Raytheon Missiles & Defense

Experimental Application
File Number: 0193-EX-CR-2024

## Explanation of Experiment

Raytheon Missiles & Defense (Raytheon) is the primary missile manufacturer in the US, supplying ordinance ready to operate to the US military. This application seeks continued authorization for system testing in support of DOD products. This testing will be on the plant's outdoor antenna test range with testing facing in a southern direction. The effort will be focusing on testing of a directional antenna system.

**Technical Synopsis**:

| | |
|---|---|
| Spectrum requested: | 8750-10600 MHz, 1300-1500 MHz and 15700-17500 MHz |
| Power level: | 1 W output, 100 kW ERP |
| Duty cycle: | < 0.1% (stepped through) |
| Scheduling: | Program is able to schedule with AFC and/or other agencies |

**Need for license**:

Raytheon is working on the development of an antenna system. It is expecting to need to demonstrate the radar's capabilities in the coming years. As a result, a license is requested to allow for ongoing testing and development.

**Description of Operations**:

Raytheon is working to develop an antenna system. The radar technology needs to be tested at the outdoor antenna test range of the Raytheon plant site in Tucson. Antenna has a main reflector of approximately 10 feet in diameter which will be mounted on a Conex box that houses the RF source, motor and control systems. Antenna is highly directional with less than 2 degrees half bandwidth and will be pointed from the back of building 849 to tower 908 of the Tucson plant site. The test team now wants to add a site in Wilmington Ohio. The test description is below.

**Limited Time of Use**:

The system has duty cycle of less than .1%

Operations will be conducted weekdays for approximately 4-6 hours per day. Scheduling is possible, if required, to coordinate with other users.

**<u>Locations of Testing</u>**:

Raytheon is requesting authority to operate at two locations:

