

Embedded Tech Trends Raytheon, 2025

Raytheon's Investment in Industry Standard
Development



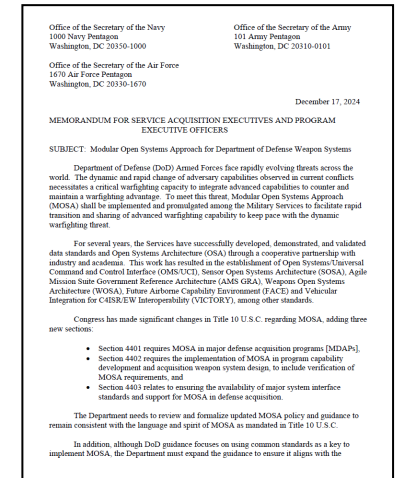
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13-Jan-2025

DoD Open Systems Architecture (OSA) Mandate

- The U.S Department of Defense (DoD) has adopted, and mandated, an OSA model
- Why?
 - Interoperability
 - Tech refresh
 - Rapid upgradeability
 - Improved market space
 - Innovation
 - Cost savings



MOSA Memorandum received from USSECNAV/USSECAF, 17-Dec-24



Images taken from Google

The US DoD has delivered mandates to government contractors for an Open Systems approach

Raytheon and Open Systems Architecture

- Raytheon's active involvement with OSA
 - Raytheon has a Technology Interest Group (TIG) to inform employees of wants and needs from our end customers
 - Raytheon is a primary participant and influencer in VITA, FACE, MOSA, SOSA, COARPs and other Open Standard organizations



Images taken from Google

Raytheon, and our end customers, identify advantages to an Open Systems approach

Raytheon Interest Utilizing Open Systems Architecture

- Raytheon maintains customer focus by applying open standards to develop future systems
 - Reduces design time (slot profiles are already defines, part numbers, requirements are already specified, etc.)
 - Upgradable with a dynamic response to benefit from leading edge technology
- Use of open standards keeps from sole sourcing technology
 - Competitive pricing (e.g., VITA 87.0)
 - Reduced lead times giving best impact on program schedules
- Raytheon participation in open standards organizations gives us leading edge to new and future technologies aligning to customer needs
- Raytheon influencing of open standards helps us align our solutions to end customer needs



RTX APG-79 AESA
Image take from RTX.com



RTX Next Gen Jammer
Image take from RTX.com

Raytheon use of open standards has become a Raytheon expectation, where applicable

Raytheon Supporting VITA 47.X Family of Standards

- V47.0 – started in 2005 to define standard environments, design and construction, safety and quality requirements for commercial-off-the-shelf (COTS) Plug-In Modules (PIMs)
 - This dot standard has been labeled for legacy systems only
- V47.1 – created in 2019 with large input from US government defense agencies and prime contractors to better define and refine the concepts of V47.0
- V47.2 – created in 2019 to more refine a rugged environment for different COTS module applications
- V47.3 – created in 2019 to specifically define a military rugged environment for COTS modules



L3HARRIS



Images taken from Google

VITA 47 was created to lay groundwork for COTS environmental requirements

Raytheon Supporting VITA 47.X Family of Standards

- Raytheon provided recommendations for updates, with input from military institutions and industry leaders, to best align to warfighter environments
- Ruggedizing modules, and systems, reduces risk of failure during a mission
- Updates allow for commonality between compliant modules
 - Allows for less time to test readiness

VITA 47.1 updates were made to support our warfighters; V47.2/V47.3 updates are being finalized all with Raytheon's primary influence

