ACE Flight™ 4609



ACE Flight™ 4609 High-Performance Avionics Server

- ARINC 600 4MCU, Air-Flow-Through with Front Removable Storage
- Intel® i7-1370PRE, 14-Cores with 64GB DDR5 IBECC RAM
- L2+ Managed 2.5Gb Ethernet Switch
- 5G/LTE Cellular Modem for global coverage
- DO-160G qualified (pending) and OEM Line-Fit ready

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Product Highlights

The Kontron Ace Flight™ 4609 Avionics Server represents a significant step forward in bringing high-performance computing and advanced connectivity to the aviation industry. Its powerful hardware, enhanced features, backward compatibility, and rugged design position it as a compelling solution for a wide range of avionics applications. The comprehensive support ecosystem offered by Kontron, including software, services, testing, and documentation, further enhances its value proposition for OEMs and integrators in the avionics market. The focus on Line Fit qualification demonstrates Kontron's commitment to meeting the stringent requirements of aircraft manufacturers.

This next-generation platform incorporates a powerful Intel® 13th Generation 14-Core processor coupled with 64GB of DDR5 RAM and Intel Iris Xe Graphics, which supports functions like real-time transcoding for live TV streaming. Networking capa- bilities are enhanced with an L2+ Managed Ethernet Switch pro- viding ten 2.5GBase-T ports, offering significantly higher speeds than the previous model's 1000Base-T. Storage data rates are also significantly enhanced by integrating two M.2 NVMe stor- age devices when compared to the previous 2.5" SATA storage devices. There is also an optional Removable U.2 NVMe SSD (RSSD) offering up to 30TB.

Another significant upgrade is the 5G/LTE cellular modem for global connectivity. This modem supports 5G NR Sub-6 GHz bands (both SA and NSA, 3GPP Release 17) with automatic fallback to 4G LTE, ensuring broad coverage. It features dual SIM capability, supporting one physical Mini-SIM ("2FF") and one eSIM/eUICC. The eSIM functionality allows multiple carrier profiles to be securely provisioned and updated over-the-air (OTA), offering flexibility in selecting mobile network operators and plans without physical SIM card changes.

Given its robust processing, storage, graphics, and connectivity features, the AF4609 is well-suited for demanding roles such as the main Inflight Entertainment (IFE) server, capable of handling high-definition streaming and interactive content. The substantial processing headroom and flexible software architecture, supporting containers and virtual machines, position the AF4609 as a future-proof investment, ready to host emerging applications like immersive virtual or augmented reality experiences, or function as a data aggregator and analysis hub for predictive aircraft maintenance data.

Technical Information

FORM FACTOR	ARINC 600 4MCU, air-flow through
PROCESSOR	Intel® i7-1370PRE, 14-Cores (6 P-Cores @ 1.9GHz / 8 E-Cores @ 1.2GHz)
DRAM	64 GB DDR5, IBECC
OPERATING SYSTEM	Linux™ Ubuntu 22.04, LTS; Support for other Linux distributions
SECURITY	TPM 2.0, Encrypted Storage integrated with TPM 2.0
STORAGE	4TB of Fixed Storage (2x NVMe SSD, *2TB each) 1x Removable Solid State Drive (RSSD), capacity up to *30TB (Ordering Option)
ETHERNET PORTS	10x 2.5GBase-T Ethernet Ports on ARINC 600 Connector 1x 2.5GBase-T Ethernet Port on Front Maintenance Panel,
ETHERNET SWITCH	L2+ Managed Ethernet Switch, LAN9696, industrial grade Managed Ethernet switch offering powerful L2 switching, L3 routing and extensive management features
ARINC 429	Six (6) Rx (fixed), One (1) Tx ARINC 429 channels, supports decoding and translation of ARINC data
AIRCRAFT DISCRETES	Discrete I/O (4 inputs / 4 outputs), 3x Modem Control (DI), 3x Config bits, 1x CPU Reset (DI), 1x System Enable (DI), API's to interact with low level Hardware
AUDIO	2 Channel Audio Outputs
OTHER INTERFACES	1x RS-485, 1-wire (APM)
CELLULAR MODEM	5G / LTE Cellular Modem for global coverage (NR Sub-6 GHz), 1x Physical SIM and 1x eSIM/eUICC), automatic 4G fallback, Integrated L1+L5 GNSS support, 2 x Coax antenna connections via ARINC 600
FRONT PANEL	1x SIM slot (2FF), 1x RTC Battery, USB C (serial interface to processor & switch), USB 3.0, RJ45 (Ethernet), LED for Power On, System Status, Mini-Display Port
POWER	115VAC / 360-800 Hz with 200 msec Hold-up
ENVIRONMENT	DO-160G qualified (pending) and designed for OEM Line-Fit, Meets harsh environmental aircraft requirements
WEIGHT	12 lbs
THERMAL	Operating Temperature: -15°C to +70°C Airflow: Draw-Through per ARINC 600-20 Level 1
DIMENSIONS	4.88" (124 mm) W x 7.62" (194 mm) H x 12.7" (322 mm) D
COMPATIBILITY	4MCU Avionic Server designed to be a drop-in replacement for the AF4608 product (similar ARINC 600 pinout), backwards compatibility with previous generation of Ace Flight™ Servers. Contact factory for specific review.

*increased fixed storage capacity possible

Ordering Information

ARTICLE	PART NO.	DESCRIPTION
AF4609, LAB	73002010-006	LRU AF4609 SERVER 4TB, LAB
AF4609	73002010-106	LRU AF4609 SERVER 4TB

Removable Storage

ARTICLE	PART NO.	DESCRIPTION
RSSD 4TB	5180550-104	REMOVABLE U.2 SSD, 4TB
RSSD 8TB	5180550-108	REMOVABLE U.2 SSD, 8TB
RSSD 16TB	5180550-116	REMOVABLE U.2 SSD, 16TB *CONTACT FACTORY
RSSD 30TB	5180550-130	REMOVABLE U.2 SSD, 30TB **CONTACT FACTORY
RSSD 60TB	5180550-160	REMOVABLE U.2 SSD, 60TB ***CONTACT FACTORY

Accessories

ARTICLE	PART NO.	DESCRIPTION
AF4609 CABLE KIT	73002010-500	AIR TRAY WITH BREAKOUT CABLE ASSY, 2 METERS
5G CELLULAR ANTENNA, PMA	73005500-100	LRU 5G CELLULAR ANTENNA, PMA
APM	73005010-520	APM, 32KB EEPROM, PMA

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