Cab-n-Connect™ A300
More efficient. More performance.

Cabin Wireless Access Point – 802.11ax / Wi-Fi 6E

> 802.11 a/b/g/n/ac backwards compatibility

> Dedicated smart sensor for top-level security and performance

> Support for WPA3 security certifications

> DO-160G qualified hardware

> Two Quadrax circular connectors for retrofit applications

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Kontron's latest Cab-n-Connect A300 combines powerful 802.11ax Wi-Fi 6E technology, advanced security and ML/AI management capabilities into a single enterprise-class solution that allows customers to deploy high speed, highly secure Wi-Fi in the toughest aircraft environments. Optimized for multi-platform video streaming, it provides the highest level of efficiency and performance for dense, multi-client applications running within the aircraft cabin.

With aggregated data rates up to 4.8 Gbps in the 6 GHz band, concurrent 1.2 Gbps in the 5 GHz band and concurrent 573Mbps in the 2.4 GHz band, this next generation CWAP provides intelligent edge capabilities with the highest level of client services without compromising security monitoring. It has been designed with passive cooling (fanless) technology to prevent the unit from overheating and comes with worldwide operations support.

With more users, more devices, more things, more applications and more threats straining aircraft infrastructure, the Cab-n-Connect A300 was engineered to meet a multitude of ongoing challenges. The Cab-n-Connect A300 is the only avionics-certified CWAP that offers a dedicated, Tri-band sensor that continuously scans and detects security threats in real-time eliminating the risk of vulnerability or attacks, while also optimizing RF performance automatically. It delivers top-level security services, with support for the Wi-Fi Alliance's WPA3 security certifications, TPM for secure key storage and a stateful L2-L7 DPI firewall for context-based access security.

In addition, Ace Flight ™ Secure Firmware provides ease of use and a rich feature set. It is built from best-in-class open-source router / firewall software and is further enhanced by Kontron's integration of leading-edge security features.

The CWAP Cab-n-Connect A300 is engineered based on Kontron's innovative architecture and modular design approach. Benefits of this approach include:

❯ Leveraging state-of-the-art technology, while many enterprise WAPs are growing in dimensions and energy consumption, Kontron effectively minimizes the size, weight, and power of the CWAP hardware.

❯ The software solution is meticulously optimized for the avionics sector, ensuring enhanced management over the solution's entire lifecycle.

❯ This strategic design accelerates the product's time to market and simplifies the upgrade trajectory for forthcoming Wi-Fi technologies, such as Wi-Fi 7.

Technical Information

RADIO OPERATION	TRI-RADIO TECHNOLOGY	2.4 GHz/5 GHz/ 6 GHz Multi-User MIMO (MU-MIMO) 802.11ax (6E): OFDMA (4096 QAM) 802.11ax: OFDMA (1024-QAM) 802.11ac: OFDM(BPSK, QPSK, 16-QAM, 64QAM, 256-QAM) 802.11ac Packet Aggregation: A-MPDU, A-MSDU 80 2.11ac Very High- Throughput (VHT): VHT20/40/80 802.11ac Advanced Features: LDPC, STBC, Maximum Likelihood (ML) 802.11n: OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11n High-throughput (HT) support: HT 20/40 802.11n Packet aggregation: A-MPDU, A-MSDU 802.11
	DATA RATES	802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: (2.4 GHz); 6.5 to 300 Mbps (MCS0 to MCS15, HT20 to HT40) 802.11n: (5 GHz); 6.5 to 300 Mbps (MCS0 to MCS15, HT20 to HT40) 802.11ac: (5 GHz) 6.5 to 3467 Mbps (MCS0 to MCS9, NSS=1to 4, VHT20 to VHT160) 802.11ax: (2.4 GHz): 3.6 to 574 Mbps (MSC0 to MSC11, NSS = 1to 2, HE20 to HE40) 802.11ax: (5 GHz): 72.1 to 1201 Mbps (MSC0 to MSC11, NSS = 1to 2, HE20 to HE80) 802.11ax: (6 GHz): 72.1 to 4804 Mbps (MSC0 to MSC11, NSS = 1to 4, HE20 to HE160)
	RADIO FOR WIPS & BLUETOOTH	Dedicated Sensor Radio for monitoring across all frequencies of 2.4 GHz/5 GHz/ 6 GHz BLE 5 Radio Bluetooth® Low Energy (BLE) and IEEE® 802.15.4 compliant
	CLIENTS PER RADIO	2.4GHz Radio – 256 Clients 5GHz Radio – 256 Clients 6GHz Radio – 512 Clients
	RADIO APPROVALS	FCC CFR 47 Part 15, Class B, ICES-003 Class B, FCC Subpart C 15.247, FCC Subpart E 15.407, RSS247, EN 301 893, EN 300 328, EN 301 489 1 & 17, EN 50385, EN 55032 (CISPR 32), EN 60601-1-2

