the continuous purchase of kits in the future is not economically feasible.
- The department requires the manufacturing protocol to allow in-house fabrication with a total budget of \$500.
- The framework material and design must be able to withstand the conditions of low – Earth orbit and follow the CubeSat design outline.
- The produced protocol must include a computer model that simulates the final design to allow adjustments of the mass and thermal distribution for future expeditions with the satellite.

Design

Our Design

- PCB Guide Rails
 - Two walls of the satellite will have raised rails.
 - They will improve the accessibility of the design and provide protection for the PCB's



- Access Door
 - One wall that is perpendicular with the rails will be on hinges allowing ease of access.

