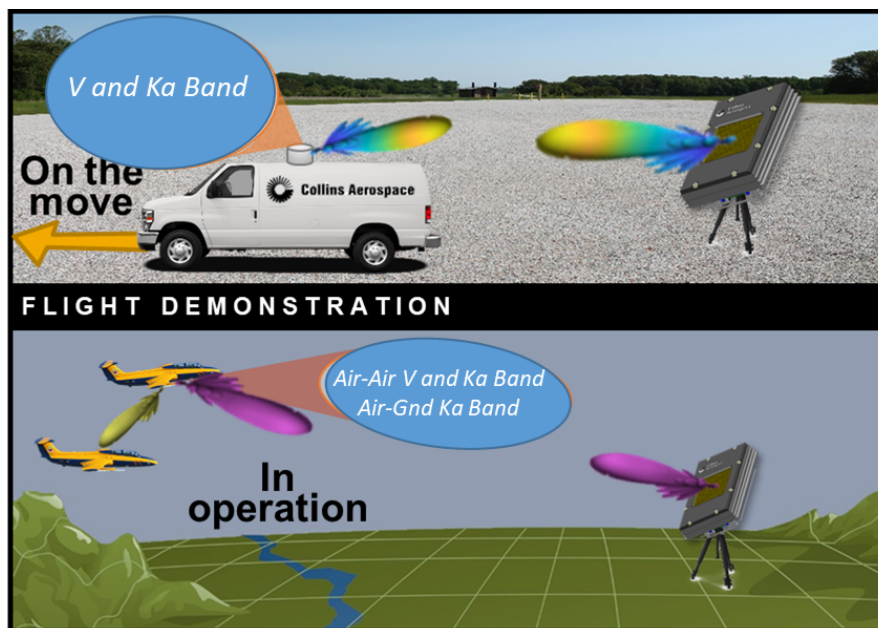


Description of Experiment

Under contract funding from the Defense Advanced Research Projects Agency (“DARPA”), Rockwell Collins, Inc., a part of Collins Aerospace (“Collins”), is developing radio technology for directional communications between aircraft and ground stations. The DARPA contract requires a flight demonstration of the newly developed technology near the Collins facility in eastern Iowa. Prior to the final customer demonstration, integration of system elements (i.e., radio hardware, software, antennas, and pointing system) requires over-the-air testing at the Collins Aerospace facility in Cedar Rapids, Iowa.

Integration testing of system elements will consist of short range (< 5 km) ground to ground communications between temporary fixed (i.e., tripod mounted) terminals or equipment mounted on a mobile test van. This activity will be on or about Collins property in Cedar Rapids. Upon completion of the integration testing, project focus will move to the flight demonstration phase.



System Integration and Flight Test Concept

Flight hardware will be installed in pods carried below two aircraft located at the Iowa City, IA airport (IOW). Upon completion of static tests, flight tests to verify communications capability between a single aircraft and a temporary fixed ground terminal will be performed.

Final demonstrations for the DARPA customer will show high data rate air-to-air and air-to-ground communications between the two aircraft and the portable ground station. Current flight plans include operation to 150 km from the Iowa City Airport.