



## COTS-D

### ***Complete DO-254/DO-178C Safety Critical Certifiable Solutions***

CoreAVI's hardware solutions are offered as Commercial-Off-The-Shelf-Designs (COTS-D) in the form of Intellectual Property (IP), providing an alternative to developing hardware in-house or purchasing COTS hardware. DO-178C/ED-12C certifiable Board Support Packages (BSP) and device drivers are available off-the-shelf to support each COTS-D solution.

### What is COTS-D?

COTS-D is a new and unique way to procure DO-254/DO-178 certifiable COTS products. COTS-D offers a variety of hardware solutions, including single board computers based on Power Architecture, x86 and ARM cores, as well as graphics and compute modules based on AMD and other leading Graphics Processing Units (GPU). These hardware solutions are designed to industry standard module form factors such as VITA-46 (3U VPX) and VITA-61/VITA-42 (XMC). However, COTS-D modules are not limited by these form factors and can be adapted to other form factors and connector requirements.



COTS-D hardware solutions are developed and qualified for harsh environments, meeting applicable DO-160 requirements. They are designed to a structured and audited process aligned with DO-254 requirements as per FAA and EASA guidance. COTS-D modules undergo thorough planning, reviews and verification at all junctures, including a safety analysis performed to derive safety requirements to enable use in systems with requirements for the highest Design Assurance Level, DAL A.

### How Does COTS-D Work and What Is Included?

Instead of procuring completed assemblies, COTS-D enables system integrators to procure turn key designs that they can build themselves in their own manufacturing facilities alongside their existing products, or through a Contract Manufacturer. The following items are included in a COTS-D data package to enable manufacturing, support and repair of the module:

- Design Data
  - Schematic Diagram
  - Bill of Materials
  - Programmable logic data
  - Theory of Operations Manual
- Printed Circuit Board (PCB) Data
  - Manufacturing data
  - PCB drill data
- Mechanical Data
  - Part drawings
  - Electronic machining data
  - Thermal compound and application data
  - Mechanical assembly data
- Manufacturing Data
  - Solder paste stencil
  - Fixturing data
  - Assembly drawing

In addition to the COTS-D data package, we offer a DO-254/ED-80/ARP 4761 data kit which provides documentation and evidence to support FAA and EASA certification authority needs for the hardware elements, as well as Failure Modes and Effects Analysis (FMEA) and other documentation to support ARP 4761 safety assessments.

To further speed up development and deployment and to significantly lower risk, CoreAVI is using our many years of experience in developing DO-178C safety certifiable software. We provide pre-integrated software and associated DO-178C artifacts required to support the COTS-D hardware - from Board Support Packages, device drivers and compute libraries, even to the complete operating system environment in some cases. The data kits support system level certification up to DAL A.

Combining all these elements—the GPUs, hardware design IP, complete suite of software to support the hardware and all necessary artifacts and data to support certification to the highest DAL levels—CoreAVI provides customers with a single source for a complete, fully integrated safety certifiable product solution

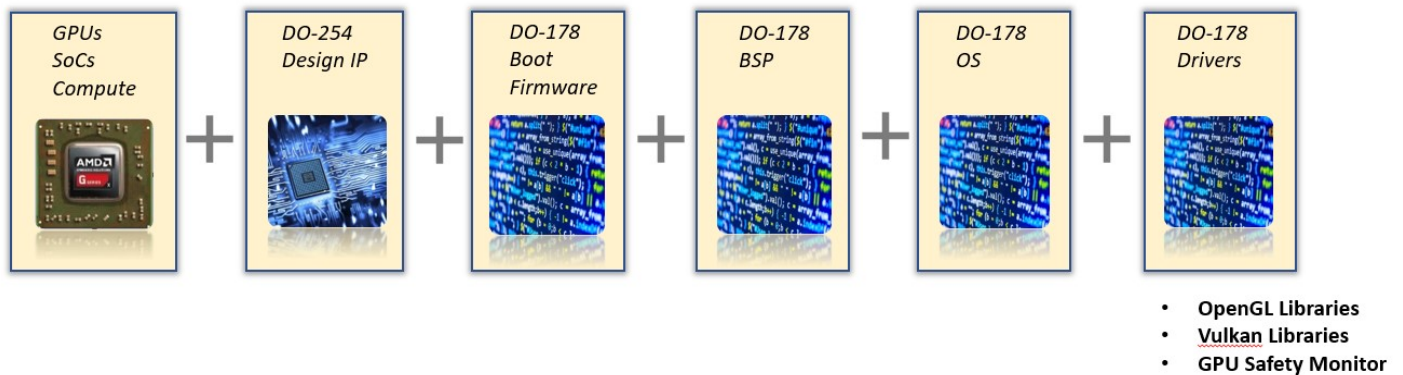


Figure 1: COTS-D Components Provided by CoreAVI

## How COTS-D Benefits Your Program

COTS-D not only reduces your risk and time to market, but also reduces your overall costs. With COTS-D you can:

- Build DO-254 certifiable hardware in your home country or location that offers lowest costs
- Tailor your modules to the specific form factors and connectors required by your program
- Lower the cost of implementing and deploying certifiable systems
- Increase competitiveness vs integrators that buy assemblies in
- Build in country, control your secure and trusted supply, and maintain in-country staffing
- Repair in country, maintain secure hardware configurations and eliminate shipping costs and delays
- Increase your control of the supply chain
- Use existing lifecycle services, manufacturing, test, component, repair and other specialists to maximize your existing investments and further reduce costs
- Reduce your risk by sourcing all hardware and software components from a single vendor with certification experience

Contact CoreAVI for more information: [sales@coreavi.com](mailto:sales@coreavi.com)