

# uAvionix Achieves AIMS Certification of World's First Mode 5 Micro-IFF Combined Transponder Receiver (CTR)

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[/EINPresswire.com/](https://EINPresswire.com/) -- uAvionix, a

leading provider of low Size Weight and

Power (SWaP) avionics for aerospace

and defense, along with their partner R

Cubed Engineering, announced today

the AIMS Mk XIIB certification of the RT-

2087/[ZPX-1](#) (ZPX-1), the World's first

AIMS-certified Mode 5 Micro-IFF

(Identification Friend or Foe) Combined

Transponder Receiver (CTR) and the

first ever Mode 5 CTR to be AIMS-

certified when paired to the newly

certified KIV-79. The groundbreaking

achievement delivers enhanced

situational awareness and Combat ID

capabilities for tactical warfighters in

the modern battlespace with crewed and uncrewed aircraft.



uAvionix ZPX-1 Combined Transmitter Receiver AIMS Certified

Paul Beard, Chief Technical Officer at uAvionix, stated, "hostilities in Eastern Europe and the Pacific Rim are currently of great concern and getting a lot of thoughtful analysis on how best to address these emerging threats. If nothing else, the ZPX-1 CTR puts another, arguably more modern, surveillance and Combat ID tool into the warfighter's toolbox."

In achieving Mk XIIB certification, ZPX-1 follows its predecessor, the RT-2087/ZPX (ZPX), a 68-gram Mico-IFF transponder. The ZPX-1, with its passive Mode 5 receiver, is the only AIMS-certified Micro-IFF solution meeting the U.S. Army's Future Tactical UAS (FTUAS) Increment 2 program requirements. This ensures full CTR functionality, making it ideal for platforms needing comprehensive IFF capabilities including Mode 5 Level 2 Broadcast reception.

ZPX-1 offers the warfighter a broad range of traditional IFF transponder functionality combined with a passive receiver for greater situational awareness and support for detect & avoid capabilities. It supports civil modes A, C, S (with Enhanced Surveillance), and ADS-B Out, adds

military modes 1, 2, 3, and Mode 5 Levels 1, 2, and 2-Broadcast Out (2-B Out), and includes receiver functions: civil ADS-B In and military Mode 5 Levels 2 and 2-B In. Importantly, ZPX-1 innovatively pairs with a single KIV-79 crypto for both transmit and receiver functionality, reducing costs while meeting the performance standards of AIMS 17-1000 Rev 1.1 and testing regimens AIMS 1101 and 1301.

Previous AIMS certifications covered transponders, interrogators, and combined interrogator transponders (CITs). While transponders enable interaction with Air Traffic Control or appropriately equipped aircraft, interrogators in a CIT perform Combat ID by discriminating between nearby friends and potential enemies. The ZPX-1 CTR, with its passive receiver, offers a quiet alternative to active interrogation, enhancing operational security by avoiding emissions that could be targeted by anti-radiation weapons. The combination of a 91-gram CTR with a 176-gram KIV-79 crypto, a package that weighs under 10 oz, expands operational possibilities for airborne platforms as small as Group 1. Notably, this allows small tactical drones to carry a transponder and passive receiver with all the protected battlefield situational awareness, Combat ID support, and interoperability afforded by NATO's latest interoperability standard: Mode 5.

ZPX-1 is a result of collaboration between uAvionix and prime contractor R Cubed Engineering. Supported by Navy and Army funding, R Cubed contracted with uAvionix early in 2020 and the partnership initially produced the AIMS Mk XIIB-certified ZPX Micro-IFF transponder for small Uncrewed Aerial Systems (sUAS). The ZPX-1, blends the original ZPX with the uAvionix ZPR passive Mode 5 receiver and leverages a common form factor and software interface to provide current ZPX users with a near seamless upgrade to the more capable ZPX-1.

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## About uAvionix

uAvionix was founded in 2015 with the mission of bringing safety solutions to the unmanned aviation industry to aid in the integration of Unmanned Aircraft Systems (UAS). A fundamental principle of that mission is to provide solutions that allow all airspace users a common situational awareness of the airspace. For defense and aerospace uAvionix develops and manufactures innovative uncertified and AIMS-certified Mode 5 Micro-IFF transponders, passive receivers, and related products and accessories. uAvionix consists of an unparalleled engineering and management team with a unique combination of experience encompassing avionics, surveillance, defense operations, airport services, UAS aircraft development, radio frequency (RF), and semiconductor industries.

For more information about AV-Link and other innovations, please visit: [www.uavionix.com/defense](http://www.uavionix.com/defense)

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## About R Cubed Engineering (R3E)

R Cubed Engineering LLC (R3E) is an SBA-certified, Woman-Owned Small Business that provides technical expertise and program guidance to initiatives that increase safety, promote accessibility, and boost science. Since 2004, R3E has been a leader in emerging sensor and avionics technologies needed to make these initiatives possible. The team comprises of proven hardware, software, and firmware experts to solve problems in trusted airspace integration and authenticated timing for industry, commercial, civilian, and military markets. R3E delivers cradle to grave support for customers, delivers functional prototypes, and identifies the logistics for manufacturing sustainment, all with a focus on minimum C-SWaP.

To learn more about R Cubed Engineering, please visit: [www.rcubedengineering.com](http://www.rcubedengineering.com)

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