

NARRATIVE STATEMENT

Pursuant to 47 C.F.R. § 5.3 and 47 C.F.R § 5.54, Amazon Prime Air (“Prime Air”) hereby respectfully requests a two-year conventional experimental license commencing as soon as possible to operate in the 9.3-9.5 GHz radiolocation band to conduct testing and evaluation of radar systems operating at fixed locations that are under the control of Prime Air.

A. Purpose of Operation and Need for an Experimental License:

Prime Air, headquartered in Seattle, WA, is interested in testing the performance of radars operating the 9.3-9.5 GHz band to monitor the air traffic around Amazon facilities and drone operating areas. The proposed tests will support Prime Air to develop standards and technology for an air traffic control system around company perimeters and drone operating areas to ensure safe flying environments.

B. Location of Proposed Operation:

The radar(s) will be operated at a fixed locations within the following areas:

Location	Coordinates (NAD83)	Radius of Operation (nominal range of the radars)
6050 E Marginal Way Seattle, WA 98108	47° 32' 51" N 122° 19' 54" W	50 Km
5292 NW Doolittle Canyon Ln, Pendleton, OR 97801	45° 41' 21" N 118° 51' 81" W	50 km

C. Technical Specifications:

1. Frequencies Desired

Prime Air requests authorization to operate in the 9.3-9.5 GHz Band.

2. Effective Radiated Power

The units to be deployed are configured to operate at a peak maximum effective radiated power of 4KW for pulsed modulation. Prime Air will reduce the actual powers to the minimum power needed for successful operation, based on set-up and testing at the

proposed locations. Operations will be conducted to comply with rules relating to human exposure to radiation.

3. Modulation and Emissions

Unit	Frequency Range (GHz)	Transmit Power	Frequency Tolerance	Station Class	Emission Designator	Modulating Signal	Bandwidth (MHz)
1	9.3-9.5	20 Watts peak	Part 80 compliant	Fixed	42M8P0N	Pulsed	42.8
2	9.3-9.5	4 KW Peak	Part 80 compliant	Fixed	40M7P0N	Pulsed	40.7

4. Antenna Information

The antenna system is integral to the radar and will not be mounted or operated separately from the radar unit. The antennas are directional and rotate 360 degrees in the horizontal plane.

- Beamwidth Antenna Unit 1 – 4.9 degrees horizontal/20 degrees vertical
- Beamwidth Antenna Unit 2 - 4.9 degrees horizontal/25 degrees vertical
- Overall height above ground to tip of antenna (in meters): 25 meters (max)

The radar unit will be operated on Amazon property and may be installed externally on Amazon buildings. The radars will be mounted on existing buildings (less than 6 meters above the height of the buildings) and will be a maximum of 25 meters above ground level. Elevation of ground at antenna site above mean sea level: 150 meters

- Distance to nearest aircraft landing area (in kilometers): 2 km
- A list of natural or manmade structures which may shield the antenna from aircraft and minimize aeronautical hazard of the antenna (hills, trees, water tanks, towers, etc.): **none**
- A vertical profile sketch of structure, including supporting building, including height in meters above ground. See Appendix A.

5. Equipment To Be Used

Unit	Manufacturer	Model Number	No Of Units	Experimental?
1	Raymarine	Quantum Q24C	1	No
2	Raymarine	HD Radome RD418HD	1	No

D. Restrictions on Operation:

Prime Air recognizes that the operation of any equipment under experimental authority must not cause harmful interference to authorized facilities. Should interference occur, Prime Air will take immediate steps to resolve the interference, including discontinuing operations if necessary. In addition, Prime Air will advise all personnel using the equipment that permission to operate has been granted under experimental authority issued to Prime Air, that such operation is strictly temporary, and that the equipment may not cause harmful interference.

E. Public Interest:

Grant of a license will permit Prime Air to develop standards and technology for an air traffic control system that will ensure safe flying environments.

F. Contact Information:

For questions about the company or the testing, please contact:

Name: Ben Broili
Title: Sr. Manager
Amazon Prime Air
Address: 6050 E Marginal Way Seattle, WA 98108
Phone Number: (206)765-5109
Email: broilibe@amazon.com

In the unlikely event interference concerns should arise during the period of authorization for this license, please contact the company's "Stop Buzzer" identified below:

Name: Ron Huebner
Title: Sr. Hardware Engineer
Amazon Prime Air
Address: 6050 E Marginal Way Seattle, WA 98108
Phone Number: (206)765-5109
Email: huebner@amazon.com

Appendix A

Building vertical profile

