

Applicant: Liteye Systems Inc
STA License Number: WS9XJB
STA File Number: 1024-EX-ST-2021
Date of Submission: November 14, 2021

To Whom it May Concern,

Liteye Systems is filing for an Experimental License to provide Counter UAS demonstration and training for TSA Air Marshals at Tipton Airport, Ft Meade Maryland. Our frequency request is for 15.7 – 17.2 GHz and it is understood that operation in this band may cause interference with Airport Surface Detection Equipment (ASDE) located at BWI airport. Unfortunately, the version of radar we are using, Blighter Model A400 wideband Ku band radar, does not allow adjustment of the operating frequency band nor adjustment of the transmitted power output. However, we do have the ability to shut down 50% of the radar panels (2 out of 4) for 180-degree operation and physically change the direction of the emissions from the active panels.

We encountered a similar situation when we applied for an STA in Briggsdale, Colorado – Denver International Airport (DIA) has ASDE in operation and is line of sight to our Briggsdale location although, at much greater distance, 52 miles. By using the above methods, we have been able to mitigate interference at DIA.

We respectfully request consideration for full band operation, 15.7-17.2 GHz, at Tipton Airport.

Regards,

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Counter UAS Training Operations and Demonstration Events

There will be NO C-UAS (RF jamming) operations at this event. Only radar, optical and thermal imaging detect and track operations.

Location (Antenna) 1 - TSA Air Marshal Counter UAS Demonstration and Training Operations

Date of events: Recurring

Area of operation:

- Within 1 km radius centered on Tipton Airport Authority, 7515 General Aviation Dr, Fort Meade, MD 20755
- Latitude: 39° 5'12.79"N

- Longitude: 76°45'35.49"W

Mode of radar operation:

- Manufacturer: Blighter
- Model: A422-HP-WB wideband passive scanning radar in 180-degree radiation pattern.
- Ku Band 15.7-17.2 GHz
- Emission Designator: 26M0Q3N
- Authorized Power: 562 W ERP
- Antenna Centerline: 12 feet

Interference mitigation:

This is a trailer mounted system on a hydraulic lift, as such it does not allow for mobile (on-the-move) operation. However, we can place the system to leverage obstructions such as terrain features and buildings and operate the radar in a 180-degree directional pattern pointing away from areas of concern such as BWI ASDE-X system to mitigate interference. Referencing Figure 1, radar will be directed southwest. The terrain profile shown in Figure 1 indicates 30 meter high terrain obstructions and a distance of 12.5 km separating the airports.

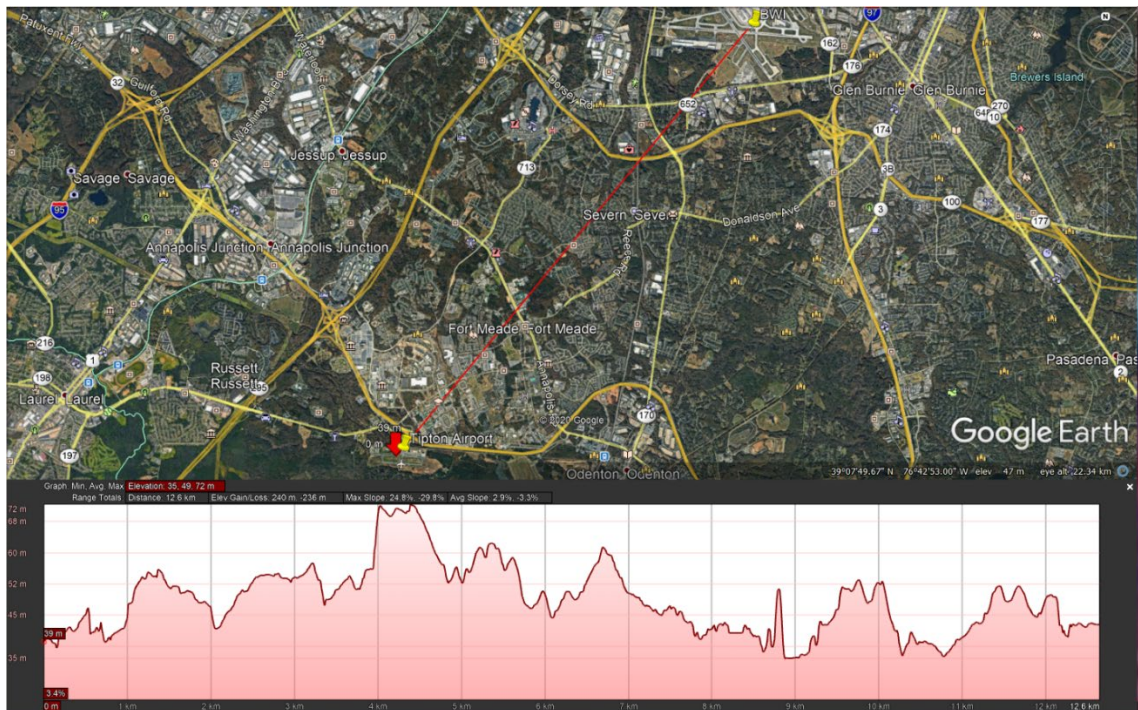


Figure 1 - Terrain Profile between Tipton Airport and BWI – Tipton Airport at left of profile, BWI at right

Training Operations:

Liteye will position the Radar, Camera and Operating System in a predetermined location that mitigates possible interference and can support training activities for personnel. Liteye will be providing personnel to operate the system, UAS pilots will be provided by Red-6. All UAS flight operations will occur in Class G airspace <122 meters (400 feet).

The window for training is July 12-16 and is not expected to be delayed or postponed unless impacted by weather or Government directives regarding COVID-19 dictate otherwise.

The training use of this radar and corresponding camera/operating system is to provide TSA personnel an introduction to Counter Unmanned Aerial Systems and specifically to the Liteye AUADS system. Goals include detection and surveillance of intentional and unintentional aerial and ground threats posed to critical assets, personnel and facilities involved in airport operations. Additionally, the following objectives will be pursued:

- Detect, surveil, and collect data on aerial and ground-based intrusions; collect detect/surveil performance data on all intrusions.
- Evaluate system configuration requirements best suited to meet local challenges
- Determine gaps in current surveillance capabilities
- Analyze and report on operations and site security requirements and identify improvements to procedures and improved material solutions for security of airports and TSA personnel, equipment, and facilities.