Altio Labs Awarded Contract to Develop Advanced 5G Bi-Directional Amplifier for Military Telemetry Applications

Cutting-edge CHAnGE Project to Enhance 5G Airborne Mobile Telemetry Systems with High-Efficiency Amplification Technology

Altio Labs LLC

FRISCO, TX, UNITED STATES, December 18, 2024 /EINPresswire.com/ -- Altio Labs LLC has been awarded an Other Transaction Agreement (OTA) through the Training and Readiness Accelerator II (TReX II) for the Test Resource Management Center (TRMC), to develop cutting-edge 5G User Equipment (UE) amplification technology. This contract, known as the Continuous-mode High-efficiency bi-directional Amplification for 5G Environments (CHAnGE) Prototype Project, is set to enhance the operational capabilities of airborne mobile telemetry (AMT) systems by enabling more efficient and robust data transmission in advanced telemetry applications.

As the U.S. military explores the integration of 5G technologies into flight and weapons systems testing, it faces unique challenges associated with the deployment of linear power amplification in constrained spaces, such as modern aircraft and advanced weapons systems. This new bi-directional amplifier solution, developed by Altio Labs aims to support 5G AMT applications by maximizing efficiency and minimizing the size of high throughput telemetry transceivers.

"Altio Labs is excited to bring its expertise in advanced amplification solutions to this critical 5G initiative," said Sunil Samtani, CEO, Altio Labs. "This project represents a milestone in our mission to support next-generation telemetry technology, helping the TRMC adapt to the complexities of the modern T&E environments where very high data throughput is required."

Additionally, Tony Triolo, CTO, Altio Labs, emphasized the significance of the CHAnGE project, stating, "This ultra-high-efficiency bi-directional amplifier is a game changer for TDD 5G applications, addressing the problems associated with efficiently amplifying high Peak-to-Average Power Ratio (PAPR) signals. Our team is employing modern Gallium Nitride (GaN) power devices along with Digital Predistortion (DPD) techniques to achieve the highest levels of efficiency and linearity possible for this application."

The bi-directional amplifier developed under CHAnGE is designed specifically for Time Division Duplex (TDD) 5G applications, providing a solution for efficient, high-bandwidth, bidirectional data transmission. With this technology, T&E operations will be better equipped to handle high-speed, long distance 5G communications on platforms where space and power efficiency are essential.

Altio Labs will work with [Edwards Air Force Base Applied Spectrum Technology Research Office (ASTRO)](#) and OUSD (R&E) TRMC to bridge capability gaps in 5G telemetry, ensuring robust, efficient, and future-ready solutions for 5G-enabled applications in airborne and ground-based systems.

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