

Understanding the Military Standards and Update on JEDEC and New Spec Initiatives

Instructor: Shri Agarwal, NASA Jet Propulsion Laboratory, shri.g.agarwal@jpl.nasa.gov
Ben Mendoza, Promex Industries, bmendoza@promex-ind.com
Adam Johnson, Integra Technologies, adam.johnson@integra-tech.com

Class Time (90 Minutes)

COURSE SUMMARY

This course outlines the basics of key military standards as they apply to EEE devices and reviews current topics being addressed by JEDEC JC-13 and SAE CE-12 and CE-11 committees. The tutorial also provides updates on evolving standards and initiatives, including PEMs, derating, advanced technologies, GaN, and related qualification considerations.

Topics Include:

- Basics of MIL-STDs and MIL-PRFs for microcircuits, hybrids, and semiconductors
- Structure and operation of SAE CE-12 / CE-11 and JEDEC JC-13
- Current committee focus areas from a standards perspective
 - PEMs
 - Radiation
 - GaN
 - Advanced technology microcircuits
 - COTS / alternate grades
 - Derating
 - Long-term storage
 - IGA (Internal Gas Analysis)
 - Why we test

INSTRUCTOR BIOS



Shri Agarwal currently works at the Jet Propulsion Laboratory and coordinates the NASA Electronic Parts Assurance Group (NEPAG). He supports the NEPP/NEPAG Program as NASA's point of contact for microcircuits and represents NASA with the Defense Logistics Agency in the areas of space microcircuit manufacturer audits and infusion of new technology into military standards. He was instrumental in developing requirements for Class Y advanced ceramic-based non-hermetic microcircuits for space applications. He holds master's degrees from the University of Southern California, the Indian Institute of Technology-New Delhi, and Agra University.



Ben Mendoza has over 40 years of experience in high-reliability electronics supporting military, aerospace, and defense applications. He specializes in military qualification, quality systems, and advanced microelectronics packaging for mission-critical systems. Ben is Vice President of Military Projects at Promex Industries and its QP Technologies division, where he leads strategy and execution for military and aerospace microelectronics programs. He currently serves as Chair of the JEDEC JC-13 Government Liaison Committee and is a frequent industry speaker.



Adam Johnson has nearly 20 years of experience at Integra Technologies and holds bachelor's degrees in electrical and computer engineering. His background as a reliability and test engineer provides broad expertise in semiconductor reliability testing and qualification. Adam has been actively involved in industry standards committees, including CE-12 and JC-13, and most recently served as a technical advisor to the JC-13 burn-in and life test task group. He currently serves as a Technical Account Manager at Integra, advising on specification application for aerospace, defense, and space programs.