

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 Special Temporary Authority (STA) 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 multi-INT (Multiple Intelligence) sensors for UAV’s. Specifically, this experiment will involve a communication link between a manned aircraft flying around a test centerpoint and a fixed ground location. The comm link will be used for data transmission.

3. Transmitting Equipment/Transmit Antennas**Ground-Based Transmissions (1626-1660 MHz; 1760-1840 MHz)**

	Manufacturer/Description	Model No.	# Units	Experimental
Transmitting Equipment	L3 Comm Systems West	Bandit L-Band Transmitter (1 Watt)	1	No
	Manufacturer/Description	Model No.	# Units	Experimental
Transmit Antenna	ImSAR LLC Viper LS (Bandit) Comm Link Parabolic Dish Antenna	1.2 m dish	1	No

Airborne Transmissions (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 Antenna 3 dBi monopole or a BAE Systems 5 dBi blade antenna mounted on an aircraft	GSM P/N 501-017 (S-Band)	1	No

4. Directionality of Ground-Based Antenna

In response to the question “Is a directional antenna (other than radar) used?”, the reply “No” has been inserted because the parabolic dish (directional) antenna to be operated for the ranges 1626-1660 MHz and 1760-1840 MHz from the ground has the potential of being oriented at any azimuth bearing. In the interest of full disclosure, the following is provided for the ground-based uplink transmissions, which are directional in nature:

Frequency Range	Antenna Gain	Horizontal (Azimuth) BW	Vertical (Elevation) BW
1626-1660 MHz 1760-1840 MHz	21 dBi	10 degrees	10 degrees

5. Description of Ground-Based and Airborne Transmissions

The Application seeks authority for a flight test with communication transmissions originating from the ground around the test area centerpoint, and a communication link transmissions originating from the air within the airspace described as follows:

A. Ground-Based Transmissions

i. Ground Location – Litchfield, NH

Temporary fixed ground-based operations within a 0.45 km radius around the test area centerpoint coordinates: 42°48’22”N; 71°25’33”W.

ii. Ground Location – Merrimack, NH

Temporary fixed ground-based operations within a 0.5 km radius around the test area centerpoint coordinates: 42°48’39”N; 71°29’18”W.

B. Airborne Transmissions

i. Airborne Transmissions Around Litchfield, NH

Mobile airborne transmissions originating from a manned aircraft flying a flight pattern centered on the test area centerpoint of Litchfield, NH (coordinates 42°48’22”N; 71°25’33”W), with the furthest waypoints lying on a radius of 12 km about the centerpoint. The maximum flight ceiling planned is 1524 m (5000 ft) above ground level (AGL). Ground elevation above sea level at the centerpoint coordinates is 66 m (216 feet) at this location. The nearest airport to the centerpoint coordinates is the Boire Field Airport in Nashua, NH (ASH) 7.76 km (4.19 nm) from the centerpoint coordinates. The Manchester Boston Regional Airport (MHT) is located 14 km (7.61 nm) from the centerpoint coordinates.

ii. **Airborne Transmissions Around Merrimack, NH**

Mobile airborne transmissions originating from a manned aircraft flying a flight pattern centered on the test area centerpoint of Merrimack, NH (coordinates 42°48'39"N; 71°29'18"W), with the furthest waypoints lying on a radius of 12 km about the centerpoint. The maximum flight ceiling planned is 1524 m (5000 ft) above ground level (AGL). Ground elevation above sea level at the centerpoint coordinates is 63 m (207 feet) at this location. The nearest airport to the centerpoint coordinates is the Boire Field Airport in Nashua, NH (ASH) 3.89 km (2.10 nm) from the centerpoint coordinates. The Manchester Boston Regional Airport (MHT) is located 14.2 km (7.68 nm) from the centerpoint coordinates

6. **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: Peter Simonson - (603) 718-4750 / Glen Franks (781) 879-2275
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.