



070-CM

Design and development of the EGY_univer_sat1 EUS1

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Our project is a part of Egyptian Universities Satellite (EUS1) is a 2U CubeSat. Its main objective is to let the final year's graduates to improve their knowledge about space engineering. As shown in Figure 1, EUS1 consists of 1U as a main unit and 1U as an experimental unit. The main unit encompasses a space proven bus subsystems, whereas, the experimental one consists of the in-house developed subsystems by the students. The subsystems of the main unit are the Electrical Power Subsystems (EPS), the On-board Computer (OBC), the Communication Subsystems (CS), and the Attitude Determination and Control Subsystem (ADCS). The subsystems of the experimental unit are EPS, OBC, CS, Reaction Wheels (RW), and a sensor board.

The scenario of operation is to operate the main bus during all the mission life time, and to test each of the experimental subsystem sequentially after verification of the main mission success. The function of the main EPS is to provide uninterrupted power to all subsystems of the main and experimental units. Where, the functions of the experimental unit's EPS will be checked by the main unit OBC