PRELIMINARY

ANTENNAS	7x integrated Omni-Directional Antennas
SOFTWARE	Ace Flight ™ Secure provides a rich feature-set of flexibility and scalability within a dense cabin aircraft environment offering (Not limited to): - Ease of configuration - Management via SSH, Telnet, SNMP, HTTP/HTTPS - Ease of Troubleshooting with the inbuilt tools such as Wireless Survey, Remote Syslog, Spectral Scan - Up-to-date security Standards such as WPA2, WPA3, Wireless ACL - Versatile Networking in AP, Router, Bridge modes with VLAN support - WIPS Support - Radius Server Support - Hotspot 2.0 Support Band Steering and Client Load Balancing - roaming within the network - field loadable software/updates - Automatic Failure Recovery with dual image configuration
SECURITY	Stateful L2-L7 DPI Firewall, IP filtering, NAT, 802.1x, 802.11i, WPA3, WPA2, WPA Triple Methodology Rogue Detection: 24x7 Tri-band WIPS sensing, on-board IDS and secure guest access Hotspot 2.0 with captive portal, IPSec and RADIUS Server and VLANs
RF MONITORING	Dedicated Tri-Band Sensor Radio that Intelligent monitors and detects security issues
I/O	Two Quadrax Circular Connectors J1: Includes Input Power, Discrete I/O: Radio Disable/Enable; PWR On/Off; Status, Console (RS-232), 4x IP Strapping, J2: 2x 100/1000/2500 Mbps auto-negotiation Ethernet Supports Daisy-Chain and Fail-over feature for CWAP downstream fault recovery (2x 100/1000/2500 Mbps pass through)
POWER	115 VAC/360-800 Hz Aircraft Grade power with 200 msec Hold-up; 25 W Nominal
ENVIRONMENT & EMI	Qualified to DO-160G (Planned)
SIZE/DIMENSIONS (H X W X D)	2.3" (58.5 mm) x 9.5"" (241 mm) x 6.8" (173 mm) - Mounting per ARINC 836-1-7
WEIGHT	<4.25 lbs (1.9 kg)
OPERATING TEMPERATURE	-15 °C to +70 °C

Ordering Information

ARTICLE	PART NO.	DESCRIPTION
CWAP, A300, LAB	73001015-001	LRU, CWAP, A300, LAB
CWAP, A300	73001015-101	LRU, CWAP, A300
CABLE KIT, A300, LAB	73001015-500	LAB CABLE KIT, A300

About Kontron

Kontron is a global leader in IoT/Embedded Computing Technology (ECT) and offers individual solutions in the areas of Internet of Things (IoT) and Industry 4.0 through a combined portfolio of hardware, software and services. With its standard and customized products based on highly reliable state-of-the-art technologies, Kontronprovides secure and innovative applications for a wide variety of industries. As a result, customers benefit from aceerated time-to-market, lower total cost of ownership, extended product lifecycles and the best fully integrated applications.

For more information, please visit: **www.kontron.com**

Your Contact

Kontron Canada Inc.

4555 Rue Ambroise-Lafortune
Boisbriand (Québec), J7H 0A4, Canada
Tel.: (800) 387-4222
avionics@kontron.com

www.kontron.com

Your Contact

Kontron America Inc.

9477 Waples Street
San Diego, CA 92121, USA
Tel.: +1 888 294 4558
avionics@kontron.com

www.kontron.com

Global Headquarters

Kontron Europe GmbH

Gutenbergstraße 2
85737 Ismaning, Germany
Tel.: +49 821 4086-0
info@kontron.com

www.kontron.com

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