1. From building 849 at 32° 6'16.00"N 110°57'13.00"W to tower 908 at 32° 5'46.79"N 110°56'47.35"W (distance of .7KM)

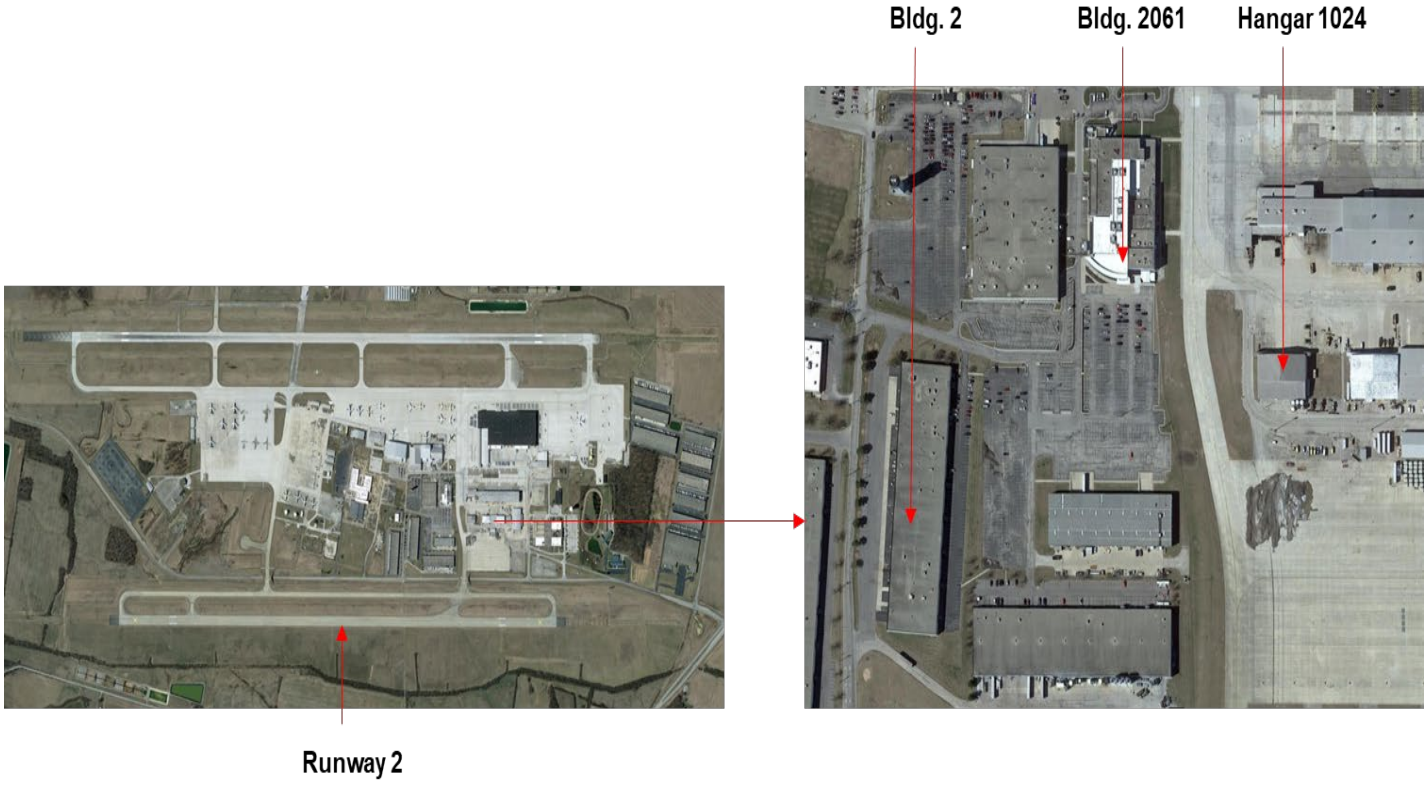

**2. Location**

**S1 Antenna – Alternate Low Power Test Location**

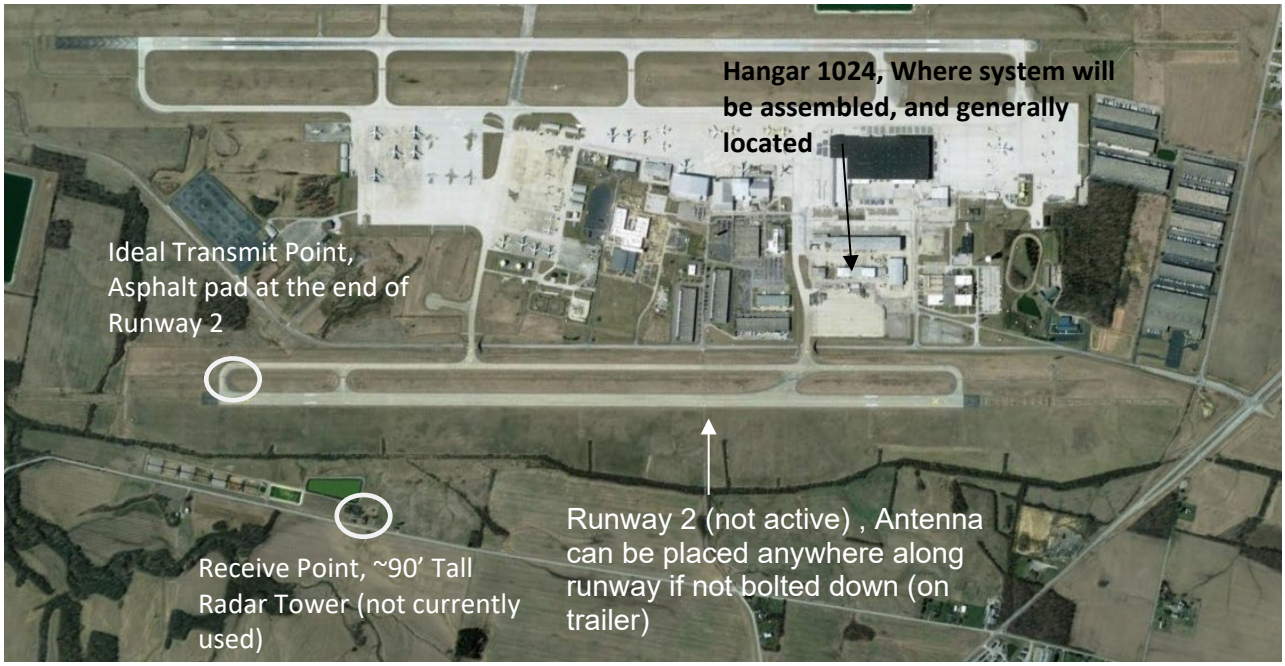
**Vector is located at the Wilmington Air Park in Wilmington, OH**
**Formerly Clinton County Air Force Base (302d Troop Carrier Wing ⇒ 302d Tactical Airlift Wing 1952-1967, then 302d Special Operations Wing 1967-1971)**
**Decommissioned in 1972**
**Developed as Wilmington Industrial Air Park thereafter**
**Previously supported Airborne Express and DHL**
**Currently supporting Amazone Prime Air**
**45 minutes south of WPAFB and approximately equidistant from Dayton, Cincinnati and Columbus**

**Vector Facilities at the Wilmington Airpark**

**Vector facilities include:**
**Bldg 2 (1245 Airport Rd): ~13,000 sqft leased (Office and High Bay Manufacturing, Asm, Test)**
**Bldg 2061: ~ 1,600 sqft leased (Administration, Office)**
**Hanger 1024: ~15,400 sqft leased (whole Hangar)**
**Very Large Assembly, Integration and Test**
**Direct Access to Airport Runways**
**Runway 2 Access**
**For Antenna Testing Purposes**
**Not currently used for 'Air Traffic'**



**S1 Antenna – Alternate Low Power Test Location, see details on next slide**




**S1 Antenna – Alternate Low Power Test Location, details**


**Limited Chance of Harmful Interference**

Signal duty is extremely low and beamwidth extremely narrow. Raytheon agrees to any scheduling requirements imposed.

**Stop Buzzer Point of Contact**:

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**Conclusion**:

Raytheon is seeking a continued authorization for testing of antenna system.

If there are any questions about this proposed operation, please contact Joshua Salmon, Raytheon Technologies Business Spectrum Manager, at 520-262-1757 or joshua.2.salmon@rtx.com.