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## DUBAISAT-2 HIGH RESOLUTION ADVANCED IMAGING SYSTEM (HIRAIS)

**Abstract**

The High Resolution Advanced Imaging System (HiRAIS) is an optical payload developed for the DubaiSat-2 earth observation mission. Experiences gained throughout the design and manufacturing of DubaiSat-1 was utilized in developing HiRAIS. The new payload design implements advanced image acquisition and processing techniques, which provides improved image quality, performance, image processing options and image data download compared to Dubaisat-1. The key feature of HiRAIS includes selectable TDI step and line rate, increased image storage capacity, improved X-band data transmission speed, and image data encryption and compression. This paper describes the overall system design of HiRAIS electronics, which consists of the Focal Plane Assembly (FPA), Auxiliary Camera Module (ACM), Solid State Recorder Unit (SSRU), and Image Transmission Unit (ITU).