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NORSAT-TD: HOW VERSATILE MICROSATELLITE PLATFORMS ENABLE MULTIPLE IN-ORBIT-DEMONSTRATION PAYLOADS

Abstract

The NorSat-TD mission is the next generation satellite in a series of Automatic Identification of Ships (AIS) missions built by the UTIAS Space Flight Laboratory (UTIAS/SFL) for the Norwegian Space Agency (NoSA). In addition to the primary payload, namely an advanced AIS signal receiver, this mission also carries four diverse In-Orbit-Demonstration (IOD) payloads. All five of the payloads on-board are substantially different from one another, and each has a unique set of accommodation and operational requirements. This paper will describe how a small generic microsatellite platform, measuring only 40 cm x 30 cm x 30 cm and weighing less than 30 kg, was adopted to host these primary and secondary payloads. The unique requirements of each payload will be highlighted and the steps taken to accommodate them, without compromising the primary mission, will be discussed. Mission planning and operational considerations will also be presented.