

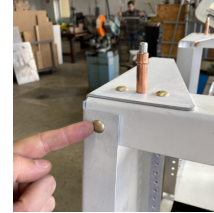
Project Overview

Problem Statement: General Atomics MQ-9 Reaper Drone is to replace its current GEO SATCOM dish with a LEO Antenna

Need: To design an Airborne Payload Enclosure capable of supporting the LEO Antenna, required and modular LRU's. It must have an active ECS system with proper cable management. The entire system must fit within the space originally occupied by the GEO SATCOM



Manufacturing



Testing

Test 1-6

- Install avionics rack in MQ-9
- Check clearance between rack and aircraft structure
- Install required and modular LRU utilizing O-level procedures
- Ensure adequate room is available for cable routing



Test 7

- Ensure proper amount of personal are present to perform test safely
 - Install avionics rack (vertically) onto fixture table
 - Add steel plates (simulated LRU weight) to the rack
 - Measure rack deflection and compare to FEA analysis
 - Remove steel plates
 - Inspect Rack for deformation/damage
 - Repeat test procedures for 90° roll and pitch up/down utilizing fixtures
- Note:** For 90° test ensure table is secure and follow safety plan when rack is underload.

Team Members



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Manufacturing Lead



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Design Lead



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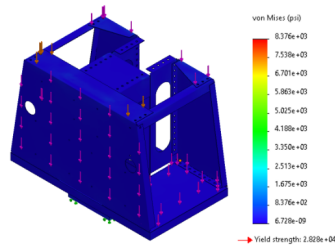


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Analysis Lead

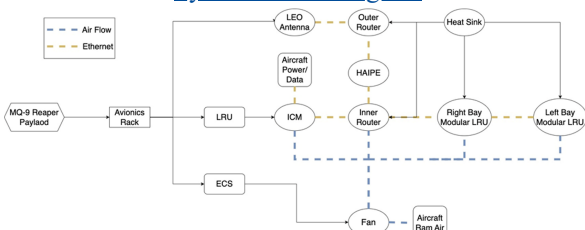


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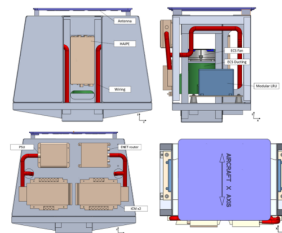
Analysis



System Level Diagram



CAD



Acknowledgements

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