

DESCRIPTION OF EXPERIMENT

Rockwell Collins, Inc. (“Rockwell Collins”) respectfully requests a new experimental license. It seeks to conduct developmental testing of a Frequency Modulated Continuous Wave (“FMCW”) Radar prototype for tracking objects flown by an Unmanned Aerial System between two points (locations 1 and 2 in the application) within an airspace corridor.

The FMCW Radar prototype is composed of three main units: (1) a Sensor Unit, which generates the FMCW signal to be transmitted and receives the signal reflected by the targets and/or the environment; (2) a Power Transmitter and Antenna Unit, which amplifies the FMCW signal elaborated by the Sensor Unit and radiates it over a large beam; and (3) a Processing Unit, which computes characteristics of targets from the received FMCW signal provided by the Sensor Unit. This prototype is a reuse of the Small Vessels Surveillance Radar (“SVSR”), which was tested in France from 2010 to 2014; the FMCW Radar slightly modifies the SVSR to track faster-moving targets flying at low altitudes.

Because there are no existing services for low-level object-tracking within this environment, the goal of the experimentation is to determine whether FMCW Radar technology is suitable for short-range, low-altitudes air traffic detection. If the results are positive, this experimentation will help to specify the most important requirements that products derived from this prototype would need to fulfill.