



## Design of Structure and Mechanism for BCCSAT-1 Satellite

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**Abstract.** This paper presents the BCCSAT-1's structure design and mechanism of BCCSAT-1 satellite, especially the deployable antenna mechanism. This 1U CubeSat is assembled using O frames and I frame made by Aluminium 7075. Inspiration for the antenna board design was taken from the XATCOBEO CubeSat that is wrapped by Kapton tape and it is comfortable for multispectral camera tasks. Spacers and standard pins are used to separate boards and hold them in place. Kill switches and Remove before Flight pins serve to activate or deactivate the electrical current within the CubeSat before or after launch. Tests conducted to determine the survivability of the CubeSat in space include vibration, shock, and thermal tests.

**Keywords:** 1U CubeSat, CubeSat structure, Vibration testing