

PUBLIC INTEREST STATEMENT

1. Introduction

Sensor and Antenna Systems, Lansdale, Inc. (“SASL”) respectfully requests that the Commission grant a two year experimental license to permit SASL to operate the facilities specified in the attached application.

2. Purpose and Nature of the Operation

SASL is a trusted global leader in innovative design, development and manufacturing of custom Electronic Warfare (EW) and other Antennas and Subsystems for defense and aerospace applications. SASL’s products are well known for their performance and reliability, products include Spiral, Horn, and Log Periodic Antennas, Electronic Surveillance (ES) Subsystems for RF Direction Finding, RF Front-End Subsystems for self-protection, and High Power Transmit Subsystems for Electronic Attack (EA) and other missions, operating at frequencies of 10MHz to 100GHz. SASL brings more than 50 years of engineering and manufacturing excellence in meeting customers’ requirements with a diverse engineering and manufacturing expertise that enables component and subsystem solutions.

The purpose of this experiment, a continuation of the operations previously authorized by STA under File No. 0371-EX-ST-2013 (WG9XQN), is to experiment with an engineering development system that integrates Receive (Rx) and Transmit (Tx) capabilities. Testing of the Rx capability will utilize an external modulated signal transmitted from a horn antenna operating at a single carrier within the frequency band of interest. The Tx portion of the system includes an electronically steered antenna (ESA) that re-transmits at the same frequency in the direction of the detected signal, with an alternate fixed modulation applied. Operations under the prior granted STA resulted in a successful initial demonstration of the system to the potential government customer. Such tests have generated increased interest in the system capabilities for this band and as a result, SASL seeks the instant 2 year license intends to permit continued developmental testing of the system in the 30-40GHz band.

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

Please see Exhibit 2 Request for Confidentiality, with respect to the information contained at Confidential Exhibit 3.

3. Directionality

For this experiment, there are two antennas (a custom array and horn) that are pointed at each other with a separation on the order of 3-30 m. Directionality information as follows:

Antenna	Width of Beam in Degrees at Half-Power Point	Orientation in Horizontal Plane	Orientation in Vertical Plan
Antenna #1 Custom Array	H- 10-15° V – 25-30°	H-field, vpol beam steered from -45° to +45°	E-field antenna tilt back of 10° to 15°
Antenna #2 Horn	H-20-30° V – 20-30°	0°	0°

4. Interference Mitigation

SASL is well aware of its obligations under Part 5 of the Commission’s rules to avoid interference to co-channel licensees in non-experimental services, and will take all steps to ensure compliance with this obligation. With respect to interference mitigation:

- Authority is requested for only limited and sporadic operation of the facilities. Specifically operation of the facilities will generally occur between 9am-6pm (ET). In addition, during those hours, operation will be sporadic, not continuous. In fact, there may be extended periods of non-operation during the authorized period. It is expected that on each day, transmissions will not exceed 2 hours in cumulative duration.
- The applicant understand that FAA (or other stakeholders) may require certain limited azimuth and/or elevation blanking in order to ensure that the proposed facilities do not pose a threat of interference to adjacent emitters. Accordingly, this is to confirm that the subject system has such blanking capabilities and that the applicant stands ready to work with the FAA to identify any reasonably necessary azimuth and/or elevation restrictions for the system.
- Based on the location of the experiment, the technical parameters of the operation, and the manner in which the experiment will be conducted, interference to any co-channel or adjacent channel operations (including for example radio astronomy) is mitigated.
- The applicant will employ a monitor-before-send transmission scheme to ensure that the channels are free prior to operation under the requested license.

5. Stop Buzzer

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

Paul Carroll, Safety and Facilities Supervisor - (267) 372-6239

For the foregoing reasons, SASL respectfully submits that approval of this application is in the public interest, convenience and a necessity.