

# CERTIFICATION OF AIRBORNE ELECTRONIC HARDWARE (DO-254)

This two-day course is geared for the hardware engineer, technical manager or project manager wanting to understand DO-254 compliance in the greater context of certification as well as within the myriad of supplemental policy documents that now define what it means to comply with DO-254. UPDATED TO INCLUDE CONTENT FROM AC/AMC 20-152A.

[Understand the context of DO-254 with respect to FAA, EASA and other regulatory agencies/policy](#)

[Explore the DO-254 life cycle and objectives and learn what is applicable to your project](#)

[Review real examples and obtain free templates for project use](#)

[Examine the latest policy modifications such as Order 8110.105, AEH Job Aid and CM SWCEH-001](#)

[Understand today's hot topics and how to deal with them](#)

[See what is pertinent for Military and UAS applications](#)

In 2008, the FAA awarded Patmos Engineering Services the contract for developing and delivering the "Complex Electronic Hardware" training course that was taught at the FAA Academy to DO-254 program auditors.

From this experience and these materials, Tammy Reeve, President of Patmos Engineering Services, developed this DO-254 course offering for DO-254 applicants. Today, Tammy has taught this course to over 40 companies around the globe. The feedback has been overwhelmingly positive.

*"Tammy delivers tailored training and certification support to her clients that is hands-on and practical. She is effective in helping the recipient define a usable and compliant process."*

*Karen Brack, Airborne Electronic Hardware Engineer, The Boeing Company*

*"Tammy has provided valuable training classes to hardware design and quality engineers in our company. The training material provided a fresh perspective on certification processes and allowed us to improve our own internal processes."*

*Gregg Stavig, Manager, Hardware Design/Verification, Crane Aerospace*

Tammy was also selected as the primary developer for a military specific training on DO-254 and has delivered this training for multiple sites with great reviews.

Patmos & ACS offer this and several other industry leading compliance training courses, which can be delivered on-site or on-line, and can be tailored to your needs. You can also pair these classes with any other Patmos offering (such as a process "Gap Analysis") for a fully customized services package.

**KNOWLEDGE**  
**INTEGRITY**  
**EFFICIENCY**

## DO-254 Training Outline

1. Certification Overview
  - Application of DO-254
  - AMC/AC20-152A
  - CRIs and Issue Papers
  - FAA Order 8110.105
  - What is CEH?
  - How does CEH get “Certified”?
  - Simple vs. Complex
  - Certification Offices
  - Military Application of DO-254
  - System Safety and DAL
  - Other Sources of Guidance or Policy
2. DO-254 Document and Lifecycle Overview
  - DO-254 Hardware Design Lifecycle Objectives and Data
  - Appendix A & B
  - CAST 31
3. Planning and the PHAC
  - Considering FAA and EASA Differences
  - Reverse Engineering
  - Additional Considerations
  - Use of Previously Developed Hardware
  - COTS (and EASA Considerations)
  - Service Experience
  - Tool Assessment & Qualification
  - Alternate Methods
4. Hardware Design Plan
  - Objectives and Common Issues
  - Traceability
  - Transition Criteria
  - Baselines
  - Design Standards
5. Hardware Validation and Verification Plan
  - Validation Objectives and Common Issues
  - Verification Objectives and Content
  - Verification and Validation Standards
6. Hardware Configuration Management plan
  - Objectives and Common Issues
  - HCI, HECI and VCI
  - AMC/AC 20-189 (Managing Open Problem Reports)
7. Hardware Process Assurance Plan
  - Objectives and Content
8. Certification Liaison and SOI Audits
  - LOFI and LOI
9. Objectives and Pitfalls of the Hardware Life Cycle
  - Planning Phase
  - Requirements Phase
  - Conceptual Design Phase
  - Detailed Design Phase
  - Implementation Phase
  - Production Transition Phase
  - Verification & Validation (Including Elemental Analysis)
  - Robustness
  - Test
  - Production Transition
10. Appendix B Methods for DAL A/B
11. AEH Job Aid
12. AEH Order 8110.105 and SWCEH-001