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ASSEMBLY, INTEGRATION AND TEST (AIT) CAMPAIGN OF THE AMAZONIA-1 SATELLITE

Abstract

This paper presents the process and activities of the Assembly, Integration and Test (AIT) campaign of the Amazonia-1 satellite, and some lessons learned, difficulties, and pitfalls that were faced up to the point of having a reliable and ready-to-launch system. Amazonia-1 is the first Earth Observation satellite based on the Multi-Mission Platform (MMP) to be completely designed, integrated, and tested by Brazil. Including the development in the national industry of several equipment and parts, such as the structure, solar panels, harness, propulsion and its payload, Amazonia-1 will validate the MMP as a system, generating significant reductions in schedules and costs for the development of future satellite missions based on the MMP. The development of the Amazonia-1 satellite included several models (i.e. structural, thermal, electrical, and flight models), and specifically, AIT campaign for the flight model was divided in 8 phases, each one related to a predefined satellite state, and to a specific set of tests and activities. The maturity of the project and system increased in every step of the AIT campaign as tests demonstrated the compliance of requirements and allowed the identification of open points and nonconformity that needed to be solved before advancing to subsequent phases.