

## **Reliability and Qualification of Advanced Microelectronics for Space Applications**

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### **Abstract:**

New spacecraft designs require highly advanced state-of-the-art microelectronic devices and structures developed and fabricated at research and development laboratories for a specific application and in small quantities. It is critical that a cost effective and efficient reliability and qualification approach is used to determine the suitability of the technology in question to the intended application. However, the nature of the developments at research and development laboratories and the limited production volume makes this a difficult issue to address. This paper provides a discussion of the subject and an approach to establish a reliability and qualification methodology to facilitate the utilization of state-of-the-art advanced microelectronic devices and structures in high reliability applications.