

**PUBLIC INTEREST STATEMENT**

**1. Introduction**

By the instant request (“Application”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant a two-year experimental license to operate the facilities specified in the Application.

**2. Purpose and Nature of the Operation**

BAE Systems manufactures and tests RF systems as well as antennas for DOD as well as other governmental customers. The testing specified in this Application will be conducted by BAE Systems Information and Electronic Systems Integration Inc., which is a major producer of electronic warfare systems, protection systems, and tactical surveillance and intelligence systems for all branches of the armed forces. This unit’s lines of business include Electronic Warfare/Electronic Protection, Electronic Warfare/Information Warfare, Integrated Defense Solutions, and Mission Electronics with products and services spanning the whole electromagnetic spectrum.

The experiment for which this license is requested will involve proof of concept for next generation airborne COMINT (Communication Intelligence) for UAV’s, and is a continuation of the operations previously authorized under File Nos. 0601-EX-ST-2011 and 0626-EX-ST-2011. Successful operation of the experiment conducted under the STAs has resulted in additional work that will extend beyond the original 6-month STA period.

**3. Transmitting Equipment/Transmit Antennas**

10.250 GHz (Radar)

|                        | Manufacturer/Description | Model No. | # Units | Experimental |
|------------------------|--------------------------|-----------|---------|--------------|
| Transmitting Equipment | ImSAR LLC                | NanoSAR B | 1       | No           |

|                  | Manufacturer/Description  | Model No. | # Units | Experimental |
|------------------|---|-----------|---------|--------------|
| Transmit Antenna | ImSAR LLC<br>Patch antenna array, integral to the radar system, to be mounted on a boom lift (temporary tower) located 35 to 60 ft above the ground, pointed down to the surrounding area | N/A       | 1       | No           |

## 1760-1840 MHz

|                        | Manufacturer/Description  | Model No.                 | # Units | Experimental |
|------------------------|---|---------------------------|---------|--------------|
| Transmitting Equipment | L3 Comm Systems West  | Bandit L-Band Transmitter | 1       | No           |
|                        | Manufacturer/Description  | Model No.                 | # Units | Experimental |
| Transmit Antenna       | GSM Antenna Products<br>Ground mounted, 3 dBi monopole or a BAE Systems 5 dBi blade antenna | GSM P/N 501-015 (L-Band)  | 1       | No           |

## 2365-2445 MHz

|                        | Manufacturer/Description  | Model No.                 | # Units | Experimental |
|------------------------|---|---------------------------|---------|--------------|
| Transmitting Equipment | L3 Comm Systems West  | Bandit S-Band Transmitter | 1       | No           |
|                        | Manufacturer/Description  | Model No.                 | # Units | Experimental |
| Transmit Antenna       | GSM Antenna Products<br>Antenna mounted on a boom lift (temporary tower) located 35 to 60 ft above the ground - 3 dBi monopole or a BAE Systems 5 dBi blade antenna | GSM P/N 501-017 (S-Band)  | 1       | No           |

## 1626-1660 MHz

|                        | Manufacturer/Description  | Model No.                 | # Units | Experimental |
|------------------------|---|---------------------------|---------|--------------|
| Transmitting Equipment | L3 Comm Systems West  | Bandit L-Band Transmitter | 1       | No           |
|                        | Manufacturer/Description  | Model No.                 | # Units | Experimental |
| Transmit Antenna       | GSM Antenna Products<br>Ground mounted, 3 dBi monopole or a BAE Systems 5 dBi blade antenna | GSM P/N 501-015 (L-Band)  | 1       | No           |

**4. Directionality of Ground-Based Radar Antenna**

In response to the question “Is a directional antenna (other than radar) used?”, the reply “No” has been inserted because the only directional antenna is the radar to be operated at 10.250 GHz (The monopole and blade antennas are non-directional). In the interest of full disclosure, the following is provided for the ground-based radar transmissions, which are directional in nature:

|                         |                         |
|-------------------------|-------------------------|
| Horizontal (Azimuth) BW | Vertical (Elevation) BW |
| 10 degrees              | 45 degrees              |

This ground based radar will be mounted to a boom lift and placed 35 to 60 feet above the ground, pointing down to the target area (450 meters radius about the test site center point).

**5. Mitigation of Interference/Stop Buzzer.**

A. Mitigation of Interference

Interference potential is mitigated due to the fact that the highly directional transmit antenna for the radar will be located on a boom lift (temporary tower), pointing down. The beam will be steered at the test site center point and surrounding area within a range of 450 meters from the center point.

B. Stop Buzzer

BAE Systems advises that the following will be available by wireless telephone as the “stop buzzer” if any issues regarding interference arise during testing:

Primary: Rick Ball - (603) 318-6913

Alternate: BAE Systems Emergency Services Center - (603) 885-3842

For the foregoing reasons, BAE Systems respectfully submits that approval of this Application is in the public interest, convenience and necessity.