

**Northrop Grumman**  
**Application for Experimental Special Temporary Authority**  
**ELS File No. 0458-EX-ST-2022**

**NARRATIVE STATEMENT**

Pursuant to Section 5.3(j) and Section 5.61 of the FCC's rules, Northrop Grumman hereby respectfully requests a Special Temporary Authority (STA) from April 18, 2022 to October 18, 2022 (6 Months) for the purpose of temporary radar testing and demonstration.

**A. Purpose of Operation and Need for Special Temporary Authority:**

Antenna 1: The EchoShield radar (Emission Designator 250MQ2N).  
This low SWaP (size, weight, and power) radar is used for short range target tracking.

Antenna 2: The EchoGuard radar (Emission Designator 45M0FXN).  
This low SWaP (size, weight, and power) radar is used for short range target tracking.

Antenna 3: The Silvus Streamcaster 4240 (Emission Designator 4M45D7W) are used for data transfer.

Antenna 4: The Silvus Streamcaster 4480 (Emission Designator 5M65D7W) are used for data transfer.

The temporary testing under this STA is related to radiolocation applications.

**B. Location of Proposed Operation:**

Northrop Grumman proposes to test the radar on a mobile unit within the area described below.

<b>Location</b>	<b>Coordinates (Lat, Long)</b>	<b>Radius of Operation</b>
Elk River, MN	N 45 24 29, W 93 27 38	2km

**C. Technical Specifications:**

**1. Frequencies Desired**

Northrop Grumman requests authorization to operate in the 24.45-24.65 GHz band with the EchoGuard radar, the 15.4-16.6 GHz band with the EchoShield radar and the 2.2-2.5 and 4.4-4.94 GHz band with the Silvus Data Transfer devices.

**2. Information**

No antennas will be mounted in a fashion that would require approval under FAA or FCC rules and regulations. The STA is for testing purposes only and not for permanent installation of the radars.

### **3. Equipment To Be Used**

Northrop Grumman will conduct the testing with a maximum one EchoGuard radars, a maximum of four EchoShield radars, a maximum of three Silvus 4480 and two Silvus 4240 data transfer devices.

#### **D. Interference Mitigation:**

Northrop Grumman has conducted a search of the FCC's Universal Licensing System database and determined that there are no licensed operations in frequency band required. In the event that it receives a complaint of harmful interference from the proposed operation, Northrop Grumman will take immediate action to address the interference. The company has designated Mr. Nicholas Buchal to act as the "stop buzzer" for this purpose.

#### **E. Restrictions on Operation:**

Northrop Grumman recognizes that the operation of any equipment under experimental authority must not cause harmful interference to authorized facilities. Should interference occur, Northrop Grumman will take immediate steps to resolve the interference, including discontinuing operations if necessary.

In addition, Northrop Grumman will advise entities using the equipment that permission to operate has been granted under experimental authority issued to Northrop Grumman, that such operation is strictly temporary, and that the equipment may not cause harmful interference.

#### **F. Public Interest:**

Grant of an authorization will permit Northrop Grumman to refine its innovative radar equipment and enhance public safety.

#### **G. Contact Information:**

For questions, please contact:

Robert Wu  
7575 Colshire Drive, McLean, VA  
703-556-2198  
Robert.Wu@ngc.com

In the unlikely event interference concerns should arise during the period of authorization requested by this application, please contact the company's "Stop Buzzer" identified below:

Nicholas Buchal  
Northrop Grumman  
(612) 297-9446  
Nick.buchal@ngc.com