RuCAS

Rugged CSfC Airborn Solution

Sub U Systems has been designing and producing custom rugged small form factor, low power, high performance IP router, Ethernet switch, and compute products for over a decade. The design and production of the **SUB-U Rugged Compute Airborne Solution** embodies our engineering expertise and yields a truly pace setting appliance. Within its 7.5" tall by 7.5" wide by 12" deep machined aluminum enclosure the SUB-U RuCAS offers 7 discrete servers based upon Intel® enterprise grade processors (either Xeon D or C3000, customer defined). Each processor offers up to 8 10G Ethernet interfaces, up to 16 cores/32 threads, up to 128GB of RAM, and up to 8 TB of high speed NVME storage. Each sever offers a minimum of 4 10G base T copper interfaces and either 2 or 4 Intel 10G KR copper interfaces (C3000 supports 4 KR, Xeon D 1500 supports 2 KR, and Xeon D 2100 support 4 KR interfaces). Intel's KR interfaces are intended for "backplane" use applications, and the RuCAS has been designed to allow the 7 servers to interface with each other internally using the 10G base T or KR interfaces, or externally in dual interface 10G 38999 connectors Quadrax connectors. The RuCAS was designed from the ground up to meet the most robust levels of MIL STD 810 and 461, as well as designed to obtain DO-160 Flight Qualification. The RuCAS has been designed in such that SUB-U may easily and rapidly produce variant RuCAS units with either more or fewer discrete server modules, more storage, and/or more Ethernet port denisty. The sky is the limit on how many server modules can be implemented.

Whereas the RuCAS was designed for rotary wing aircraft use; providing NSA Commercial Solutions for Classified Wi-Fi and VPN functionality for the aircrew and passengers, it may also be leveraged in fixed wing, maritime and land/mobile applications. Not only is the RuCAS suitable for NSA CSfC applications, the RuCAS may be used simply as a 7 server compute cluster. The RuCAS is fully compatible with most all virtual machine hypervisors and hyper converged hypervisors, Windows Server and Linux application servers, and the many virtualized networking functions (VNF) from Cisco, Aruba, Juniper, Palo Alto Networks, etc.. Wherever there is a need for an extremely rugged very high performance compute solution the RuCAS is ready to serve and support the mission.

Applications:

- Airborne, maritime, land/mobile harsh environment use cases
- NSA CSfC CWLAN, MSC, and MA Capability Packages compliant:
- Military or commercial AI and ML applications
- Tactical edge of network signal and data processing applications

Variants:

- RuCAS with RJ45 Ethernet Interfaces
- RuCAS units with either less, or more, discrete server modules
- RuCAS with expanded RJ45 interface port density
- RuCAS with expanded SATA III Storage

Features:

- 7 Intel server processors (Xeon D 1500/2100, C3000, & Ice Lake when available)
- Each server offers up to 8 10G interfaces, with 2 802.3at PoE interfaces
- Each server offers discrete isolated power
- Flexible thermal solution options (passive, active, hybrid)
- Designed to obtain DO-160 Flight qualification
- Designed to most stringent MIL STD 810 and 461 specifications

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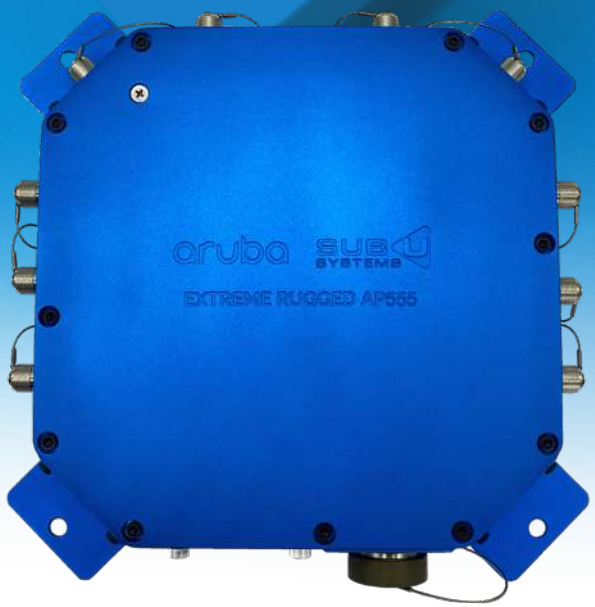
R-AP 555

Rugged Aruba Access Point 555



The **SUB-U Rugged-Access Point 555 (R-AP 555)** is a rugged 802.11ax (Wi-Fi 6) Access Point that meets MIL-STD 810 and IP68 levels of ruggedization and DO-160 flight qualification. The R-AP555 is based on the commercial off the shelf Aruba AP555 Wi-Fi Access Point, and retains all the capabilities of the class leading Aruba AP555 802.11ax (Wi-Fi 6) Access Point. The R-AP 555 offers high performance enterprise class Wi-Fi connectivity in support of high throughput and/or large number of clients applications (up to 3072 clients in total per R-AP 555). The R-AP 555 features tri-radio operation with two 5GHz and one 2.4GHz radio in a 4x4 MIMO capability, and is capable of 5.37Gbps of real world throughput. The R-AP 5555 also offers integral user configurable Bluetooth 5, 802.15.4 Zigbee, and NFC radio support allowing organizations to field wireless non-Wi-Fi based IOT technology solutions within the same topology covered by one or more R-AP 555s without the need to procure and field additional wireless connectivity infrastructure. The R-AP 555 offers both controller and controller-less modes. Fielding the R-AP555 in a controller-based mode (Remote or Campus) reduces deployment time, centralizes configuration, and helps manage inventory with Zero Touch Provisioning via Aruba Mobility Controller or a controllerless (Instant) mode. You can find more information at https://www.arubanetworks.com.

aruba
a Hewlett Packard Enterprise company

Controller-less (Instant) Mode

In controllerless mode, one AP serves as a virtual controller for the entire network. Learn more about Instant mode by visiting https://www.arubanetworks.com.

Mobility Controller Mode

For optimized network performance, roaming and security, APs tunnel all traffic to a mobility controller for centrally managed traffic forwarding and segmentation, data encryption, and policy enforcement.

Features

- 802.11ax (Wi-Fi 6) up to 5.37 Gbps
- WPA, WPA2 and WPA3 Enterprise, Personal, and Enhanced Open Security
- 802.15.4 Zigbee and NFV support
- ODFMA and MU-MIMO for enhanced multi-user efficiency
- Tri-radio mode with two 5GHz and one 2.4GHz radio (4X4 MIMO)
- Built in Trusted Platform Module (TPM)
- Bluetooth Low Energy Capability
- Transmit Beamforming (TxBF)
- Aruba Advanced Cellular Coexistance (ACC)
- Passpoint Wi-Fi - Seamless cellular to Wi-Fi Carrier over capability
- Dynamic Frequency Selection (DFS)
- VPN Tunnel Support (securing data from the AP to the Mobility Controller)
- 802.1at and BT PoE power consumption, or direct power

Specifications

- Size - 10 x 10 x 2.2"
- Weight - Approximately 6lbs
- Power - 802.3at PoE-BT (60w) or direct power
- Antennas – (8) Wi-Fi/ (4) BLE

Certifications

- MIL-STD 810
- DO-160

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