TESSOLVE
A **HERO ELECTRONIX** VENTURE



Avionics Expertise

Engineering Excellence from Cabin Equipment to Flight Critical Systems

15+
Years Avionics IFE, CMS, Engine Control & CMM Documentation Expertise

20+
Products Qualified DO-160 Avionics

DAL-E
DO-254 & DO-178C

Engineering Capabilities

System Architecture

- Requirements analysis, planning & NRE & risk mitigation
- Architecture evaluation: chipsets, platforms & SW solutions
- Qualification & certification: CE, FCC & UL compliance
- Manufacturing strategy & logistics analysis
- Translating market requirements into feasible solutions

Hardware Design — HPC & Complex Boards

- Digital (DDR5, 10GbE), Power (Avionics PSU), Analog & RF
- Analysis: MTBF, FMEA, DFx, Safety & MEDINI reliability
- SI, PI & Thermal simulations (Ansys, Hyperlynx)
- EDA: Altium, Cadence & Mentor
- Fast prototyping, dedicated lab up to 70 GHz
- Engineering validation: EV, DV & PV



FPGA / CPLD Design — DO-254

- Families: Microchip, Altera, Xilinx, Lattice Semi & Gowin
- Interfaces: PCIe, DDR, USB3, BT656, MIPI CSI/DSI, I2S & Intel HDA
- Top-level functional test-bench development
- Modules: SPI Arinc Bridge, Temperature Mgmt & Power/Voltage/Reset
- Speed FAN, Eth Switch, GPIO, LED, HD Audio to I2S

FADECU — DAL-A Compliance

- DO-254 and DO-178C compliance for full authority Digital Engine Control
- DAL-A for all main modules; CEMILAC certification path
- Modules: EHMS, Output, Input, PSU, Relay & IO Connector
- Pressure Sensor, Back Plane & Processor (re-engineering)

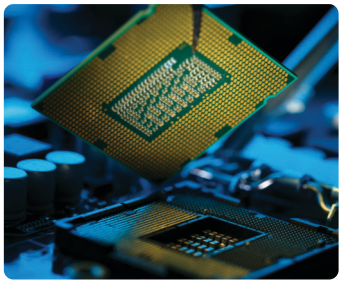


CMM – Component Maintenance Manual

- CMM Creation, Modification, Optimization & Maintenance
- Written with direct focus on in-service MRO operations, line maintenance and AOG constraints
- For cabin and cockpit electronic LRUs (IFE, CMS, Displays, Power Supplies & Mechatronic units)
- Continuous dedicated team
- Standards & Toolchain: ISO 9001 and EN 9100 Certified | Adobe Framemaker + PTC Arbortext | ATA iSpec 2200 compliant | S1000D support can be provided on request

Embedded Software — DO-178C

- UI & Application: Qt HMI on Linux/Android, PC GUI (C#, Qt) & Functional Test Bench
- Platform / Drivers: Device drivers, Linux/Android porting, MCU/DSP/FPGA firmware & SDK prep
- Multimedia: HW-accelerated codecs, 3rd-party DRM players, GStreamer & HD/4K streaming
- Security: Trust Zone, Secure boot & BSP encryption support
- Connectivity: Wi-Fi / BT / BLE / NFC / GNSS / FM / NBIoT driver dev & porting
- Optimization: U-boot/Kernel boot optimization, Linux & Android process tuning
- Middleware: API development, middleware integration & framework customization





Regulatory Tests & Certifications

- 20+ products qualified: FCC, CE & Avionics
- ESD/Lightning, CE, RE, Power input & Susceptibility testing
- Environmental: Temperature/Humidity, Vibration/Shocks, Chemical & Pressure
- Reliability: Connector cycling, UV, Fast T°C, HALT & Fall ball tests
- Avionics: DO-160 cabin environment, 28VDC & 115VAC PSU
- Short power interrupt back-up solutions

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afaq ISO 9001 Qualité AFNOR CERTIFICATION
afaq EN/AS/JISQ 9100 Aéronautique AFNOR CERTIFICATION

AS9100 Certified | DO-160 | DO-254 | DO-178C
More than 15 years experience and partnership with key customers