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QUICK-STEP METHODOLOGY FOR MICROSATELLITE ASSEMBLY, INTEGRATION AND TESTING. (QSM4MSAIT)

Abstract

The rapid advancement in microsatellite technology has driven the need for efficient and scalable methodologies that address their assembly, integration and testing prior to space deployment. This article presents the Quick Step Methodology for Microsatellite Assembly, Integration and Testing (QSM4MSAIT), an innovative approach designed to accelerate these critical processes while maintaining high standards of quality and reliability. The QSM4MSAIT focuses on optimizing each phase of the microsatellite readiness lifecycle, from initial component selection to final validation and preparation for launch.

Compared with traditional methods, QSM4MSAIT not only accelerates the development and launch time of microsatellites, but also improves the ability to adapt to changes and solve complex problems during the integration and testing phase. This work concludes with a discussion of the implications of the adoption of QSM4MSAIT for the future of the microsatellite industry, suggesting directions for future research and the evolution of assembly and integration practices.