

**1. Introduction**

By the instant application (“Application”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant a 2 year conventional experimental license to permit BAE Systems to operate the facilities (the “Facilities”) specified in the instant application.

**2. Purpose of the Operation**

The testing conducted by BAE Systems is a critical part of the manufacturing and delivery of military systems provided to the Armed Forces in support of their efforts.

In support of both Internal Research and Development as well as the contract listed below, the purpose of these tests (an extension of the operations previously authorized under STA under call sign WO9XIK, with the only changes being: (i) modification of 175-225 MHz band to 175-215 MHz, 220 MHz and 225 MHz; and (ii) deletion of 454.4 MHz) is to measure gain over field of view of an antenna that is a critical part of the system delivered to the customer. Testing will be done using program developed antennas and range supplied RF measurement equipment. This testing is required to verify total system performance.

**3. Contract Information**

The contract information associated with the operation under this Application is as follows:

Agency/Customer: US Air Force  
Contract Number: FA8650-17-C-8578  
Contract POC: James Blackston (937) 656-9900 - [James.blackston@us.af.mil](mailto:James.blackston@us.af.mil)

**4. Waiver of Station ID Requirements**

Waiver of the Station ID rules set forth at Section 5.115 is respectfully requested.

**5. Other Issues**

A. Transmit Directionality

The experiment requires transmission from this location.

Station	North Latitude	West Longitude	Reference	Transmit Direction
1	42-48-18	71-25-34	LIT1C Range	34 degree Line of Bearing (LOB)

B. Antenna Data

For the convenience of the Commission, the following chart defines certain specifications relating to the directional antennas that are to be used in the experiment:

<b>Mfg.</b>	<b>Model Number</b>	<b>Frequency Range</b>	<b>Gain</b>	<b>BW</b>		
Sunol Sciences	JB6	30 – 6000 MHz	< 1.1 dBi 100-150 MHz, < 4.4 dBi 150-200 MHz, < 6.4 dBi 200-500 MHz	<u>Freq</u>	<u>E-Plane</u>	<u>H-Plane</u>
				<u>MHz</u>	<u>deg</u>	<u>deg</u>
				100	90	360
				150	80	180
				200	56	100
250	60	120				
500	60	100				

C. RF Source

An HP 8341B Synthesized Sweeper (10 MHz – 20 GHz), or equivalent will be used as the RF Source for these operations.

D. Additional Signal Amplification

Additional signal amplification is necessary to achieve a useful signal to noise ratio for the received signal. The output power of the system will be measured and verified to meet the radiated output power limits set forth in the license.

<b>Mfg.</b>	<b>Model Number</b>	<b>Frequency Range</b>	<b>Gain</b>
Mini-Circuits	TVA-11-422A+ (or equivalent)	10-4200 MHz	+40 dB

E. Prevention of Interference

BAE Systems hereby advises the Commission that the tests to be conducted under the requested Commission authorization are to be conducted near the center of BAE Systems' Litchfield, New Hampshire facilities. Such location will result in the separation of the test facilities from other existing transmit or receive facilities.

F. Stop Buzzers

Primary: David Jillson - (603) 484-1024

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