

CertCore™ 178

Avionics DO-178C/ED-12C Software Certification Evidence Package

FEATURES AND BENEFITS

- Lifecycle data to facilitate FAA, EASA, TCCA and other certification authorities' avionics safety certifications, where DO-178C is an acceptable means of compliance
- DO-178C/ED-12C evidence package supports systems requiring DAL A
 - Lower process assurance levels are supported with tailoring or licensing
- Level A independence implemented on all activities independent of project designated assurance level

INTRODUCTION

CoreAVI uses a DO-178C compliant software development process to create software drivers (DRV), libraries (LIB), Board Support Packages (BSP) and resident software for COTS-D circuit board assemblies (BOOT) to meet the needs of the safety critical market. DO-178C is an acceptable means of showing compliance with the applicable airworthiness regulations for software in aircraft type certification or (E)TSO authorization, and where the application Design Assurance Level (DAL) is A or lower. The development of CoreAVI software occurs with the oversight of an independent FAA Designated Engineering Representative (DER) to ensure compliance with DO-178C objectives. The DER can provide a formal signed letter attesting to the DO-178C compliance of the software or FAA form 8110-3 if the DER is delegated.

The available CertCore178 certification packages described here provide a subset of the software lifecycle artifacts that a delegated certification authority would need to verify compliance. The remaining lifecycle artifacts are available for examination at CoreAVI. The table below identifies the lifecycle data for the DRV, LIB, BSP and BOOT elements, which may be provided as separate lifecycle data sets for each or as a single set of lifecycle data for an integration of more than one product.

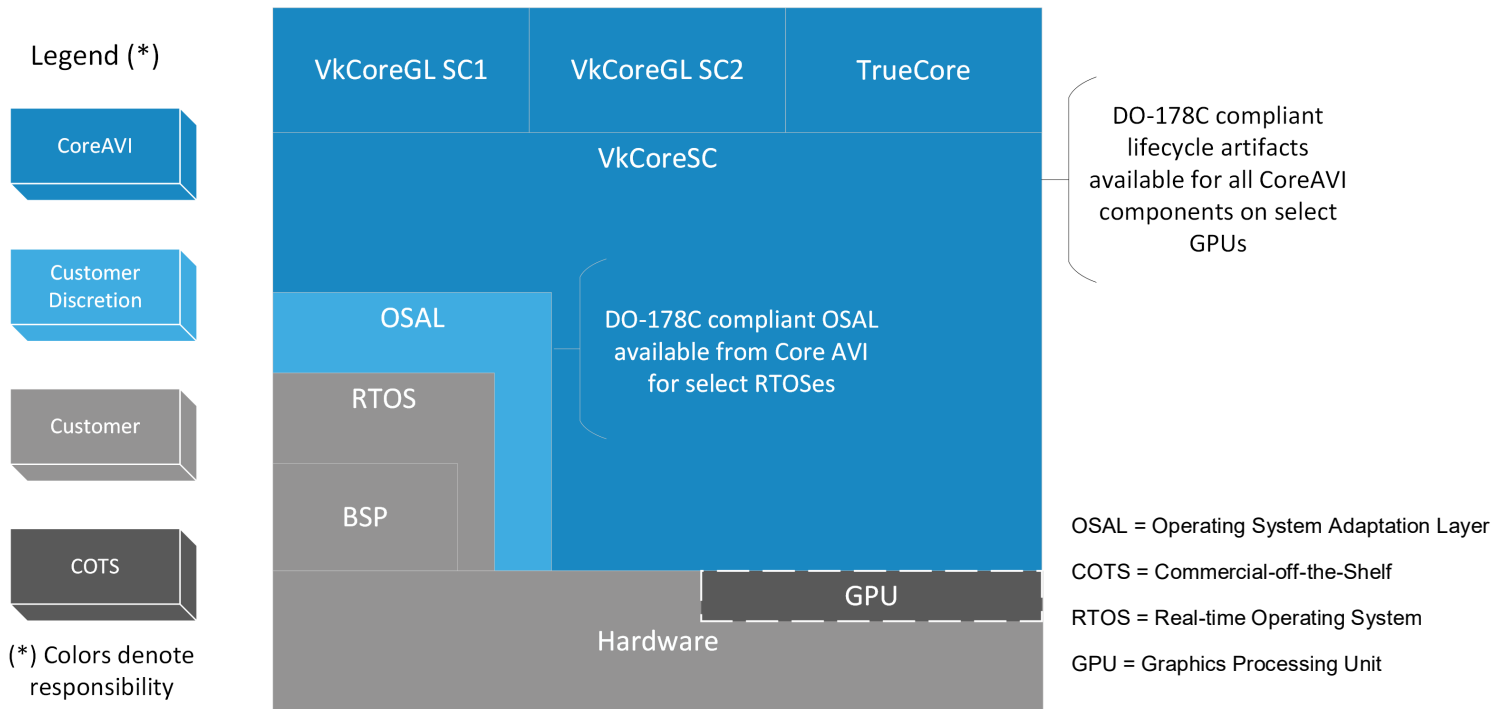
CoreAVI also provides a certification defense option for direct on-site support from CoreAVI to defend the certification evidence internally and with the delegated certification authority.

CoreAVI uses electronic technology for strong permanent data retention following the guidance in FAA-IIR-01-01A 23/04, Aircraft Certification Guide for the Use of Electronic Technology and Alternative Methods for Storing Information, and FAA Order 8000-79, Use of Electronic Technology and Storage of Data. The software development records are permanent and will not be destroyed.



The diagram below illustrates the CertCore178 software stack available from CoreAVI:

CertCore178 Software Stack



CoreAVI uses an Operating System Adaptation Layer (OSAL) architectural approach to isolate OS-specific function calls into a single layer and simplify porting between operating systems.

Please reach out to sales@coreavi.com for all available configurations.

The table below lists lifecycle data items and denotes whether they are delivered to the customer or available for audit.

D = Deliverable as part of the CertCore178 Software Certification Evidence Package

A = Available for review at CoreAVI

DATA ITEM	DRV	LIB	BSP	BOOT
Software Plans				
Plan for Software Aspects of Certification	D	D	D	D
Software Verification Plan	D	D	D	D
Software Development Plan	D	D	D	D
Configuration Management Plan	D	D	D	D
Quality Assurance Plan	D	D	D	D
Software Design Standards				
Requirements Standards	A	A	A	A
Software Design Standards	A	A	A	A
Software Code Standards	A	A	A	A
Software Design Data				
Software Requirements Data	A	A	A	A
Software Design Description (LLR, SAD)	A	A	A	A
Validation and Verification Data				
Software Trace Data	A	A	A	A
Software Test Cases	A	A	A	A
Software Unit Test Cases	A	A	A	A
Software Test Readiness Review	A	A	A	A
Software Verification Results	D	D	D	D
Software Test Case Procedures	A	A	A	A
Software Unit Test Case Procedures	A	A	A	A
Software Test Plan	A	A	A	A
Software Tool Operational Requirements and Tool Test Cases	A	A	A	A
Software Conformity Review	A	A	A	A
Final Data				
Software Configuration Index (SCI/SECI)	D	D	D	D
Tool Conformity Review	A	A	A	A
Phase Transition Review Records	A	A	A	A
Software Accomplishment Summary	D	D	D	D
CM Records	A	A	A	A
QA Records	A	A	A	A
Open Problem Reports	A	A	A	A

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