

**Exhibit 1: Description of Research and Experimentation**

Rockwell Collins, Inc. (“Rockwell Collins”) respectfully requests issuance of an experimental license using the equipment and operating parameters set forth in Application File No. 0272-EX-PL-2015.

The goal of this application is to support development of radio systems intended for U.S. Government and international applications. In particular, Rockwell Collins has ported U.S. Department of Defense (“DoD”) waveforms that are used by multiple fixed, ground, and airborne radio platforms that conform to modern radio architectures into developmental radio systems identified in the application. These waveforms include the Single Channel Ground Airborne Radio System, the Single Channel SRW, and a narrowband High Data Rate waveform. In addition, Rockwell Collins has developed a wideband networking waveform called Joint Networking Waveform (JNW), which it similarly has included in radio systems under development.

Issuance of the requested license will enable Rockwell Collins to test these waveforms in order to verify performance of the waveforms in radio systems under development in a real world electromagnetic environment that cannot be simulated in the laboratory. In addition, Rockwell Collins seeks to improve performance of the waveforms in urban and rural environments.

Rockwell Collins’ proposed testing will consist of a fixed network node at its 35<sup>th</sup> Street Campus facility in Cedar Rapids, Iowa and up to four mobile radio nodes. The mobile nodes will operate with a 20 nautical mile range of the fixed network node. Testing objectives include measurements of operational range for a mobile node, waveform stability in an urban multipath environment, and network throughput at varying communication distances.