Rockwell Collins, Inc.
Form 442
Exhibit 1

DESCRIPTION OF EXPERIMENT

An Electronically Scanned Array (ESA) that operates from 28.5 GHz to 31.5 GHz has been developed by the University of California at San Diego. The ESA consists of 64 dual-polarized radiating elements. These elements are built as layers within the printed circuit board (PCB). The ESA beamforming network is assembled onto the PCB as well, resulting in two ports, one per polarization. Each port can be exercised as either an Rx or a Tx port.

Rockwell Collins is currently developing this ESA for point-to-point communications. The units measure approximately 6 inches by 3 inches, and no outdoor structures are required. Rockwell Collins seeks an experimental license for an outdoor, over-the-air demo of a communication link using two different waveforms: an up-converted version of Wi-Fi and an up-converted version of Common Data Link (CDL). Rockwell Collins wants to test the link over hundreds of meters and demonstrate a high data rate communication link. Testing on-the-move tracking is also an objective. To test the effect of a multipath environment and outdoor conditions, an outdoor environment is necessary. Functionality will be validated and demonstrated.

Rockwell Collins is requesting use of frequencies between 29 GHz and 29.5 GHz, but the experiment can be performed over 160 MHz anywhere between 28.5 GHz and 31.5 GHz.