

## **Exhibit 1: Description of Research and Experimental Program**

### **General Atomics FCC Experimental Application**

#### **Watchkeeper FCC Application**

The deployed equipment includes a UWB radar transmitter, a UWB receiver and a portable computer. The UWB transmitter will operate in the band 6-7.5 GHz with a PRF of 2Hz, and an output mean EIRP of -63 dBm/MHz. The detailed characteristics are described in Exhibit 2. Although this experimental system exceeds the FCC limit on peak-radiated emissions, the final deployed system will adhere to FCC limits.

This experimental work is carried out to test the feasibility of using a UWB radar to detect intruders in a border area. The experimental radar will be made available to the Border Patrol and Argus Tech Systems for field-testing. The experimental deployment will be used to test the concept of operations of the radar sensor for this instrument. Also it will be used to improve the design of the instrument and develop the required algorithms. A maximum of 2 units will be deployed for intermittent periods during the next year to test its concept of operations.

The experimental work is important to validate the concept of using UWB signals for detecting intruders at border areas. The UWB signal will enable a low power consumption and lower cost device suitable for deployment in a large border area.