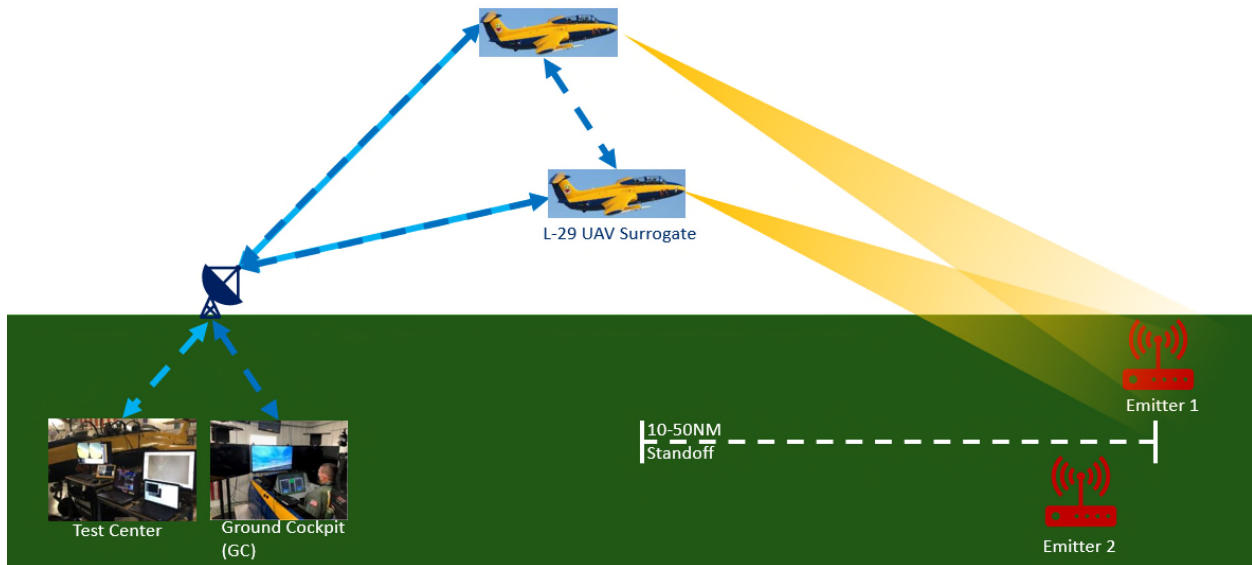


PURPOSE OF DEMONSTRATION

Lockheed Martin Corporation hereby seeks authority under Part 5 of the Commission’s rules to permit it to conduct the testing and evaluation described below.

- a. **The complete program of research and experimentation proposed including description of equipment and theory of operation.**



- 21st Century Security (CS) Demonstrations and Prototypes (D&P) Enhanced Collaborative High Frequency Orientation System (ECHOS) Flight Test is experimentation to show AI-powered Air-Surface, Find, Fix, and Finish capability using integrated ESM sensors. The L-29 will perform various roles (e.g., RF emitter detection, identification, and geolocation), via commands from AI services that will be executed by a pilot. RF emissions from the ground transmitter to the manned vehicles is essential to mission effectiveness. Commercially available radio equipment will be demonstrated/used for the RF emissions.

- b. **The specific objectives sought to be accomplished.**

- Passive ESM sensors ID RF emissions
- Multi-agent Reinforcement Learning (RL) geolocation of emitter

- c. **How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion or utilization of the radio art, or is along line not already investigated.**

- This experimentation is one of many ongoing Lockheed Martin efforts targeted at advancing the state of 21st Century Security into a Joint All-Domain Operations approach. This requires advanced AI powered RF emission detection and geolocation capabilities,

that can rapidly and cost-effectively leverage and evolve with state-of-the-art commercial communications technology.