Power Distribution System for a CubeSat

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Objective

To design and implement a fully autonomous power generation, storage and distribution system for a CubeSat

Project Outline
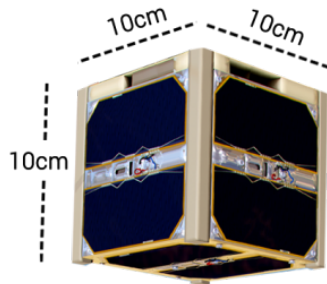
CubeSat:

- Dimensions-10x10x10 cm
- Weight-2 kg.

Figure 1: CubeSat

Project Outline (Contd.)

Electrical Power System (EPS):

- Harvests energy from the solar panels.
- Manages power storage and distribution.
- Redundant architecture.

System Architecture

1. Block Diagram

Methodology

- Identifying the power requirements.
- Forming Specifications.
- Architecture design and topology selection.
- Design and simulation.
- Procurement of components
- Frabication and testing.

Requirements

Equipments Requirements:

- SMD Soldering Station
- DSO
- Power Supply, Function Generator

Software Requirements:

- MATLAB/Spice
- KiCad
- STM32 CubeIDE

References I

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