



Alternate Grade Parts Panel

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Panel Focus

The purpose of this open panel discussion is to bring into focus divergent views on the use of alternate grade parts for military and space applications.

Summary:

Recently the Aerospace and the Defense community has shown a lot of interest in the use alternate grade EEE parts for short-duration space systems and in longer duration missions as well. Lower cost, readily available alternate grade parts offer equivalent functionality and many companies have started to use these parts in military and space systems. Alternate grade parts come in all types of flavors: Automotive grade (AEC); EP (Extended Plastic); VID Vendor Item Drawing parts; Reduced flow in accordance with the major military performance specs/QML parts; Reduced flow MIL-STD -883 M1004/5 passing parts etc. The panel will discuss pros and cons associated with alternate grade parts along with potential misapplication of parts, resulting in failures or degraded performance on orbit.



Panelist Bios



Peter Majewicz received a B.S. in Computer Engineering from Old Dominion University, Norfolk, VA, in 1999, a M.S. in Electrical Engineer from the Naval Postgraduate School in Monterey, CA in 2005, and a Ph.D. in Systems Engineering from George Washington University, Washington D.C. in 2017. He has been with NASA since 2009, and currently is the Manager of the NASA Electronic Parts and Packaging (NEPP) Program. Prior to NASA, he retired from active duty, ending a 22-year career in the U.S. Navy.



Larry Harzstark has over 35 years of experience in parts and component management-related engineering areas. He has been involved in all aspects of component engineering from the design of custom radiation-hardened devices to meet strategic missile requirements, to failure analysis, parts selection, design reviews, supplier audits, technology reviews and parts control boards. Recently, Larry has been involved in aspects of Commercial Off the Shelf (COTS), as well as Plastic Encapsulated Microcircuits (PEMs) and their utilization in military systems. He developed the guidelines for use of PEMs in an Army missile system and in space applications. His extensive expertise and knowledge in the field of microelectronics has earned him a reputation as a problem solver. Larry currently is an Aerospace Fellow responsible for technical aspects of new technology insertion, PMP management, evaluations of alternative technologies and problem resolution for programs. He earned his BSEE from the Polytechnic Institute of Brooklyn in 1969, and his MSEE from Clarkson College of Technology in 1970.



Sultan Ali Lilani is Director of Technical Support at Integra Technologies. Sultan has in-depth knowledge of Reliability Engineering, Program Management, Testing and Qualification for Aerospace, Defense and Industrial applications for semiconductor products. Sultan serves in various industry committees including SAE as chair for PEM's sub-committee, co-chair for copper bond wire and is involved member of SAE's G19A Counterfeit Committee, DPA and various other committees.



Mark Porter is the Chief Engineer for the Component Engineering and Assurance Office at NASA's Jet Propulsion Laboratory. He has 38 years of experience working parts, materials, and processes on boxes, payloads, and spacecraft across a variety of missions and applications. Mark is currently the SAE CE12 Chairman for the Alternate Grade Parts for Space Task Group as well as the Why We Test Task Group.