VITA 47.1, Figure 3.2-1 - Plug-In Module Environmental Class Naming Construct

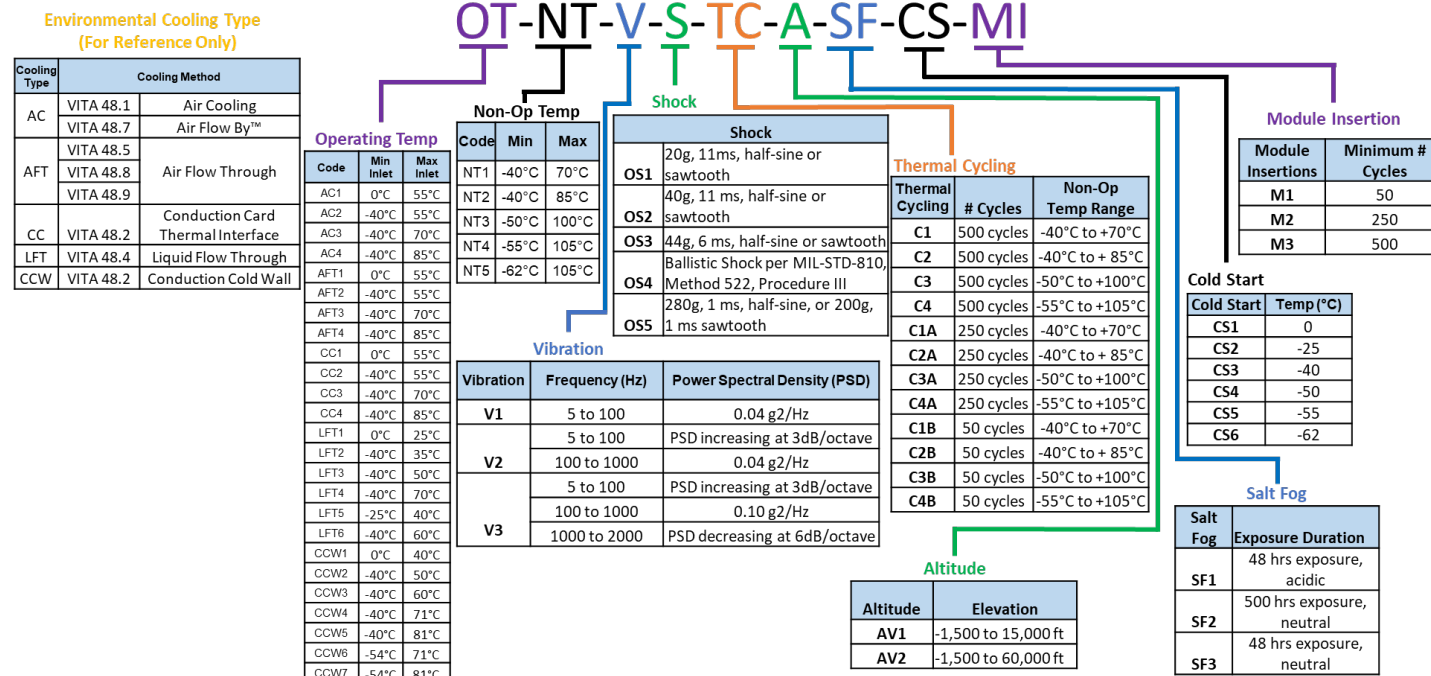


Image taken from VITA 47.1 WG ANSI Ballot Submission. 12-Nov-24

Raytheon Sponsors VITA 100

- Building the next generation of modular based systems
- Updating and upgrading old technology
 - VITA 100 connectors are denser than VITA 46.0 connectors providing more signals/interfaces at increased baud rates
- Supporting the warfighter for the future
- Keeping the market competitive for best price and adherence to schedules
- Developing new core technologies for future system integration

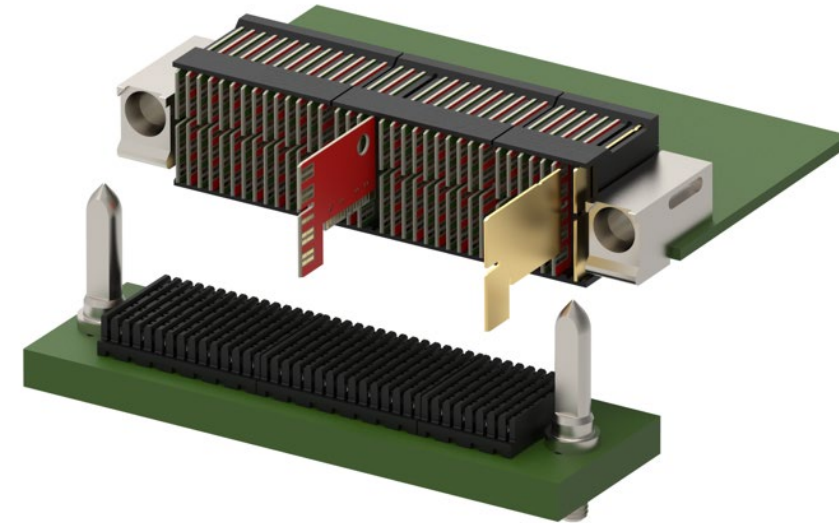


Image taken from TE representative, 09-Jan-25

Raytheon fully supports, and will influence, the development of an Open Standard for the next generation of tactical systems

Raytheon Support for the VITA 100 Suite of Standards

- RTX is the chair and editor for VITA 100.10
 - Will chair and/or editor V100.13
 - Will be a primary contributor in V100.11, V100.12, V100.30, V100.40, and V100.50
- RTX has key stakeholders and SME review of all V100 standards

Standard						
85.106 Study Group	Requirements & Trade/Feasibility Studies					
100.0 Base Standard			VITA Standard Draft	ANSI	Maintenance	
100.1 Profile Tables			VITA Standard	ANSI	Maintenance	
100.10 Mechanical			VITA Standard Draft	ANSI	Maintenance	
100.11 Conduction			VITA Standard Draft	ANSI	Maintenance	
100.12 AFT				Study Group	VITA Standard	ANSI
100.13 LFT				VITA Standard	ANSI	Main.
100.20 Sys. Mgmt.			VITA Standard Draft	ANSI	Main.	
100.30 Connector			VITA Standard Draft	ANSI	Maintenance	
100.31 Solder Tail					VITA Standard Draft	
100.40 Power Supply			Study Group	VITA Standard Draft	ANSI	Main.
100.50 Signal Integrity					Study Group	VITA Standard

Image taken from VITA 100 f2f, 25-Sept-24

Raytheon participation and influence in VITA 100 suite of standards confirmed for 2025





Thank You

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