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ENHANCED PAYLOAD ELECTRONICS SYSTEMS OF THE KHALIFASAT SATELLITE MISSION

**Abstract**

The KhalifaSat mission is an earth observation satellite with enhanced payload electronics systems compared to the former DubaiSat-2 mission and to be launched in 2017. Improvement of the systems was gained by the development cycle and the feasibility study. Enhanced payload systems will cover the development of the imaging electronics, the image data processing, the storage acquisition, and the data transmission. This paper will address major challenge of utilization in the DubaiSat-2 bus and the optical payload design with the new requirement on the payload electronics systems. It consists of a new Focal Plane assembly (FPA) design, Signal procession module (SPM), Auxiliary Camera Module (ACM), improved Solid State Recorder (SSR), and X-band transmission Unit (XTU) of KhalifaSat mission. The paper will explain the current design, the operation scenarios of the system and the next improvement capability might be seen in the next mission.