



THE AIRBORNE DEPLOYABLE RESEARCH PLATFORM (ADRP)



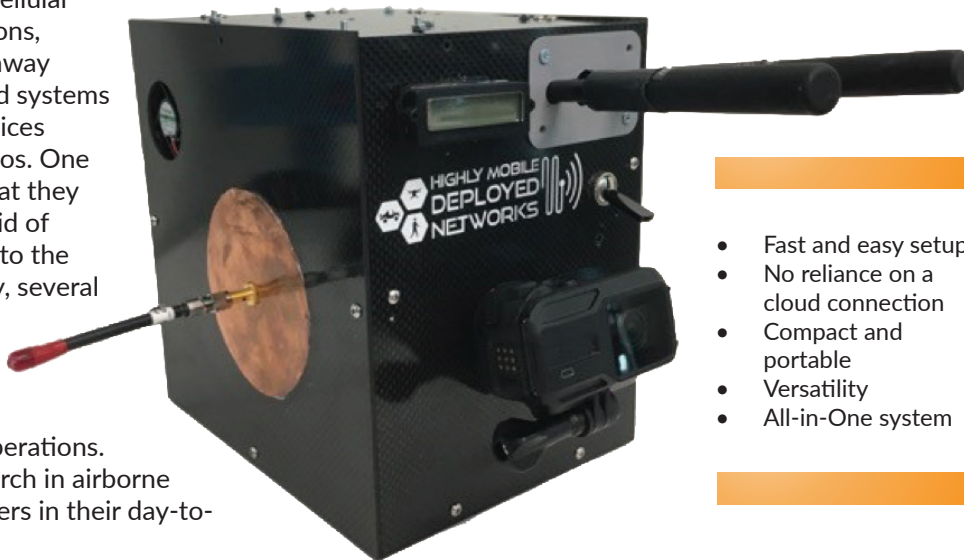
The Airborne Deployable Research Platform (ADRP) is a self-sufficient local network that provides broadband services to first responders via 4G LTE technology. The Public Safety Communications Research Program (PSCR), in collaboration with the Department of Homeland Security Science and Technology Directorate, has compressed a multitude of services that first responders use daily to fit inside a 20.32 cm x 20.32 cm x 15.24 cm carbon fiber case. This research tool includes capabilities such as

Mission Critical Push-to-Talk (MCPTT), text messaging, geographic information sharing, picture and video sharing, and more. The light weight system has been designed to mount outside of a small Unmanned Aircraft System (sUAS) for rapid mobility during a first responder operation. The deployable system allows PSCR staff to conduct research into broadband deployable communication systems and to test new and innovative ideas in the field of mobile broadband communications.

DEPLOYABLE PARTS

- 12 V battery for self-contained power
- 5.8 GHz Mesh Radio link for inter-network connectivity and backhaul
- LTE EPC
- LTE eNB
- Local application server
- Wi-Fi access point for local control and maintenance of the system
- A Garmin action camera for streaming video
- 3 temperature sensors to monitor system temperature and status
- 20.32 cm x 20.32 cm x 15.24 cm carbon fiber enclosure with a wall thickness of 2mm
- Contains lightweight aluminum joints, weighing around 4.2 Kg

While first responders can connect to cellular service for the majority of their operations, emergency situations often take them away from network access. Mobile broadband systems that contain virtualized application services are a potential solution in those scenarios. One important aspect of these systems is that they provide all these services without the aid of a connection back to the internet. Due to the new nature of this field for public safety, several issues must first be addressed before any live deployment. Solving these problems will encourage adoption by the public safety community and solve a very hard problem of disconnected operations. PSCR is committed to performing research in airborne deployable systems to aid first responders in their day-to-day duties.



- Fast and easy setup
- No reliance on a cloud connection
- Compact and portable
- Versatility
- All-in-One system